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# CURCULIONIDAE (EXCEPT SCOLYTINAE AND PLATYPODINAE) IN LATVIAN FAUNA, TAXONOMICAL STRUCTURE, BIOGEOGRAPHY AND FORECASTED SPECIES

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This paper presents analysis of taxonomical structure of Latvian Curculionidae (except Scolytinae and Platypodinae) and comparison with the neighboring countries (Lithuania and Estonia) weevil's fauna. Range of chorotypes and biogeography analysis of Latvian Curculionidae (except Scolytinae and Platypodinae) is presented in current paper. List of forecasted weevils species of Latvian fauna is compilled.

Key words: Coleoptera, Curculionidae, Latvia, fauna, taxonomical structure, chorotypes, forecasted species.

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## INTRODUCTION

Worldwide, the Curculionidae is one of the largest families of the order Coleoptera, represented by 4600 genera and 51000 species (Alonso-Zarazaga and Lyal 1999, Oberprieler et al. 2007). This family is abundant and rich in species also in the fauna of Latvia.

The history of investigation of weevils in Latvia is more than 230 years old (Balalaikins & Bukejs 2009). The first information on weevils of the Latvian fauna was published in the second half of the 18$^{th}$ century in the monograph about the nature of Livland (Fischer 1778) where seven weevil species are mentioned. About 200 works were published in Latvia subsequently.

The current paper is a continuation of studies on the Latvian fauna of Curculionidae (Balalaikins 2011a, 2011b, 2012a, 2012b, 2012c, 2012d, in press; Balalaikins & Bukejs 2009, 2010, 2011a, 2011b, 2012), Balalaikins & Telnov 2012. The aim of this work is to summarize and analyse taxonomical and biogeographical structure of the weevils: Curculionidae (except Scolytinae and Platypodinae) in Latvian fauna.

## MATERIAL AND METHODS

During the research the material deposited in the collection of the Institute of Systematic Biology of Daugavpils University (DUBC, Daugavpils, Latvia), the entomological collection of the Institute of Biology of the Latvian University

(LUBI, Salaspils, Latvia), the collection of the Latvian Natural History Museum (LDM, Rīga, Latvia), collection of A.Barševskis (Daugavpils University, Daugavpils, Latvia), collection of C.Müthel (Latvian Natural History Museum, Rīga, Latvia) have been processed. In this study, the database of the Entomological Society of Latvia (hold by D. Telnov, Rīga) has also been used.

In this article we consider family Curculionidae Latreille, 1802 according to the taxonomy of Bouchard et al. (2011). Subfamilies Scolytinae Latreille, 1804 and Platypodinae Shuckard, 1839 are not included in this review, data on this subfamilies will be presented in the continuation of this work. Genera are listed taxonomically in compliance with Tamutis et al. (2011) with changes according to (Arzanov 2006; Borovec 2009, Colonelli 2004, Velàzquez de Castro et al. 2007, Yunakov 2003). Species are arranged alphabetically.

During the analysis of distribution range of the beetle's species, were used data from various works: Bajtenov 1974, Borovec 2009, Colonelli 2004, Dedyukhin 2012, Dieckmann 1980, Egorov et al. 1996, Hoffmann 1950, 1954, Kippenberg 1981, Legalov 2010, Legalov et al. 2010, Lohse & Tischler 1983, Morris 1997, Palm 1996, Petrukha 1969. Classification of chorotypes follows as suggested by Vigna-Taglianti et al. (1999), except European-West Siberian chorotype. This chorotype used in compliance with Gorodkov (1984). The chorotype codes used stand for: OLA – Holarctic, PAL – Palaearctic, ASE – Asiatic-European, SIE – Sibero-European, WPA – West-Palaearctic, CEM – Centralasiatic-Europeo-Mediterranean, CAE – Centralasiatic-European, TEM – Turano-Europeo-Mediterranean, TUE – Turano-European, EUM – Europeo-Mediterranean, EUR – European, CEU – Centraleuropean, NEU – North-European, EWS – European-West Siberian.

## RESULTS AND DISCUSSION

During the research of the fauna, taxonomy and biogeography of the Latvian weevils (Coleoptera: Curculionidae) literature analysis was performed and ~ 8000 weevil specimens of the coleopterological collections were revised. As result of current research In the Latvian Curculionidae (except Scolytinae and Platypodinae) fauna are listed 384 species belonging to 14 subfamilies and 114 genera. As a result of analysing general distribution and feed plants of weevil species, occur in neighboring countries, 42 species are forecasted in Latvia's

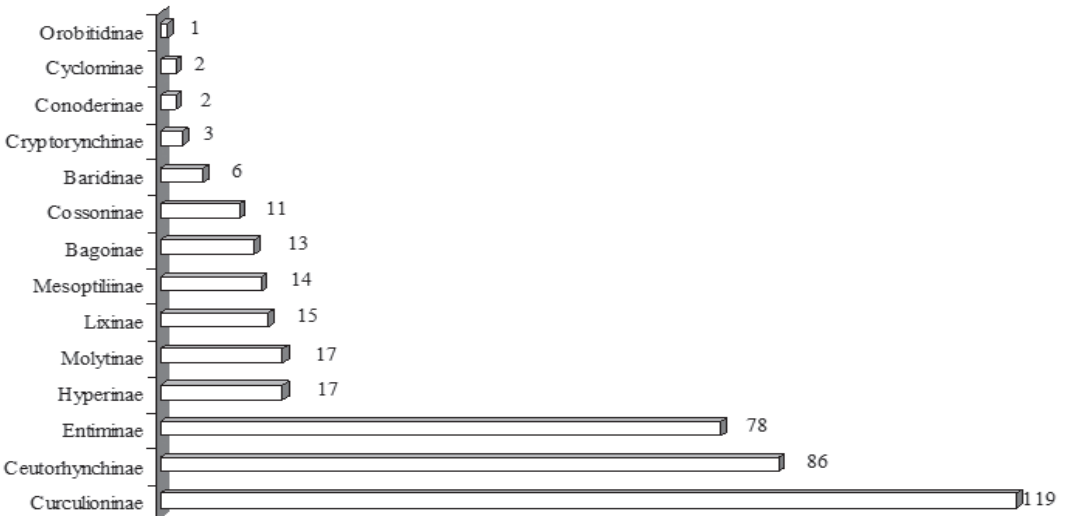



Fig.1. Number of species in the subfamilies of Latvian Curculionidae.

fauna. Number of estimated species of the local fauna is ~ 11% of the total number of recorded species. These results indicate that Latvian Curculionidae fauna is completely investigated.

## Taxonomical structure of Curculionidae (except Scolytinae and Platypodinae) of Latvian fauna

The fauna of Curculionidae (except Scolytinae and Platypodinae) of Latvia includes 384 species. In adjacent territories, the number of recorded species of Curculionidae (except Scolytinae and Platypodinae) varies slightly: 351 species reported from Estonia (Silfverberg 2010) and 385 from Lithuania (Tamutis et al. 2011). The taxonomical structure of the Latvian fauna of weevils and comparison with the adjacent countries (Estonia and Lithuania) is shown in Table 1.

Family Curculionidae comprise 17 subfamilies spread worldwide Bouchard et al. (2011), of them in Latvia this family is presented by 16 subfamilies (included Scolytinae and Platypodinae). In Latvia not recorded only one subfamily – Xiphaspidinae, Marshall, 1920, which occurs in Africa and presented by one genus (Alonso-Zarazaga and Lyal 1999). Four subfamilies (except Platypodinae) in the Latvian fauna contains small number of species Orobitidinae – one, Cryptorhynchinae – three, Conoderinae and Cyclominae each presented with two species. Orobitidinae is small subfamily presented by one genus and distributed in Palaearctic region, but Cryptorhynchinae, Conoderinae and Cyclominae are more numerous subfamilies, distributed predominantly in Afrotropical, Australasian, Oriental and Neotropical regions (Alonso-Zarazaga and Lyal 1999). Curculioninae, is the subfamily with the highest number of species in Latvia, contains 119 species. This subfamily is numerous and widespread worldwide. Number of species in the subfamilies of Latvian Curculionidae is shown in Fig 1.

The weevil's fauna of Latvia is presented by 114 genera, most of which belongs to three subfamilies: Ceutorhynchinae (33 genera), Curculioninae (25 genera) and Entiminae (22 genera).

In Latvia Ceutorhynchinae is predominant on the number of genera. However, worldwide Ceutorhynchinae contains smaller number of genera than Entiminae and Curculioninae. Number of genera in the subfamilies of Latvian Curculionidae is shown in Fig. 2.

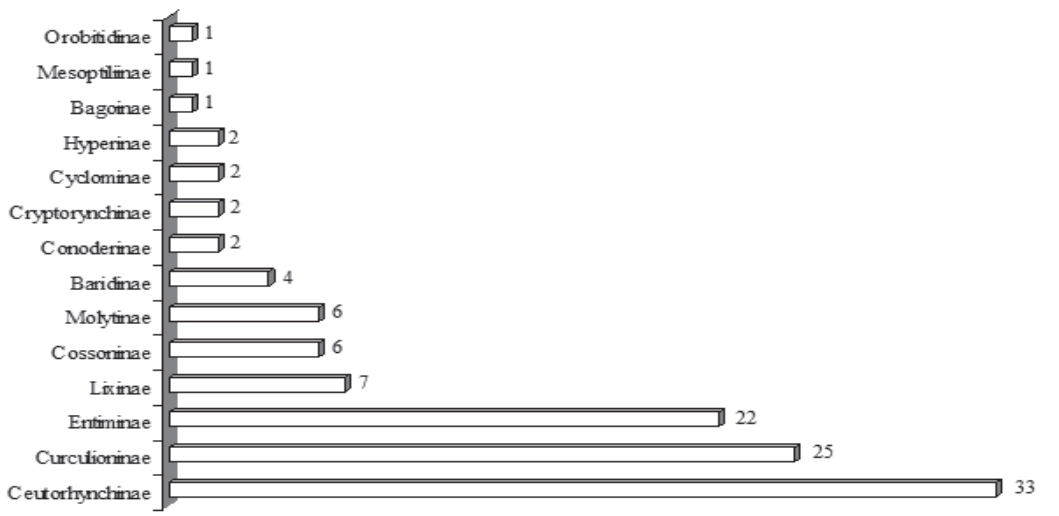



Fig. 2. Number of genera in the subfamilies of Latvian Curculionidae.

Table1. Taxonomical structure of Curculionidae (except Scolytinae and Platypodinae) of Latvia, Estonia and Lithuania: NG – number of genera, NS – number of species

| **Taxa** | | | **Number of species and genera** | | |
|---|---|---|---|---|---|
| | | | **LV** | **LT** | **EE** |
| **Curculioninae** | | | | | |
| | | *Ellescus* | 3 | 3 | 3 |
| | | *Dorytomus* | 20 | 18 | 18 |
| | | *Pseudostyphlus* | 1 | 1 | - |
| | | *Smicronyx* | - | 1 | 1 |
| | | *Cionus* | 6 | 5 | 6 |
| | | *Stereonychus* | 1 | 1 | 1 |
| | | *Cleopus* | 2 | 2 | 1 |
| | | *Tychius* | 16 | 13 | 10 |
| | | *Sibinia* | 7 | 6 | 3 |
| | | *Acalyptus* | 1 | 1 | 2 |
| | | *Anthonomus* | 12 | 13 | 13 |
| | | *Brachonyx* | 1 | 1 | 1 |
| | | *Bradybatus* | 1 | 1 | 1 |
| | | *Archarius* | 3 | 3 | 3 |
| | | *Curculio* | 5 | 6 | 4 |
| | | *Orchestes* | 9 | 8 | 9 |
| | | *Rhynchaenus* | 1 | 1 | 1 |
| | | *Pseudorchestes* | 1 | 1 | 1 |
| | | *Tachyerges* | 5 | 4 | 3 |
| | | *Isochnus* | 2 | 2 | 3 |
| | | *Rhamphus* | 2 | 2 | 1 |
| | | *Gymnetron* | 6 | 4 | 5 |
| | | *Rhinusa* | 4 | 6 | 3 |
| | | *Mecinus* | 6 | 4 | 4 |
| | | *Miarus* | 1 | 1 | 1 |
| | | *Cleopomiarus* | 3 | 3 | 3 |
| Curculioninae | species: | | 119 | 111 | 101 |
| | genera: | | 25 | 26 | 25 |
| Bagoinae | | | | | |
| | | *Bagous* | 13 | 12 | 16 |
| Bagoinae | species: | | 13 | 12 | 16 |
| | genera: | | 1 | 1 | 1 |
| Baridinae | | *Baris* | 1 | 1 | 2 |
| | | *Melanobaris* | 2 | 2 | 2 |
| | | *Aulacobaris* | 1 | 2 | - |
| | | *Limnobaris* | 2 | 2 | 2 |
| Baridinae | species: | | 6 | 7 | 6 |
| | genera: | | 4 | 4 | 3 |
| Ceutorhynchinae | | | | | |
| | | *Mononychus* | 1 | 1 | - |
| | | *Eubrychius* | 1 | 1 | 1 |
| | | *Phytobius* | 1 | 1 | 1 |
| | | *Pelenomus* | 6 | 6 | 6 |
| | | *Neophytobius* | 1 | 2 | 2 |
| | | *Rhinoncus* | 6 | 6 | 6 |
| | | *Marmaropus* | 1 | 1 | - |

| Taxa | | | Number of species and genera | | |
|---|---|---|---|---|---|
| | | | LV | LT | EE |
| | | Rutidosoma | 1 | 1 | 1 |
| | | Scleropteridius | 1 | - | - |
| | | Scleropterus | 1 | 1 | 1 |
| | | Auleutes | 1 | 1 | 1 |
| | | Tapeinotus | 1 | 1 | 1 |
| | | Amalus | 1 | 1 | 1 |
| | | Amalorrhynchus | 1 | 1 | - |
| | | Poophagus | 1 | 1 | 1 |
| | | Ceutorhynchus | 29 | 29 | 29 |
| | | Oprohinus | 1 | 1 | - |
| | | Calosirus | 2 | 2 | 2 |
| | | Sirocalodes | 2 | 2 | 2 |
| | | *Glocianus* | 4 | 3 | 4 |
| | | *Parethelcus* | 1 | 1 | - |
| | | *Hadroplontus* | 1 | 1 | 1 |
| | | *Coeliastes* | 1 | 1 | 1 |
| | | *Nedyus* | 1 | 1 | 1 |
| | | *Datonychus* | 1 | 2 | 3 |
| | | *Thamiocolus* | 2 | 3 | 2 |
| | | *Mogulones* | 6 | 6 | 2 |
| | | *Microplontus* | 3 | 4 | 4 |
| | | *Trichosirocalus* | 2 | 2 | 2 |
| | | *Micrelus* | 1 | 1 | 1 |
| | | *Zacladus* | 1 | 1 | 1 |
| | | *Coeliodinus* | 1 | 2 | 2 |
| | | *Coeliodes* | 2 | 3 | 4 |
| Ceutorhynchinae | species: | | 86 | 90 | 83 |
| | genera: | | 33 | 32 | 27 |
| **Conoderinae** | | | | | |
| | | *Coryssomerus* | 1 | 1 | 1 |
| | | *Euryommatus* | 1 | - | - |
| Conoderinae | species: | | 2 | 1 | 1 |
| | genera: | | 2 | 1 | 1 |
| **Cossoninae** | | | | | |
| | | *Cossonus* | 2 | 3 | 2 |
| | | *Rhyncolus* | 4 | 3 | 4 |
| | | *Phloeophagus* | 2 | - | 3 |
| | | *Brachytemnus* | 1 | 1 | - |
| | | *Stereocorynes* | 1 | 1 | - |
| | | *Pselactus* | 1 | 1 | 1 |
| | | *Pseudophloeophagus* | - | 1 | - |
| Cossoninae | species: | | 11 | 10 | 10 |
| | genera: | | 6 | 6 | 4 |
| **Cryptorhynchinae** | | | | | |
| | | *Cryptorhynchus* | 1 | 1 | 1 |
| | | *Kyklioacalles* | - | 1 | - |
| | | *Acalles* | 2 | 3 | 2 |
| Cryptorhynchinae | species: | | 3 | 5 | 3 |
| | genera: | | 2 | 3 | 2 |

| Taxa | | | Number of species and genera | | |
|---|---|---|---|---|---|
| | | | LV | LT | EE |
| **Cyclominae** | | | | | |
| | | *Asperogronops* | 1 | 1 | 1 |
| | | *Gronops* | 1 | - | 1 |
| Cyclominae | species: | | 2 | 1 | 2 |
| | genera: | | 2 | 1 | 2 |
| **Entiminae** | | | | | |
| | | *Otiorhynchus* | 13 | 12 | 11 |
| | | *Trachyphloeus* | 2 | 2 | 2 |
| | | *Romualdius* | 2 | 1 | 1 |
| | | *Cathormiocerus* | 1 | 1 | 1 |
| | | *Phyllobius* | 12 | 14 | 11 |
| | | *Polydrusus* | 10 | 12 | 9 |
| | | *Liophloeus* | 1 | 1 | 1 |
| | | *Eusomus* | - | 1 | - |
| | | *Sciaphilus* | 1 | 1 | 1 |
| | | *Brachysomus* | 1 | 4 | 1 |
| | | *Barypeithes* | 3 | 4 | 4 |
| | | *Brachyderes* | 1 | 1 | 1 |
| | | *Neliocarus* | 1 | 1 | - |
| | | *Strophosoma* | 3 | 2 | 2 |
| | | *Philopedon* | 1 | 1 | 2 |
| | | *Barynotus* | 2 | - | - |
| | | *Tropiphorus* | 1 | 2 | 2 |
| | | *Cycloderes* | 1 | 1 | - |
| | | *Chlorophanus* | 2 | 2 | 2 |
| | | *Tanymecus* | 1 | 1 | 1 |
| | | *Charagmus* | 2 | 2 | 1 |
| | | *Coelositona* | 1 | - | - |
| | | *Sitona* | 16 | 13 | 15 |
| Entiminae | species: | | 78 | 79 | 68 |
| | genera: | | 22 | 21 | 18 |
| **Hyperinae** | | | | | |
| | | *Donus* | 2 | 2 | 2 |
| | | *Hypera* | 15 | 13 | 14 |
| | | *Limobius* | - | 1 | 1 |
| Hyperinae | species: | | 17 | 16 | 17 |
| | genera: | | 2 | 3 | 3 |
| **Lixinae** | | | | | |
| | | *Larinus* | 4 | 3 | 4 |
| | | *Lixus* | 3 | 5 | 3 |
| | | *Rhinocyllus* | 1 | 1 | 1 |
| | | *Conorhynchus* | - | 1 | - |
| | | *Coniocleonus* | 3 | 2 | 2 |
| | | *Bothynoderes* | 1 | 1 | 1 |
| | | *Pseudocleonus* | - | 1 | - |
| | | *Cyphocleonus* | 2 | 2 | 2 |
| | | *Cleonis* | 1 | 1 | 1 |
| Lixinae | species: | | 15 | 17 | 14 |
| | genera: | | 7 | 9 | 7 |

| Taxa | | | Number of species and genera | | |
|---|---|---|---|---|---|
| | | | LV | LT | EE |
| **Mesoptiliinae** | | | | | |
| | | *Magdalis* | 14 | 17 | 12 |
| Mesoptiliinae | species: | | 14 | 17 | 12 |
| | genera: | | 1 | 1 | 1 |
| **Molytinae** | | | | | |
| | | *Anoplus* | 2 | 3 | 2 |
| | | *Liparus* | 2 | 2 | 1 |
| | | *Lepyrus* | 2 | 2 | 2 |
| | | *Hylobius* | 4 | 4 | 4 |
| | | *Pissodes* | 6 | 6 | 7 |
| | | *Trachodes* | 1 | 1 | 1 |
| Molytinae | species: | | 17 | 18 | 17 |
| | genera: | | 6 | 6 | 6 |
| **Orobitidinae** | | | 1 | 1 | 1 |
| Orobitidinae | species: | | 1 | 1 | 1 |
| | genera: | | 1 | 1 | 1 |
| | | **Total species:** | 384 | 385 | 351 |
| | | **genera:** | 114 | 115 | 101 |

Genus *Ceutorhynchus* in the Latvian fauna contains highest number of species – 29, generally this genus is very numerous, contains more than 380 species worldwide (Colonelli 2004). Thus this genus belongs to the most abundant subfamily by number of genera and one of the abundant by species number.

## List of forecasted Curculionidae (except Scolytinae and Platypodinae) species for Latvian fauna

**Curculionidae** Latreille, 1802.

**Curculioninae** Latreille, 1802

*Smicronyx coecus* (Reich, 1797)
**Host plants:** *Cuscuta* (Cuscutaceae).
**General distribution:** Europe [EUR].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Acalyptus sericeus* Gyllenhal, 1836
**Host plants:** *Salix* (Salicaceae).
**General distribution:** Europe, Siberia [SIE].
**Note:** Reported from Estonia (Silfverberg 2010) and Belarus (Alexandrovitch et al. 1996).

*Anthonomus bituberculatus* Thomson, 1868
**Host plants:** Crataegus, Padus, Prunus (Rosaceae).
**General distribution:** Europe, Turkey [EUR].
**Note:** Reported from Estonia (Silfverberg 2010).

*Anthonomus rufus* Gyllenhal, 1836.
**Host plants:** Prunus (Rosaceae).
**General distribution:** Europe, Turkey [EUR].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Anthonomus undulatus* Gyllenhal, 1836.
**Host plants:** *Cartegus*, Prunus (Rosaceae).
**General distribution:** Europe [EUR].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Curculio rubidus* (Gyllenhal, 1836)
**Host plants**: *Betula* (Betulaceae).
**General distribution**: Europe, Turkey, SW Siberia, Western Asia (Egypt (Sinai peninsula), Iraq, Jordan, Israel, Lebanon, Syria), Central Asia (Iran) (Alonso-Zarazaga 2011) [WPA].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Isochnus angustifrons* (West, 1916)
**Host plants:** *Salix* (Saliceae).

**General distribution**: Europe [EUR].
**Note:** Reported from Estonia (Silfverberg 2010)

*Rhinusa neta* (Germar, 1821).
**Host plants:** *Linaria* (Scrophulariaceae).
**General distribution**: Europe (except N), Caucasus, N Africa, S Siberia (to Transbaykalia), Central Asia (Iran, N Kazakhstan) [CEM].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Rhinusa tetra* (Fabricius, 1792).
**Host plants:** *Verbascum* (Scrophulariaceae).
**General distribution**: Europe, Caucasus, SW Siberia, Central Asia (Iran) [CAE]. Has been introduced to N America.
**Note:** Reported from Lithuania (Tamutis et al. 2011).

**Bagoinae** Thomson, 1859

*Bagous argillaceus* Gyllenhal, 1836
**Host plants:** *Phalaris* (*Gramineae*).
**General distribution**: Europe, Caucasus, Turkey, N Africa (Algeria), W Siberia, Central Asia (Iran, Turkmenistan), East Asia (Mongolia) [CEM].
**Note:** Reported from Estonia (Silfverberg 2010).

*Bagous czwalinai* Seidlitz, 1891
**Host plants:** *Ranunculus* (Ranunculaceae).
**General distribution**: Europe [EUR].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Bagous diglyptus* Boheman, 1845
**Host plants:** *Saxifraga* (Saxifragaceae).
**General distribution**: Central and N Europe [EUR].
**Note:** Reported from Estonia (Silfverberg 2010).

*Bagous frivaldszkyi* Tournier, 1874
**Host plants:** *Phalaris* (*Gramineae*).
**General distribution**: Central Europe, W Siberia [EWS].
**Note:** Reported from Estonia (Silfverberg 2010).

*Bagous limosus* (Gyllenhal, 1827)
**Host plants:** *Potamogeton* (Potamogetonaceae).
**General distribution**: Europe, Caucasus, N Africa, Siberia (to Yakutia), Central Asia (Afganistan, SE Iran, Kazakhstan) [CAE].
**Note:** Reported from Estonia (Silfverberg 2010).

*Bagous nodulosus* Gyllenhal, 1836
**Host plants:** *Butomus* (Butomaceae).
**General distribution**: Europe, Caucasus, W Siberia [EWS].
**Note:** Reported from Estonia (Silfverberg 2010).

*Bagous subcarinatus* Gyllenhal, 1813
**Host plants:** *Ceratophyllum* (Ceratophyllaceae).
**General distribution**: Europe, Caucasus, Turkey, N Africa, Central Asia (Turkmenistan) [WPA].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

**Ceutorhynchinae Gistel, 1856**

*Neophytobius muricatus* (Brisout, 1867).
**Host plants:** *Polygonum* (Polygonaceae).
**General distribution:** Europe [EUR].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Ceutorhynchus granulicollis* Thomson, 1865
**Host plants:** *Thlaspi* (Cruciferae).
**General distribution:** Europe, Caucasus, Turkey, W Siberia, Central Asia (Iran, Kazakhstan) [CAE].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Ceutorhynchus napi* Gyllenhal, 1837
**Host plants:** *Alliaria*, *Barbarea*, *Brassica*, *Cardaria*, *Descurainia*, *Erysimum*, *Raphanus*, *Sinapis*, *Sisymbrium* (Cruciferae).
**General distribution:** Europe, N Africa (Algeria, Morocco), Central Asia (Kazakhstan) East Asia (N China) [CEM]. Has been introduced to N America (Mexico).
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Ceutorhynchus pyrrhorhynchus* (Marsham, 1802)
**Host plants:** *Sisymbrium* (Cruciferae).
**General distribution:** Europe, N Africa (Algeria, Morocco) [WPA].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Ceutorhynchus pyrrhorhynchus* (Marsham, 1802)
**Host plants:** *Sisymbrium* (Cruciferae).
**General distribution:** Europe, N Africa (Algeria, Morocco) [WPA].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Ceutorhynchus sophiae* Gyllenhal, 1837
**Host plants:** *Descurainia*, *Sisymbrium* (Cruciferae).
**General distribution:** Europe, Caucasus, Turkey, Siberia, Central Asia (Kazakhstan, Kirgizstan, Tajikistan, Turkmenistan) [CAE].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Ceutorhynchus unguicularis* Thomson, 1871
**Host plants:** *Arabis* (Cruciferae).
**General distribution:** Europe, Turkey, E Siberia, East Asia (Russian Far East) [ASE].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Datonychus melanostictus* (Marsham, 1802)
**Host plants:** *Mentha* (Labiatae).
**General distribution:** Europe, Caucasus, Turkey, N Africa (Algeria, Morocco), Western Asia (Jordan, Syria), Central Asia (Kazakhstan, Kirgizstan, Turkmenistan, Uzbekistan) [CEM].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Datonychus urticae* Boheman, 1845
**Host plants:** *Stachys* (Labiatae).
**General distribution:** Europe, Caucasus [EUR].
**Note:** Reported from Estonia (Silfverberg 2010).

*Mogulones larvatus* (Schultze, 1897).
**Host plants:** *Echium* (Boraginaceae).
**General distribution:** Europe, N Africa (Algeria, Egypt, Morocco, Tunisia), Siberia (to Lake Baykal), Central Asia (N Kazakhstan, Turkmenistan) [CEM].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Mogulones pallidicornis* (Gougelet & Brisout, 1860).
**Host plants:** *Pulmonaria* (Boraginaceae).
**General distribution:** Europe, S Siberia (to Lake Baykal), Central Asia (W Kazakhstan), E Asia (Mongolia) [CAE].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Microplontus millefolii* Schultze, 1897
**Host plants:** *Tanacetum* (Compositae).
**General distribution:** Europe, W Siberia [EWS].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Coeliodinus nigritarsis* Hartmann, 1895
**Host plants:** Betula (Betulaceae).
**General distribution:** Europe, Siberia, East Asia (Russian Far East) [ASE].
Note: Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Coeliodes ruber* (Marsham, 1802)
**Host plants:** Quercus (Fagaceae).
**General distribution:** Europe, Caucasus, Turkey, N Africa (Algeria, Morocco), Western Asia (Israel, Syria) [WPA].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Coeliodes transversealbofasciatus* (Goeze, 1777)
**Host plants:** Quercus (Fagaceae).
**General distribution:** Europe, Caucasus, Turkey, N Africa (Morocco), Western Asia (Syria) [WPA].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

**Cossoninae** Schönherr, 1825

*Cossonus linearis* (Fabricius, 1775)
**Host plants:** In rotten wood. *Populus*, *Salix* (Salicaceae).
**General distribution:** Europe, Caucasus, SW

Siberia [EWS].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Phloeophagus thomsoni* (Grill, 1896)
**Host plants:** In rotten wood of deciduous trees. *Fagus* (Fagaceae).
**General distribution:** Europe, Siberia [SIE].
**Note:** Reported from Estonia (Silfverberg 2010).

**Cryptorhynchinae Schönherr, 1825**

*Kyklioacalles roboris* (Curtis 1834)
**Host plants:** *Carpinus* (Corylaceae).
**General distribution:** Europe [EUR].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Acalles misellus* Boheman, 1844
**Host plants:** In litter. *Cartegus* [Rosaceae].
**General distribution:** Central Europe [CEU].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

**Entiminae** Schönherr, 1826

*Otiorhynchus porcatus* (Herbst, 1795)
**Host plants:** *Primula* (Primulaceae), *Fragaria* (Rosaceae).
**General distribution:** Europe [EUR]. Has been introduced to and N America (Canada).
**Note:** Reported from Estonia (Silfverberg 2010).

*Otiorhynchus rotundus* Marseul, 1872
**Host plants:** *Syringa* (Oleaceae).
**General distribution:** Europe [EUR].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

*Trachyphloeus scabricul* (Linnaeus, 1771)
**References:** Balalaikins 2011.
**Host plants:** *Artemisia*, *Hieracium* (Compositae), *Helianthemum* (Cistaceae), *Vicia* (Fabaceae), *Salix* (Salicaceae); *Symphoricarpus* (Caprifoliaceae), *Quercus* (Fagaceae).
**General distribution:** Europe. [EUR]
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Polydrusus picus* (Fabricius, 1792)
**Host plants:** *Fagus*, *Quercus* (Fagaceae), Malus (Rosaceae).
**General distribution:** Europe, Turkey [EUR].
**Note:** Reported from Lithuania (Tamutis et al. 2011)

*Tropiphorus obtusus* (Bonsdorff, 1785)
**Host plants:** polyphagous.
**General distribution:** Europe [EUR].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

*Cycloderes pilosulus* (Herbst, 1795)
**Host plants:** *Achillea*, *Artemisia, Matricaria*, *Tanacetum* (Compositae); *Plantago* (Plantaginaceae).
**General distribution:** Central Europe, Turkey, S Siberia, Central Asia, East Asia (Mongolia) [CAE].
**Note:** Reported from Lithuania (Tamutis et al. 2011).

**Hyperinae** Marseul, 1863

*Limobius borealis* (Paykull, 1792)
**Host plants:** *Erodium*, *Geranium* (Geraniaceae).
**General distribution:** Europe, Caucasus, N Africa, W and S Siberia, Central Asia (Iran, Kazakhstan) [CEM].
**Note:** Reported from Lithuania (Tamutis et al. 2011) and Estonia (Silfverberg 2010).

## Biogeography of Latvian Curculionidae (except Scolytinae and Platypodinae)

The Latvian fauna of Curculionidae (except Scolytinae and platypodinae) presented by 14 chorotypes:
**Holarctic** – 8 species (2.08%): *Acalyptus carpini* (Fabricius, 1792), *Orchestes testaceus* (Müller, 1776), *Tachyerges salicis* (Linnaeus, 1758), *Scleropteridius fallax* (Otto, 1897), *Auleutes epilobii* (Paykull, 1800), *Amalorrhynchus*

*melanarius* (Stephens, 1831), *Hypera diversipunctata* (Schrank, 1798), *Hylobius excavatus* (Laicharting, 1781).

**Palaearctic** – 41 species (10.68%): *Ellescus scanicus* (Paykull, 1792), *Dorytomus nebulosus* (Gyllenhal, 1836), *Stereonychus fraxini* (De Geer, 1775), *Tychius breviusculus* Desbrochers des Loges, 1873, *T. meliloti* Stephens, 1831, *T. picirostris* (Fabricius, 1787), *T. quinquepunctatus* (Linnaeus, 1758), *Sibinia subelliptica* (Desbrochers, 1873), *S. viscariae* (Linnaeus, 1761), *Anthonomus pedicularius* (Linnaeus, 1758), *A. piri* Kollar, 1837, *A. pomorum* (Linnaeus, 1758), *A. rubi* (Herbst, 1795), *A. sorbi* Germar, 1821, *Archarius crux* Fabricius, 1777, *A. salicivorus* Paykull, 1792, *Curculio villosus* Fabricius, 1781, *Rhamphus pulicarius* (Herbst, 1795), *Rhinoncus castor* (Fabricius, 1792), *Rh. pericarpius* (Linnaeus, 1758), *Ceutorhynchus erysimi* (Fabricius, 1787), *C. pallidactylus* (Marsham, 1802), *Nedyus quadrimaculatus* (Linnaeus, 1758), *Datonychus arquata* (Herbst, 1795), *Cryptorhynchus lapathi* (Linnaeus, 1758), *Sitona cylindricollis* (Fåhraeus, 1840), *S. lepidus* Gyllenhal, 1834, *S. lineatus* (Linnaeus, 1758), *S. striatellus* Gyllenhal, 1834, *S. sulcifrons* (Thunberg, 1798), *Hypera arator* (Linnaeus, 1758), *H. nigrirostris* (Fabricius, 1775), *H. rumicis* (Linnaeus, 1758), *Cleonis pigra* (Scopoli, 1763), *Lixus iridis* Olivier, 1807, *Coniocleonus nebulosus* (Linnaeus, 1758), *Magdalis cerasi* (Linnaeus, 1758), *M. frontalis* (Gyllenhal, 1827), *M. memnonia* (Gyllenhal, 1837), *Pissodes castaneus* (De Geer, 1775), *Orobitis cyaneus* (Linnaeus, 1758).

**West-Palaearctic** – 31 species (8.07%): *Cionus longicollis* Brisout de Barneville, 1863, *Cleopus pulchellus* (Herbst, 1795), *Tychius parallelus* (Panzer, 1794), *Archarius pyrrhoceras* Marsham, 1802, *Curculio nucum* Linnaeus, 1758, *C. venosus* (Gravenhorst, 1807), *Orchestes quercus* (Linnaeus, 1758), *Gymnetron rostellum* (Herbst, 1795), *Cleopomiarus micros* (Germar, 1821), *Bagous glabrirostris* (Herbst, 1795), *B. lutulosus* (Gyllenhal, 1827), *Ceutorhynchus hirtulus* Germar, 1824, *C. picitarsis* Gyllenhal, 1837, *Oprohinus suturalis* (Fabricius, 1775), *Calosirus terminatus* (Herbst, 1795), *Parethelcus pollinarius* (Forster, 1771), *Coeliastes lamii* (Fabricius, 1792), *Mogulones geographicus* (Goeze, 1777), *Trichosirocalus troglodytes* (Fabricius, 1787), *Rhyncolus elongatus* (Gyllenhal, 1827), *Brachytemnus porcatus* (Germar, 1824), *Phyllobius glaucus* (Scopoli, 1763), *Polydrusus impressifrons* Gyllenhal, 1834, *Philopedon plagiatus* (Schaller, 1783), *Charagmus griseus* (Fabricius, 1775), *Coelositona cinerascens* (Fåhraeus, 1840), *Sitona waterhousei* Walton, 1846, *Donus zoilus* (Scopoli, 1763), *Hypera melancholica* (Fabricius 1792), *H. venusta* (Fabricius, 1781), *Magdalis barbicornis* (Latreille, 1804).

**Asiatic-European** — 79 species (20.57%): *Ellescus bipunctatus* (Linnaeus, 1758), *Dorytomus ictor* (Herbst, 1795), *D. nordenskioldi* Faust, 1882, *D. occallescens* (Gyllenhal, 1836), *D. rufatus* (Bedel, 1886), *D. taeniatus* (Fabricius, 1781), *Cionus scrophulariae* (Linnaeus, 1758), *Tychius stephensi* Gyllenhal, 1836, *Sibinia unicolor* (Fåhraeus, 1843), *Anthonomus conspersus* Desbrochers des Loges, 1868, *A. humeralis* (Panzer, 1795), *A. phyllocola* (Herbst, 1795), *A. pinivorax* Silfverberg, 1977, *A. rectirostris* (Linnaeus, 1758), *Brachonyx pineti* (Paykull, 1792), *Curculio betulae* (Stephens, 1831), *Orchestes jota* (Fabricius, 1787), *O. rusci* (Herbst, 1795), *Tachyerges pseudostigma* Tempcre, 1982, *T. rufitarsis* (Germar, 1821), *T. stigma* (Germar, 1821), *Isochnus sequensi* (Stierlin, 1894), *Rhinusa antirrhini* (Paykull, 1800), *Mecinus collaris* Germar, 1821, *Bagous alismatis* (Marsham, 1802), *B. lutulentus* (Gyllenhal, 1813), *Baris artemisiae* (Herbst, 1795), *Eubrychius velutus* (Beck, 1817), *Phytobius leucogaster* (Marsham, 1802), *Pelenomus canaliculatus* (Fåhraeus, 1843), *P. quadricorniger* (Colonnelli, 1986), *P. quadrituberculatus* (Fabricius, 1787), *P. velaris* (Gyllenhal, 1827), *P. waltoni* (Boheman, 1843), *Rhinoncus bruchoides* (Herbst, 1784), *Rutidosoma globulus* (Herbst, 1795), *Tapeinotus sellatus* (Fabricius, 1794), *Amalus scortillum* (Herbst, 1795), *Ceutorhynchus obstrictus* (Marsham, 1802), *C. rapae* Gyllenhal, 1837, *C. scapularis* Gyllenhal, 1837, *Glocianus fennicus* Faust, 1894, *G. punctiger* (Sahlberg, 1835), *Microplontus triangulum* (Boheman, 1845),

*Zacladus geranii* (Paykull, 1800), *Euryommatus mariae* Roger, 1857, *Cossonus cylindricus* C. Sahlberg, 1835, *Rhyncolus ater* (Linnaeus, 1758), *Phloeophagus turbatus* Schönherr, 1845, *Gronops inaequalis* Boheman, 1842, *Phyllobius pomaceus* Gyllenhal, 1834, *Ph. pyri* (Linnaeus, 1758), *Polydrusus corruscus* Germar, 1824, *P. flavipes* (De Geer, 1775), *P. fulvicornis* (Fabricius, 1792), *P. pilosus* Gredler, 1866, *P. undatus* (Fabricius, 1781), *Brachysomus echinatus* (Bonsdorff, 1785), *Sitona ambiguus* Gyllenhal, 1834, *S. hispidulus* (Fabricius, 1777), *S. lineellus* (Bonsdorff, 1785), *S. suturalis* Stephens, 1831, *Hypera conmaculata* (Herbst, 1795), *H. miles* (Paykull, 1792), *H. viciae* (Gyllenhal, 1813), *Lixus paraplecticus* (Linnaeus, 1758), *Magdalis armigera* (Geoffroy, 1785), *Magdalis carbonaria* (Linnaeus, 1758), *M. duplicata* Germar, 1819, *M. linearis* (Gyllenhal, 1827), *M. violacea* (Linnaeus, 1758), *Anoplus plantaris* (Naezen, 1794), *Hylobius abietis* (Linnaeus, 1758), *H. pinastri* (Gyllenhal, 1813), *H. transversovittatus* (Goeze 1777), *Pissodes harcyniae* (Herbst, 1795), *P. pini* (Linnaeus, 1758), *P. piniphilus* (Herbst, 1797), *P. validirostris* (R. F. Sahlberg, 1834).

**Siberian-European** – 22 species (5.73%): *Dorytomus dorsalis* (Linnaeus, 1758), *D. salicinus* (Gyllenhal, 1827), *D. suratus* (Gyllenhal, 1836), *D. tremulae* (Fabricius, 1787), *Cionus tuberculosus* (Scopoli, 1763), *Isochnus foliorum* (O.F. Müller, 1764), *Mecinus janthinus* Germar, 1821, *Bagous tempestivus* (Herbst, 1795), *B. tubulus* Caldara & O'Brien, 1994, *Marmaropus besseri* Gyllenhal, 1837, *Poophagus sisymbrii* (Fabricius, 1776), *Otiorhynchus tristis* (Scopoli, 1763), *Ph. maculicornis* Germar 1824, *Ph. oblongus* (Linnaeus, 1758), *Ph. virideaeris* (Laicharting, 1781), *Polydrusus cervinus* (Linnaeus, 1758), *P. mollis* (Stroem, 1768), *Liophloeus tessulatus* (Müller, 1776), *Sciaphilus asperatus* (Bonsdorff, 1785), *Sitona lateralis* Gyllenhal, 1834, *Magdalis phlegmatica* (Herbst, 1797), *Lepyrus palustris* (Scopoli, 1763).

**European-West Siberian** – 22 species (5.73%): *Ellescus infirmus* (Herbst, 1795), *Dorytomus dejeani* Faust, 1882, *D. minutus* (Gyllenhal, 1836), *Cionus nigritarsis* Reitter, 1904, *Rhynchaenus xylostei* Clairville, 1798, *Gymnetron beccabungae* (Linnaeus, 1761), *G. melanarium* (Germar, 1821), *G. veronicae* (Germar, 1821), *Rhinusa linariae* (Panzer, 1793), *Mecinus heydeni* Wencker, 1866, *Bagous binodulus* (Herbst, 1795), *B. frit* (Herbst, 1795), *B. puncticollis* Boheman, 1845, *Ceutorhynchus plumbeus* Brisout de Barneville, 1869, *Thamiocolus viduatus* (Gyllenhal, 1813), *Microplontus campestris* (Gyllenhal, 1837), *Otiorhynchus nodosus* (Müller, 1764), *O. smreczynskii* Cmoluch, 1968, *Trachyphloeus heymesi* Hübenthal, 1934, *Phyllobius viridicollis* (Fabricius, 1792), *Hypera denominanda* (Capiomont, 1868), *Coniocleonus hollbergii* (Fåhraeus, 1842).

**Centralasiatic-Europeo-Mediterranean** – 33 species (8.59%): *Dorytomus edoughensis* Desbrochers des Loges, 1875, *D. longimanus* (Forster, 1771), *Cionus hortulanus* (Geoffroy, 1785), *Tychius polylineatus* (Germar, 1824), *T. squamulatus* Gyllenhal, 1836, *Sibinia pellucens* (Scopoli, 1772), *S. primita* (Herbst, 1795), *Limnobaris pilistriata* (Stephens, 1831), *Rhinoncus inconspectus* (Herbst, 1795), *Rh. perpendicularis* (Reich, 1797), *Ceutorhynchus assimilis* (Paykull, 1792), *C. chalibaeus* Germar, 1824, *C. gallorhenanus* F. Solari, 1949, *C. pallipes* Crotch, 1866, *C. sulcicollis* (Paykull, 1800), *Sirocalodes depressicollis* (Gyllenhal, 1813), *Glocianus distinctus* Brisout de Barneville, 1870, *Hadroplontus litura* (Fabricius, 1775), *Microplontus rugulosus* (Herbst, 1795), *Coryssomerus capucinus* (Beck, 1817), *Romualdius bifoveolatus* (Beck, 1817), *Charagmus gressorius* (Fabricius, 1792), *Sitona humeralis* Stephens, 1831, *S. macularius* (Marsham, 1802), *S. puncticollis* Stephens, 1831, *Donus dauci* (Olivier, 1807), *Hypera meles* (Fabricius, 1792), *H. postica* (Gyllenhal, 1813), *Larinus carlinae* (Olivier, 1807), *L. sturnus* (Schaller, 1783), *L. turbinatus* Gyllenhal 1835, *Lixus bardanae* (Fabricius, 1787), *Rhinocyllus conicus* (Frölich, 1792).

**Centralasiatic-European** – 50 species (13.02%): *Cionus olivieri* Rosenschoeld, 1838, *Tychius aureolus* Kiesenwetter, 1851, *T. junceus* (Reich, 1797), *T. medicaginis* Brisout, 1862, *T.*

*trivialis* Boheman, 1843, *Mecinus pascuorum* (Gyllenhal, 1813), *M. pyraster* (Herbst, 1795), *Cleopomiarus distinctus* (Boheman, 1845), *Bagous elegans* (Fabricius, 1801), *B. lutosus* (Gyllenhal, 1813), *Limnobaris t-album* (Linnaeus, 1758), *Mononychus punctumalbum* (Herbst, 1784), *Pelenomus commari* (Panzer, 1794), *Neophytobius quadrinodosus* (Gyllenhal, 1813), *Rhinoncus albicinctus* Gyllenhal, 1837, *Ceutorhynchus barbareae* Suffrian, 1847, *C. cochleariae* (Gyllenhal, 1813), *C. dubius* Brisout de Barneville,1883, *C. hampei* Brisout de Barneville, 1869, *C. ignitus* Germar, 1824, *C. inaffectatus* Gyllenhal, 1837, *C. pervicax* Weise, 1883, *C. pulvinatus* Gyllenhal, 1837, *C. puncticollis* Boheman, 1845, *C. rhenanus* (Schultze, 1895), *C. syrites* Germar, 1824, *C. typhae* (Herbst, 1795), *Glocianus moelleri* Thomson, 1868, *Thamiocolus sahlbergi* (C.R. Sahlberg, 1845), *Mogulones asperifoliarum* (Gyllenhal, 1813), *M. crucifer* (Pallas, 1781), *Trichosirocalus barnevillei* (Grenier, 1866), *Coeliodinus rubicundus* (Herbst, 1795), *Otiorhynchus conspersus* (Herbst, 1795), *O. ligustici* (Linnaeus, 1758), *O. ovatus* (Linnaeus, 1758), *O. raucus* (Fabricius, 1777), *Cathormiocerus aristatus* (Gyllenhal, 1827), *Polydrusus pterygomalis* Boheman, 1840, *Cycloderes pilosulus* (Herbst, 1795), *Tanymecus palliatus* (Fabricius, 1787), *Sitona inops* Schönherr, 1832, *S. longulus* Gyllenhal, 1834, *Hypera arundinis* (Paykull, 1792), *Larinus iaceae* (Fabricius, 1775), *Bothynoderes affinis* (Schrank, 1781), *Cyphocleonus dealbatus* (Gmelin, 1790), *C. trisulcatus* (Herbst, 1795), *Magdalis nitida* (Gyllenhal, 1827), *M. ruficornis* (Linnaeus, 1758).

**Turano-Europeo-Mediterranean** – 2 species (0.52%): *Curculio glandium* Marsham, 1802, *Hypera plantaginis* (De Geer, 1775).

**Turano-European** – 16 species (4.17%): *Sibinia pyrrhodactyla* (Marsham, 1802), *Bradybatus kellneri* Bach, 1854, *Orchestes fagi* (Linnaeus, 1758), *Cleopomiarus graminis* (Gyllenhal, 1813), *Melanobaris carbonaria* (Linnaeus, 1758), *Aulacobaris lepidii* Germar, 1824, *Ceutorhynchus pectoralis* Weise, 1895, *Sirocalodes quercicola* (Paykull, 1792), *Cossonus parallelepipedus* (Herbst, 1795), *Phyllobius jacobsoni* Smirnov, 1913, *Brachyderes incanus* (Linnaeus, 1758), *Strophosoma capitatum* (De Geer, 1775), *Chlorophanus graminicola* (Olivier, 1807), *Chlorophanus viridis* (Linnaeus, 1758), *Liparus coronatus* (Goeze, 1777), *Lepyrus capucinus* (Schaller, 1783).

**Europeo-Mediterranean** – 3 species (0.78%): *Cleopus solani* (Fabricius, 1792), *Tychius lineatulus* Stephens, 1831, *Magdalis rufa* Germar, 1824.

**European** – 64 species (16.67%): *Dorytomus majalis* (Paykull, 1792), *D. melanophthalmus* (Paykull, 1792), *D. salicis* Walton, 1851, *D. schoenherri* Faust, 1882, *D. tortrix* (Linnaeus, 1761), *Pseudostyphlus pillumus* (Gyllenhal, 1836), *Tychius pumilus* C. Brisout 1862, *T. schneideri* (Herbst, 1795), *Sibinia phalerata* (Gyllenhal, 1836), *Anthonomus brunnipennis* Curtis, 1840, *A. ulmi* (De Geer, 1775), *Orchestes alni* (Linnaeus, 1758), *O. avellanae* (Donovan, 1797 nec Paykull, 1792), *O. betuleti* (Panzer, 1795), *O. pilosus* (Fabricius, 1781), *Pseudorchestes pratensis* (Germar, 1821), *Tachyerges decoratus* (Germar, 1821), *Rhamphus oxyacanthae* (Marsham, 1802), *Gymnetron stimulosum* (Germar, 1821), *G. villosulum* Gyllenhal, 1838, *Rhinusa collina* (Gyllenhal, 1813), *Rh. thapsicola* (Germar, 1821), *Mecinus labilis* (Herbst, 1795), *Miarus campanulae* (Linnaeus, 1767), *B. collignensis* (Herbst, 1797), *Bagous petro* (Herbst, 1795), *Melanobaris laticollis* (Marsham, 1802), *Ceutorhynchus posthumus* (Germar, 1824), *C. similis* Brisout de Barneville, 1869, *Calosirus apicalis* (Gyllenhal, 1827), *Mogulones euphorbiae* (Brisout de Barneville, 1866), *M. javetii* (Gerhardt, 1867), *Micrelus ericae* (Gyllenhal, 1813), *Coeliodes rana* (Fabricius, 1787), *C. trifasciatus*, *Rhyncolus sculpturatus* Waltl, 1839, *Phloeophagus lignarius* (Marsham, 1802), *Stereocorynes truncorum* (Germar, 1824), *Pselactus spadix* (Herbst, 1795), *Acalles camelus* (Fabricius, 1792), *Acalles echinatus* (Germar, 1824), *Asperogronops lunatus* (Fabricius, 1775), *Otiorhynchus desertus* Rosenhauer, 1847, *O. rugifrons* (Gyllenhal, 1813), *O. scaber* (Linnaeus, 1758), *O. sulcatus*

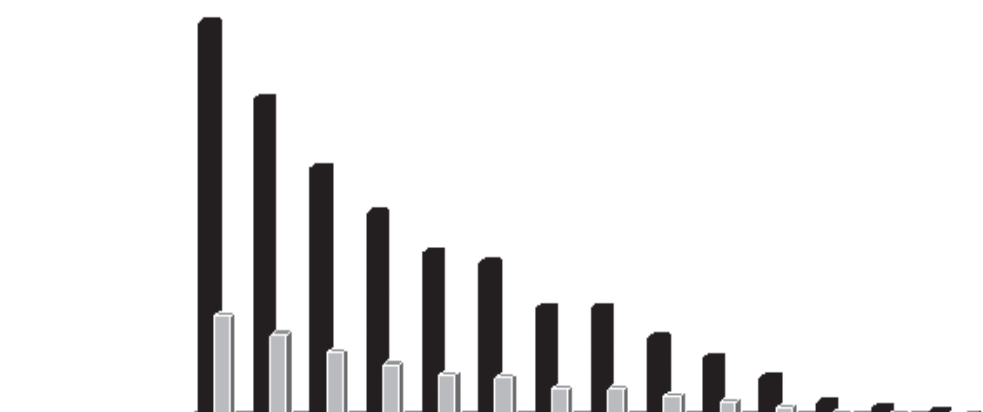
(Fabricius, 1775), *Romualdius angustisetulus* Hansen, 1915, *Phyllobius arborator* (Herbst, 1797), *Ph. argentatus* (Linnaeus, 1758), *Ph. betulinus* (Bechstein & Scharfenberg, 1805), *Ph. vespertinus* (Fabricius, 1792), *Polydrusus pallidus* (Gyllenhal, 1834), *Barypeithes mollicomus* (Ahrens, 1812), *B. pellucidus* (Boheman, 1843), *B. trichopterus* (Gautier, 1863), *Strophosoma melanogrammum* (Förster, 1771), *Barynotus moerens* (Fabricius, 1792), *B. obscurus* (Fabricius, 1775), *Tropiphorus elevatus* (Herbst, 1795), *Hypera contaminata* (Herbst, 1795), *Coniocleonus turbatus* (Fåhraeus, 1842), *Magdalis caucasica* (Tournier, 1872), *Anoplus roboris* Suffrian, 1840, *Trachodes hispidus* (Linnaeus, 1758).

**Central-European** – 12 species (3.13%): *Dorytomus reussi* Formanek, 1908, *Tychius sharpi* Tournier, 1873, *Scleropterus serratus* (Germar, 1824), *Ceutorhynchus cakilis* (Hansen, 1917), *Mogulones abbreviatulus* (Fabricius, 1792), *Rhyncolus reflexus* Boheman, 1838, *Otiorhynchus singularis* (Linnaeus, 1767), *O. tenebricosus* (Herbst, 1784), *Neliocarus faber* (Herbst, 1784), *Strophosoma fulvicorne* Walton, 1848, *Liparus glabirostris* Küster, 1849, *Pissodes piceae* (Illiger, 1807).

**North-European** – 1 species (0.26%): *Trachyphloeus digitalis* Gyllenhal, 1827.

Analysis of the distribution of Latvian species of Curculionidae shows the predominance of species with Asiatic-European and European distribution. Species with narrow distribution areas (Europeo-Mediterranean, Turano-Europeo-Mediterranean, North-European) and Holarctic are less numerous (Fig. 3).

The North border of geographic range of 41 weevil species are going through Latvia. These species are not recorded in Central and N Sweden, Estonia and Karelia: *Dorytomus longimanus*, *D. reussi*, *D. occallescens*, *Cleopus solani*, *Tychius parallelus*, T. *medicaginis*, *T. aureolus*, *T. junceus*, *T. lineatulus*, *T. pumilus*, *Sibinia unicolor*, *S. subelliptica*, *Anthonomus piri*, *Curculio venosus*, *Orchestes betuleti*, *Gymnetron stimulosum*, *Rhinusa thapsicola*, *Mecinus janthinus*, *M. heydeni*, *Bagous tubulus, Melanobaris dalmatina*, *Aulacobaris lepidii*, *Marmaropus besseri*, *Scleropteridius fallax*, *Amalorrhynchus melanarius*, *Ceutorhynchus dubius*, *C. similis*, *C. posthumus*, *Oprohinus suturalis*, *Mogulones abbreviatulus*, *M. geographicus*, *Brachytemnus porcatus*, *Stereocorynes truncorum*, *Otiorhynchus conspersus*, *Phyllobius jacobsoni, Polydrusus impressifrons*, *Charagmus gressorius*,



| | ASE | EUR | CAE | PAL | CEM | WPA | SIE | EWS | TUE | CEU | OLA | EUM | TEM | NEU |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of species | 79 | 64 | 50 | 41 | 33 | 31 | 22 | 22 | 16 | 12 | 8 | 3 | 2 | 1 |
| % | 20,57 | 16,67 | 13,02 | 10,68 | 8,59 | 8,07 | 5,73 | 5,73 | 4,17 | 3,13 | 2,08 | 0,78 | 0,52 | 0,26 |

Fig. 3. Biogeographical structure of Latvian Curculionidae (except Scolytinae and Platypodinae).

*Coelositona cinerascens*, *Hypera denominanda*, *Magdalis rufa*, *M. caucasica*.

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