

Results of entomological survey of beetles (Coleoptera) from the Borek u Domašova Natural Reserve (Jeseníky Protected Landscape Area): implications for conservation biology

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Abstract: This paper is focused on the fauna of beetles from the Borek u Domašova Nature Reserve (NR) in the Hrubý Jeseník Mountains. Altogether 257 species of beetles belonging to 45 families were recorded during an entomological survey in 2011 and 2012. We found out valuable assemblages of beetles, especially a community of saproxylic beetles which is of high bioindicative value. Recorded were boreo-montane or relict species of natural old-growth forests such as *Ceruchus chrysomelinus*, *Curimus erichsoni*, *Danosoma fasciata*, *Dendrophagus crenatus*, *Elateroidea flabellicornis*, *Hylis foveicollis*, *Melandrya barbata* etc. We propose the following management measures, necessary for the preservation of populations of the threatened species of the Borek u Domašova NR. A non-action strategy seems to be the most appropriate management by means of avoiding the removal of fallen and dead trees from the forest. On the contrary, the structure of the forest should be enriched with fir seedlings, planted and protected from the damage caused by deer. We also recommend to enlarging the area of the NR in the near future.

Key words: Coleoptera, faunistics, conservation, saproxylic beetles, Borek u Domašova Natural Reserve, Hrubý Jeseník Mts., Czech Republic

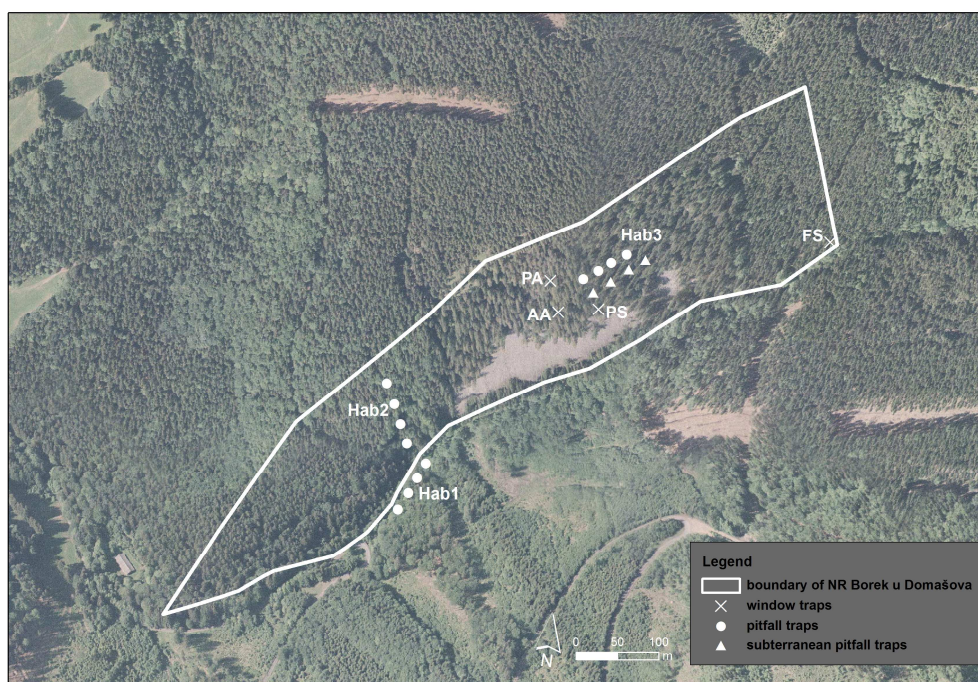
Introduction

The Hrubý Jeseník Mts. belong to the largest mountain areas in the Czech Republic, with a heterogeneous and specific fauna and flora. Therefore, the region is in the centre of entomologists' interest, which is confirmed by many historical and recent papers (Mazalová et al. 2012). Most of the works concerned about beetles in Hrubý Jeseník Mts. is focused on Praděd Mt. and its close surroundings. That is why we have a poor knowledge of the coleopterofauna of broader surroundings. Nevertheless, some historical and even recent faunistic records reveal other entomologically valuable localities with natural habitats, situated in the Jeseníky Mts. (see Gerhardt 1910; Malec 1976; Vavroušek 1980, 1983; Stanovský & Pulpán 2006; Kašák & Gabriš 2011). One of these potentially valuable places is the Borek u Domašova Nature Reserve (NR). Although we have some historical evidence (faunistic records) from the „Waldenburg am Altvater = Bělá pod Pradědem“ which is within the broader surroundings of the area concerned (Uechtritz 1846; Letzner 1849-1852, 1871, 1885, 1888-1889; Roger 1856; Gerhardt 1890-1891, 1900a, b, 1902-1903, 1906, 1910; Gabriel 1903), as well as more recent studies focused on the occurrence of ground beetles (Roháček 1989; Skoupý 2004; Stanovský & Pulpán 2006) a comprehensive entomological survey of the locality is still lacking. The only paper dealing directly with the locality of interest still remains a record of the occurrence of lucanid *Ceruchus chrysomelinus* (Kašák & Gabriš 2011).

The main aims of this paper are the following: a) to gather and present the results of the basic faunistic survey of beetles of the Borek u Domašova NR, b) the interpretation of occurrence of significant species and c) proposal of biodiversity-friendly management of the study area, ensuring protection of valuable species (communities) of beetles.

Characteristic of the area

The Borek u Domašova NR is forest type of protected area which covers the area of 13.5 ha. The area is legislatively protected since 1990. The study site is situated 1 km to the east from the village of Bělá pod Pradědem on the south-east slope of the Zaječí hora Mt. (1011 m), the altitude ranging between 690 and 910 m a.s.l., in faunistic square 5869 (Pruner & Míka 1996). The geological structure of the area is formed by stone streams and debris from devonian quartzites and another important group is represented by deluvial sediments. The debris is usually covered by vegetation of boreo-continental pine forests - habitat L8.1 *sensu* Habitat Catalogue of the Czech Republic (Chytrý et al. 2001), which is followed by mixed beech-spruce forest close to nearby Zaječí potok brook. The small brook with natural character builds the east border of the area of interest. The actual vegetation is dominated by Norway spruce (*Picea abies*), Scots pine (*Pinus sylvestris*), and Silver fir (*Abies alba*) although European beech (*Fagus sylvatica*) is significantly present especially in lower parts of the NR. The presence of huge trees up to 180 years old and rich offer of wood of different age and condition, including dying or dead trees, fallen trunks often invaded with various fungi etc. is characteristic of the area of interest (Weismanová et al. 2004).



Map 1: AA = Silver fir (*Abies alba*), Hab1 = habitat of share of the brook, Hab2 = habitat of mixed beech and spruce forest, Hab3 = habitat of boreo-continental pine forest, FS = European beech (*Fagus sylvatica*), PA = Norway spruce (*Picea abies*), PS = Scots pine (*Pinus sylvestris*), WT = window traps.

Sampling methods and study sites

The main goal of this entomological survey was to collect a representative overview of beetles of various ecological guilds. Field work was carried out during one year period from May 2011 to May 2012. The following methods were used for sampling: individual collecting (searching adults at attractive wood, under bark and stones, on flowers and fungi), beating, sweeping, sifting and sampling by pitfall, subterranean pitfall and window traps. In total, 11 field trips were carried out in the area of interest for individual collecting (10.v., 26.v., 27.vi., 11.vii., 13.vii., 2.viii., 4.ix., 9.ix., 10.x., 9.xii.2011 and 30.v.2012).

The pitfall traps consisted of a plastic beaker (8 cm diameter and 0.5 l volume) filled in one third with ethylene glycol for a fixation of specimens. The traps were set in three different biotopes (see Map 1): banks of the brook, mixed beech-spruce forest and boreo-continental pine forest. Four traps were set in each habitat in line. Subterranean pitfall traps were set in the design of lines made of four traps and were situated only in the debris of boreo-continental pine forest. Each subterranean pitfall trap consisted of a tube (8 cm diameter, 40 cm long) with perforations (1 cm diameter) and with a beaker in the bottom (capacity 0.3 l, filled with ethylene glycol). The traps for collecting epigeic and edafic beetles were installed on 10.v. and regularly emptied and re-filled on 26.v., 27.vi., 2.viii. and 9.ix.2011.

We also used four window traps, which consisted of two transparent plastic plates (40×70 cm), mounted funnel and collecting beaker with a concentrated solution of sodium chloride. The window traps were installed at

a height of 2 m on four partly sunlit trees (*Abies alba*, *Pinus sylvestris*, dead *Fagus sylvatica* and *Picea abies* - for localization see Map 1). The traps were put into operation on 26.v. and later checked on 27.vi., 11.vii., 2.viii., 4.ix. and 10.x.2011.

All material was determined by the authors of this paper and is deposited in their private collections if it is not mentioned otherwise. Easily identifiable species were recorded immediately in the field and released back into nature. Species categorized in the Red List of threatened species in the Czech Republic (Farkač et al. 2005) include collecting details. The most valuable species belonging to the categories „critically endangered“ and „endangered“ are additionally commented on. The nomenclature follows the Checklist of beetles of the Czech Republic (Jelínek 1993) and is adjusted according to the more recent papers (Cuccodoro 2007; Boháč et al. 2007; Benedikt et al. 2010).

Abbreviations: AA = Silver fir (*Abies alba*), CR = Czech Republic, Hab1 = habitat 1 (share of the brook), Hab2 = habitat 2 (mixed beech and spruce forest), Hab3 = habitat 3 (boreo-continental pine forest), FS = European beech (*Fagus sylvatica*), NR = Nature Reserve, PA = Norway spruce (*Picea abies*), PT = pitfall traps, PS = Scots pine (*Pinus sylvestris*), SPT = subterranean pitfall traps, WT = window traps.

Results

During the entomological survey altogether 257 species of 45 families were recorded. In total, 25 species are listed in the Red List (Farkač et al. 2005). The following species of the Red List (Farkač et al. 2005) were recorded in the Borek u Domašova NR: *Ceruchus chrysomelinus*, *Curimus erichsoni*, *Elateroides flabellicornis* as critically endangered, *Atracus longiceps*, *Danosoma fasciata*, *Dendrophagus crenatus*, *Diacanthous undulatus*, *Hylis foveicollis*, *Melandrya barbata* as endangered, *Carabus variolosus*, *Denticollis rubens*, *Endomychus coccineus*, *Epuraea laeviuscula*, *Lesteva monticola*, *Mniusa incrassata*, *Omalium rugatum*, *Serropalpus barbatus* as vulnerable and *Acalles fallax*, *Athous zebei*, *Onyxacalles pyrenaicus*, *Rhyncolus* cf. *sculpturatus*, *Ruteria hypocrita*, *Timarcha metallica*, *Trachodes hispidus* and *Trichius fasciatus* as near threatened. The species within each family are listed alphabetically.

ALLECULIDAE

Allecula morio (Fabricius, 1787): 11.vii.2011, 2 spec.; 13.vii.2011, at night on Scots pine (*Pinus sylvestris*), 3 spec., all spec. O. Konvička rev.

ANOBIIDAE

Ernobius mollis (Linnaeus, 1758): 2.viii.-4.ix.2011, WT – PA, 2 spec.

Hadrobregmus pertinax (Linnaeus, 1758): 26.v.2011, 1 spec.; 26.v.-27.vi.2011, SPT – Hab3, 1 spec.; 26.v.-27.vi.2011, WT – FS, 1 spec.; 26.v.-27.vi.2011, WT – PA, 6 spec.; 27.vi.-11.vii.2011, WT – PA, 6 spec.; 2.vii.-4.ix.2011, WT – AA, 1 spec.; 4.ix.-10.x.2011, WT – PS, 1 spec.

Microbregma emarginatum (Duftschmid, 1825): 26.v.2011, 1 spec.; 26.v.-27.vi.2011, WT – AA, 1 spec.

Ptilinus pectinicornis (Linnaeus, 1758): 13.vii.2011, 1 spec.; 26.v.-27.vi.2011, WT – FS, 3 spec.; 27.vi.-11.vii.2011, WT – FS, 1 spec.

Ptinomorphus imperialis (Linnaeus, 1767): 27.vi.-11.vii.2011, WT – FS, 1 spec.

Xestobium rufovillosum (De Geer, 1774): 26.v.-27.vi.2011, WT – FS, 1 spec.; 26.v.-27.vi.2011, WT – PA, 1 spec.

ANTHRIBIDAE

Brachytarsus nebulosus Förster, 1771: 26.v.-27.vi.2011, WT – PS, 1 spec.; 10.xii.2011, under scales of bark of Silver fir (*Abies alba*), 5 spec.

BUPRESTIDAE

Anthaxia helvetica Stierlin, 1868: 26.v.2011, 3 spec.

BYRRHIDAE

Byrrhus arietinus Steffahn, 1842: 10.v.-26.v.2011, PT – Hab3, 3 spec.; 26.v.-27.vi.2011, PT – Hab3, 3 spec.; 26.v.-27.vi.2011, WT – FS, 3 spec.; 27.vi.-2.viii.2011, PT – Hab3, 3 spec.; 27.vi.2011, 1 spec., all spec. det. M. Boukal.

Curimus erichsoni Reitter, 1881: 26.v.-27.vi.2011, WT – FS, 1 spec., J. Kašák leg. et coll., M. Boukal det.; 11.vii.-2.viii.2011, WT – FS, 1 spec., J. Kašák leg., M. Boukal det. et coll.
Species occurring in highlands and mountains of Central and Eastern Europe (cf. Mroczkowski 1958). It lives in mosses on trees and rocks only in biotopes with natural character. Species is indicator of forest continuity (M. Boukal pers. com.). In the Hrubý Jeseník Mts. are known only old records from past in Bělá pod Pradědem (Letzner 1888) and Praděd (Gerhardt 1910).

BYTURIDAE

Byturus tomentosus (De Geer, 1774): 26.v.2011, 2 spec.

CANTHARIDAE

Ancistronycha erichsonii Bach, 1854: 13.vii.2011, 1 spec., L. Koloničný rev.

Ancistronycha violacea (Paykull, 1789): 26.v.2011, 1 spec.

Ancistronycha occipitalis (Rosenhauer, 1847): 30.v.2012, 1 spec.

Cantharis pagana Rosenhauer, 1846: 26.v.-27.vi.2011, WT – FS, 1 spec.

Cantharis paludosa Fallén, 1807: 26.v.2011, 2 spec., L. Koloničný rev.

Cratosilis denticollis (Schummel, 1844): 13.vii.2011, 1 spec.

Podistra schoenherri (Dejean, 1837): 13.vii.2011, 1 spec., L. Koloničný rev.

CARABIDAE

Abax parallelepipedus (Piller et Mitterpacher, 1783): 26.v.-27.vi.2011, PT – Hab1, 3 spec.; 2.viii.-9.ix.2011, PT – Hab1, 1 spec.

Carabus auronitens Fabricius, 1792: 10.v.-26.v.2011, PT – Hab2, 10 spec.; 26.v.-27.vi.2011, PT – Hab2, 7 spec.; 26.v.-27.vi.2011, PT – Hab3, 1 spec.; 26.v.-27.vi.2011, SPT – Hab3, 1 spec.; 27.vi.-2.viii.2011, PT – Hab2, 1 spec.

Carabus glabratus Paykull, 1790: 10.v.-26.v.2011, PT – Hab3, 2 spec.; 26.v.-27.vi.2011, PT – Hab1, 7 spec.; 26.v.-27.vi.2011, PT – Hab2, 1 spec.; 26.v.-27.vi.2011, PT – Hab3, 11 spec.; 26.v.-27.vi.2011, SPT – Hab3, 7 spec.; 27.vi.-2.viii.2011, PT – Hab2, 1 spec.; 27.vi.-2.viii.2011, SPT – Hab3, 1 spec.; 2.viii.-9.ix.2011, PT – Hab1, 1 spec.

Carabus intricatus Linnaeus, 1761: 10.v.-26.v.2011, PT – Hab2, 10 spec.; 10.v.-26.v.2011, PT – Hab3, 9 spec.; 26.v.-27.vi.2011, PT – Hab1, 2 spec.; 26.v.-27.vi.2011, PT – Hab2, 4 spec.; 26.v.-27.vi.2011, PT – Hab2, 10 spec.; 26.v.-27.vi.2011, SPT – Hab3, 7 spec.; 26.v.-27.vi.2011, WT – FS, 1 spec.

Carabus linnaei Panzer, 1810: 10.v.-26.v.2011, PT – Hab2, 10 spec.; 10.v.-26.v.2011, PT – Hab3, 1 spec.; 26.v.-27.vi.2011, PT – Hab1, 1 spec.; 26.v.-27.vi.2011, PT – Hab2, 8 spec.; 26.v.-27.vi.2011, SPT – Hab3, 2 spec.; 27.vi.-2.viii.2011, PT – Hab2, 16 spec.; 27.vi.-2.viii.2011, PT – Hab3, 1 spec.; 27.vi.-2.viii.2011, SPT – Hab3, 1 spec.; 11.vii.-2.viii.2011, WT – FS, 1 spec.; 2.viii.-9.ix.2011, PT – Hab1, 5 spec.; 2.viii.-9.ix.2011, PT – Hab2, 10 spec.; 2.viii.-9.ix.2011, PT – Hab3, 5 spec.

Carabus variolosus Fabricius, 1787: 26.v.-27.vi.2011, PT – Hab1, 2 spec., J. Kašák leg. et coll., F. Trnka det.

Carabus violaceus Linnaeus, 1758: 26.v.-27.vi.2011, PT – Hab2, 5 spec.; 26.v.-27.vi.2011, PT – Hab3, 2 spec.; 26.v.-27.vi.2011, SPT – Hab3, 6 spec.; 27.vi.-2.viii.2011, PT – Hab2, 6 spec.; 27.vi.-2.viii.2011, SPT – Hab3, 1 spec.; 2.viii.-9.ix.2011, PT – Hab3, 2 spec.

Cychrus attenuatus (Fabricius, 1792): 26.v.-27.vi.2011, PT – Hab1, 1 spec.; 2.viii.-9.ix.2011, PT – Hab2, 1 spec.; 2.viii.-9.ix.2011, PT – Hab3, 1 spec.

Cychrus caraboides (Linnaeus, 1758): 10.v.-26.v.2011, PT – Hab2, 2 spec.; 26.v.-27.vi.2011, PT – Hab1, 1 spec.; 26.v.-27.vi.2011, SPT – Hab3, 1 spec.

Dromius agilis (Fabricius, 1787): 13.vii.2011, 1 spec.; 4.ix.-10.x.2011, WT – AA, 1 spec.

Europhilus fuliginosus (Panzer, 1809): 26.v.-27.vi.2011, PT – Hab1, 2 spec.; 2.viii.-9.ix.2011, PT – Hab1, 1 spec.

Loricera pilicornis (Fabricius, 1775): 27.vi.-2.viii.2011, PT – Hab3, 1 spec.

Notiophilus biguttatus (Fabricius, 1779): 26.v.-27.vi.2011, PT – Hab3, 3 spec.; 26.v.-27.vi.2011, SPT – Hab3, 2 spec.; 2.viii.-9.ix.2011, PT – Hab3, 1 spec.; 11.vii.2011, 2 spec.; 9.ix.2011, 1 spec.

Notiophilus palustris (Duftschmid, 1812): 26.v.-27.vi.2011, PT – Hab3, 1 spec.

Platynus assimilis (Paykull, 1790): 26.v.-27.vi.2011, PT – Hab1, 4 spec.; 10.x.2011, 1 spec.

Pterostichus niger (Schaller, 1783): 26.v.-27.vi.2011, PT – Hab1, 6 spec.; 26.v.-27.vi.2011, PT – Hab3, 2 spec.; 26.v.-27.vi.2011, SPT – Hab3, 1 spec.; 2.viii.-9.ix.2011, PT – Hab3, 1 spec.

Pterostichus oblongopunctatus (Fabricius, 1787): 26.v.-27.vi.2011, PT – Hab1, 3 spec.

Trechus pilisensis sudeticus Pawlowski, 1975: 26.v.-27.vi.2011, PT – Hab1, 2 spec., J. Stanovský det.

Trechus striatulus Putzeys, 1847: 2.viii.-9.ix.2011, PT – Hab1, 1 spec., J. Stanovský det.

Trichotichnus laevicollis (Duftschmid, 1812): 26.v.-27.vi.2011, PT – Hab2, 2 spec.

CERAMBYCIDAE

- Alosterna tabacicolor* (De Geer, 1775): 26.v.2011, 3 spec.; 26.v.-27.vi.2011, PT – Hab3, 1 spec.
Anastrangalia sanguinolenta (Linnaeus, 1761): 27.vi.2011, 5 spec., observ.
Brachyleptura maculicornis (De Geer, 1775): 27.vi.-11.vii.2011, WT – PS, 1 spec.
Carilia virginea (Linnaeus, 1758): 26.v.2011, 2 spec.; 26.v.-27.vi.2011, WT – PA, 1 spec.
Clytus lama Mulsant, 1847: 13.vii.2011, 1 spec., beaten from Norway spruce (*Picea abies*).
Corymbia rubra (Linnaeus, 1758): 13.vii.2011, 2 spec., observ.; 2.viii.2011, 1 spec., observ.
Evodinus clathratus (Fabricius, 1793): 26.v.2011, 4 spec., observ.
Leiopus linnei Wallin, Nylander et Kvamme, 2009: 13.vii.2011, 1 spec.
Leptura quadrifasciata Linnaeus, 1758: 13.vii.2011, 1 spec., observ.
Molorchus minor (Linnaeus, 1758): 26.v.2011, 3 spec., observ.
Obrium brunneum (Fabricius, 1793): 26.v.2011, 2 spec., observ.; 11.vii.2011, 2 spec.
Oxymirus cursor (Linnaeus, 1758): 27.vi.2011, 1 spec., observ.
Pachytodes cerambyciformis (Schränk, 1781): 27.vi.2011, 1 spec., observ.
Pidonia lurida (Fabricius, 1792): 26.v.2011, 3 spec., observ.
Rhagium bifasciatum Fabricius, 1775: 26.v.2011, 1 spec., observ.; 26.v.-27.vi.2011, SPT – Hab3, 1 spec.
Rhagium inquisitor (Linnaeus, 1758): 26.v.2011, 1 spec.; 26.v.2011, 2 spec., under bark of stump of Norway spruce (*Picea abies*), observ.; 26.v.-27.vii.2011, WT – PA, 7 spec.; 27.vi.-11.vii.2011, WT – PA, 2 spec.; 10.x.2011, 1 spec.
Rhagium mordax (De Geer, 1775): 26.v.2011, 1 spec., under bark of stump of willow (*Salix caprea*), observ.; 26.v.-27.vi.2011, WT – FS, 2 spec.
Stenurella melanura (Linnaeus, 1758): 13.vii.2011, 1 spec., observ.
Tetropium castaneum (Linnaeus, 1758): 26.v.-27.vi.2011, WT – PA, 6 spec.; 26.v.-27.vi.2011, WT – AA, 1 spec.; 27.vi.-11.vii.2011, WT – AA, 1 spec.
Tetropium fuscum (Fabricius, 1787): 26.v.-27.vi.2011, WT – PA, 2 spec.; 30.v.2012, 1 spec.

CERYLONIDAE

- Cerylon fagi* C. Brisout de Barneville, 1867: 26.v.-27.vi.2011, WT – FS, 3 spec.; 27.vi.-11.vii.2011, WT – FS, 1 spec.
Cerylon ferrugineum Stephens, 1830: 27.vi.-11.vii.2011, WT – FS, 1 spec., J. Vávra det.; 11.vii.-2.viii.2011, WT – PS, 1 spec.
Cerylon histeroides (Fabricius, 1792): 26.v.2011, 1 spec.; 27.vi.-11.vii.2011, WT – FS, 1 spec.; 2.viii.-9.ix.2011, PT – HAB2, 1 spec.

CIIDAE

- Cis boleti* (Scopoli, 1763): 11.vii.-2.viii.2011, WT – AA, 1 spec.
Cis fagi Walth, 1839: 2.viii.-4.ix.2011, WT – PA, 1 spec., P. Průdek det.
Cis glabratus Mellié, 1848: 10.x.2011, sifting of leaf litter, 1 spec., P. Průdek det.
Orthocis alni (Gyllenhal, 1813): 10.x.2011, sifting of leaf litter, 1 spec., P. Průdek det.

CLERIDAE

- Thanasimus formicarius* (Linnaeus, 1758): 26.v.-27.vi.2011, WT – PA, 13 spec.; 27.vi.-11.vii.2011, WT – AA, 1 spec.; 27.vi.-11.vii.2011, WT – PA, 14 spec.; 11.vii.2011, 1 spec.; 11.vii.-2.viii.2011, WT – PA, 3 spec.; 2.viii.-4.ix.2011, WT – AA, 1 spec.; 2.viii.-4.ix.2011, WT – PA, 2 spec.
Tillus elongatus (Linnaeus, 1758): 13.vii.2011, 1 spec.

COCCINELLIDAE

- Adalia bipunctata* (Linnaeus, 1758): 13.vii.2011, 1 spec.; 4.ix.-10.x.2011, WT – PS, 1 spec.
Aphidecta oblitterata (Linnaeus, 1758): 13.vii.2011, 1 spec.
Coccinella septempunctata Linnaeus, 1758: 11.vii.2011, 1 spec., 2.viii.-4.ix.2011, WT – AA, 2 spec.
Cyanegetis impunctata (Linnaeus, 1767): 26.v.-27.vi.2011, WT – PA, 1 spec.
Myzia oblongoguttata (Linnaeus, 1758): 26.v.-27.vi.2011, WT – PA, 1 spec.

CRYPTOPHAGIDAE

- Micrambe abietis* (Paykull, 1798): 10.x.2011, sifting of leaf litter, 1 spec., P. Průdek det.
Pteryngium crenatum (Gyllenhal, 1808): 4.ix.2011, 3 spec., P. Průdek det.; 9.ix.2011, 1 spec., L. Koloničný coll., all spec. J. Vávra rev.

CUCUJIDAE

Leptophloeus alternans (Erichson, 1846): 27.vi.2011, 1 spec., J. Vávra leg.; 11.vii.-2.viii.2011, WT – PS, 1 spec.

CURCULIONIDAE

- Acalles fallax* Boheman, 1844: 13.vii.2011, beaten from fallen dead twigs of a European beech (*Fagus sylvatica*), 4 spec.; 4.ix.2011, beaten from fallen dead twigs of a European beech (*Fagus sylvatica*) and sifting of leaf litter, 3 spec., all spec. F. Trnka leg., det. et coll.; 9.ix.2011, 1 spec., R. Gabriš leg., det. et coll.
- Anthonomus rubi* (Herbst, 1795): 26.v.2011, swept, 1 spec.
- Hylobius abietis* (Linnaeus, 1758): 26.v.-27.vi.2011, PT – Hab3, 8 spec.; 26.v.-27.vi.2011, SPT – Hab3, 5 spec.; 2.viii.-9.ix.2011, PT – Hab3, 2 spec.
- Hylobius pinastri* (Gyllenhal, 1813): 27.vi.-2.viii.2011, PT – Hab2, 1 spec., R. Stejskal det.
- Ips typographus* (Linnaeus, 1758): 2.viii.-4.ix.2011, WT – AA, 3 spec.; 2.viii.-4.ix.2011, WT – PA, 3 spec.; 4.ix.-10.x.2011, WT – PA, 1 spec.
- Liophloeus lentus* Germar, 1824: 26.v.-27.vi.2011, PT – Hab1, 1 spec.
- Liparus glabrirostris* Küster, 1849: 11.vii.2011, 1 spec.
- Magdalis nitida* (Gyllenhal, 1827): 26.v.-27.vi.2011, WT – PA, 1 spec.; 2.viii.-4.ix.2011, WT – PA, 1 spec.
- Onyxacalles pyrenaeus* (Boheman, 1844): 27.vi.-2.viii.2011, PT – Hab2, 1 spec., J. Kašák leg. et coll., F. Trnka det.
- Otiorhynchus coecus* Germar, 1824: 26.v.2011, swept, 1 spec.; 26.v.-27.vi.2011, WT – FS, 1 spec.; 11.vii.2011, 1 spec.; 13.vii.2011, 2 spec.; 4.ix.2011, sifting of leaf litter, 1 spec.
- Otiorhynchus equestris* (Richter, 1821): 27.vi.-2.viii.2011, PT – Hab1, 1 spec.
- Otiorhynchus lepidopterus* (Fabricius, 1794): 26.v.2011, swept, 1 spec.; 11.vii.2011, 1 spec.
- Otiorhynchus nodosus* (O. F. Müller, 1764): 27.vi.-2.viii.2011, PT – Hab3, 1 spec.; 9.ix.2011, 1 spec.
- Otiorhynchus scaber* (Linnaeus, 1758): 26.v.2011, 1 spec.; 26.v.-27.vi.2011, PT – Hab1, 1 spec.; 26.v.-27.vi.2011, PT – Hab2, 4 spec.; 26.v.-27.vi.2011, PT – Hab3, 5 spec.; 26.v.-27.vi.2011, SPT – Hab3, 2 spec.; 26.v.-27.vi.2011, WT – FS, 1 spec.; 26.v.-27.vi.2011, WT – PA, 1 spec.; 27.vi.-11.vii.2011, WT – FS, 1 spec.; 11.vii.2011, 2 spec.; 27.vi.-2.viii.2011, PT – Hab2, 3 spec.; 27.vi.-2.viii.2011, PT – Hab3, 1 spec.; 2.viii.-4.ix.2011, WT – FS, 8 spec.; 2.viii.-9.ix.2011, PT – Hab2, 8 spec.; 2.viii.-9.ix.2011, PT – Hab3, 3 spec.; 4.ix.2011, sifting of leaf litter, 2 spec.; 9.ix.2011, 1 spec.; 4.ix.-10.x.2011, WT – AA, 1 spec.; 4.ix.-10.x.2011, WT – FS, 1 spec.; 4.ix.-10.x.2011, WT – PS, 1 spec.
- Otiorhynchus singularis* (Linnaeus, 1767): 11.vii.-2.viii.2011, WT – AA, 1 spec.; 9.ix.2011, 1 spec.
- Otiorhynchus subdentatus* Bach, 1854: 26.v.2011, swept, 2 spec.; 11.vii.2011, 3 spec., all spec. R. Stejskal det.
- Otiorhynchus tenebriosus* (Herbst, 1784): 26.v.2011, swept, 1 spec.
- Phyllobius arborator* (Herbst, 1797): 13.vii.2011, 1 spec., R. Stejskal det.
- Phyllobius glaucus* (Scopoli, 1763): 26.v.2011, beaten from shrubs, 3 spec.
- Phyllobius pomaceus* Gyllenhal, 1834: 26.v.2011, swept, 1 spec.
- Pityogenes bidentatus* (Herbst, 1784): 26.vi.-27.vi.2011, WT – AA, 3 spec.
- Polydrusus cervinus* (Linnaeus, 1758): 26.v.2011, beaten from shrubs, 1 spec., R. Stejskal det.
- Polydrusus impar* Des Gozis, 1882: 26.v.-27.vi.2011, WT – PS, 1 spec., R. Stejskal det.; 27.vi.-11.vii.2011, WT – PS, 1 spec.; 13.vii.2011, 1 spec.; 27.vi.-2.viii.2011, WT – PS, 1 spec.
- Polydrusus pallidus* Gyllenhal, 1834: 11.vii.2011, 1 spec.; 13.vii.2011, 1 spec., R. Stejskal det.
- Polydrusus tereticollis* (De Geer, 1775): 26.v.2011, 1 spec.
- Rhinoncus pericarpus* (Linnaeus, 1758): 26.v.2011, swept, 1 spec., R. Stejskal det.
- Rhyncolus ater* (Linnaeus, 1758): 26.v.-27.vi.2011, PT – Hab3, 1 spec.; 26.v.-27.vi.2011, SPT – Hab3, 1 spec.; 26.v.-27.vi.2011, WT – PS, 1 spec.; 27.vi.-11.vii.2011, WT – AA, 1 spec.; 11.vii.2011, 6 spec.; 27.vi.-2.viii.2011, PT – Hab2, 1 spec.; 27.vi.-2.viii.2011, SPT – Hab3, 1 spec.; 4.ix.2011, 3 spec., all spec. R. Stejskal det.
- Rhyncolus* cf. *sculpturatus* Walzl, 1839: 26.v.-27.vi.2011, WT – AA, 1 spec.; 26.v.-27.vi.2011, WT – PA, 2 spec.; 11.vii.2011, 3 spec., all spec. F. Trnka leg. et coll., R. Stejskal det.
- Rutera hypocrita* (Boheman, 1837): 27.vi.2011, 1 spec., on dead fallen trunk of European beech (*Fagus sylvatica*), J. Kašák leg., det. et coll.
- Scleropteridius fallax* Otto, 1897: 27.vi.-11.vii.2011, WT – FS, 1 spec.
- Simo hirticornis* (Herbst, 1795): 27.vi.-2.viii.2011, PT – Hab3, 2 spec.; 11.vii.2011, 1 spec.; 2.viii.-4.ix.2011, WT – FS, 1 spec.
- Strophosoma melanogrammum* (Forster, 1771): 26.v.-27.vi.2011, PT – Hab2, 1 spec.; 26.v.-27.vi.2011, PT – Hab3, 2 spec.; 26.v.-27.vi.2011, SPT – Hab3, 3 spec.; 27.vi.-2.vii.2011, PT – Hab2, 1 spec.; 2.vii.-9.ix.2011, PT – Hab2, 2 spec.
- Trachodes hispidus* (Linnaeus, 1758): 13.vii.2011, 2 spec., F. Trnka leg., det. et coll.

Trypodendron lineatum (Olivier, 1795): 26.v.-27.vi.2011, WT – FS, 1 spec.; 27.vi.-11.vii.2011, WT – PA, 12 spec.; 11.vii.-2.viii.2011, WT – PA, 1 spec.; 2.viii.-4.ix.2011, WT – PA, 2 spec.; 4.ix.-10.x.2011, 5 spec.

DASYTIDAE

Aplocnemus nigricornis (Fabricius, 1792): 26.v.-27.vi.2011, WT – AA, 1 spec.; 11.vii.2011, beaten, 1 spec.
Dasytes obscurus Gyllenhal, 1813: 13.vii.2011, 1 spec.

DERMESTIDAE

Anthrenus fuscus Olivier, 1789: 2.viii.-4.ix.2011, WT – AA, 1 spec., J. Vávra rev.

ELATERIDAE

- Agriotes obscurus* (Linnaeus, 1758): 30.v.2012, 1 spec.
Ampedus aethiops (Lacordaire, 1835): 27.vi.-11.vii.2011, WT – PS, 1 spec.
Ampedus balteatus (Linnaeus, 1758): 26.v.-27.vi.2011, WT – PS, 5 spec.; 27.vi.-11.vii.2011, WT – PS, 12 spec.; 11.vii.2011, 2 spec.; 11.vii.-2.viii.2011, WT – PS, 2 spec., J. Vávra rev.; 2.viii.-4.ix.2011, WT – AA, 1 spec.
Ampedus erythrogonus (P. W. J. Müller, 1821): 26.v.-27.vi.2011, WT – PA, 1 spec.; 26.v.-27.vi.2011, WT – PS, 1 spec., J. Vávra det.; 27.vi.-11.vii.2011, WT – AA, 1 spec.; 27.vi.-11.vii.2011, WT – PA, 1 spec.; 27.vi.-11.vii.2011, WT – PS, 2 spec.; 11.vii.-2.viii.2011, WT – PA, 2 spec., J. Vávra rev.
Ampedus nigrinus (Herbst, 1784): 26.v.-27.vi.2011, WT – PA, 1 spec.; 2.viii.-4.ix.2011, WT – PA, 1 spec., all spec. J. Vávra det.
Athous subfuscus (O. F. Müller, 1767): 26.v.2011, 2 spec.; 26.v.-27.vi.2011, WT – AA, 2 spec.; 26.v.-27.vi.2011, WT – AA, 2 spec.; 26.v.-27.vi.2011, WT – FS, 1 spec.; 26.v.-27.vi.2011, WT – PS, 1 spec.; 27.vi.-11.vii.2011, WT – PA, 1 spec.; 11.vii.2011, swept, 1 spec.; 11.vii.-2.viii.2011, WT – AA, 1 spec., J. Vávra rev.; 10.x.2011, sifting of leaf litter, 1 spec.
Athous zebei Bach, 1854: 26.v.2011, 2 spec., F. Trnka leg.; 26.v.-27.vi.2011, WT – FS, 1 spec., J. Kašák leg. et coll., J. Vávra rev.; 26.v.-27.vi.2011, WT – PA, 1 spec., J. Kašák leg.; 26.v.-27.vi.2011, WT – PS, 1 spec., J. Kašák leg.; 27.vi.-11.vii.2011, WT – PA, 1 spec., F. Trnka leg.; 27.vi.-2.viii.2011, SPT – Hab3, 1 spec., J. Kašák leg., all spec. R. Gabriš det.
Cardiophorus ruficollis (Linnaeus, 1758): 26.v.-27.vi.2011, WT – PS, 1 spec.; 11.vii.-2.viii.2011, WT – PS, 2 spec., J. Vávra rev.
Ctenicera cuprea (Fabricius, 1781): 26.v.2011, 1 spec.
Ctenicera pectinicornis (Linnaeus, 1758): 26.v.-27.vi.2011, WT – PA, 1 spec.
Dalopius marginatus (Linnaeus, 1758): 26.v.2011, 1 spec.; 26.v.-27.vi.2011, WT – PS, 1 spec.; 13.vii.2011, 1 spec.
Danosoma fasciata (Linnaeus, 1758): 11.vii.2011, 1 spec., under bark of dead fallen Scots pine (*Pinus sylvestris*), R. Gabriš leg., det. et coll.
Boreo-montane species, living in old coniferous and mixed forests. Larvae live under bark and upper part of wood of fallen coniferous trees. In CR it is present only locally and is becoming rare (Laibner 2000; Boháč & Matějček 2004). Historically, this click beetle was recorded from more localities of the Hrubý Jeseník Mts.: Červená hora Mt., Karlova Studánka, Praděd Mt., Vernířovice, Vidly etc. (Kelch 1846, Gerhardt 1910). Discovery of *Danosoma fasciata* in the Borek u Domašova NR is first published information of the occurrence after more than 100 years in Hrubý Jeseník Mts.
Denticollis linearis (Linnaeus, 1758): 26.v.-27.vi.2011, WT – FS, 2 spec., J. Vávra det.
Denticollis rubens Piller et Mitterpacher, 1783: 30.v.2012, 1 spec., R. Gabriš leg., det. et coll.
Diacanthus undulatus (De Geer, 1774): 10.x.2011, 4 larvae and elytrae of adult under bark of dead fallen trunk of Norway spruce (*Picea abies*), J. Kašák observ. et det.
Boreo-montane species, larvae develop under the bark or in upper layers of dead wood, mainly in coniferous trees. The species is local and rare in the CR (Laibner 2000). There are only few recent records of this click-beetle from Hrubý Jeseník Mts.: Praděd (Vávra 2003), Vidly (Kašák & Gabriš 2011).
Limonius aeneoniger (De Geer, 1774): 26.v.2011, 1 spec.; 26.v.-27.vi.2011, WT – AA, 1 spec.; 26.v.-27.vi.2011, WT – PA, 3 spec.; 26.v.-27.vi.2011, WT – PS, 1 spec.; 27.vi.-11.vii.2011, WT – PS, 1 spec.
Melanotus castanipes (Paykull, 1800): 26.v.-27.vi.2011, WT – FS, 9 spec.; 11.vii.-2.viii.2011, WT – AA, 1 spec., all spec. T. Sitek det.

ENDOMYCHIDAE

Endomychus coccineus (Linnaeus, 1758): 26.v.2011, on dead fallen trunk of European beech (*Fagus sylvatica*) with fungi, 1 spec., R. Gabriš leg., det. et coll.; 11.vii.2011, on dead fallen trunk of European beech (*Fagus sylvatica*) with fungi, 1 spec., F. Trnka leg., det. et coll.

Mycetina cruciata (Schaller, 1783): 26.v.2011, 1 spec.; 2.viii.-4.ix.2011, WT – AA, 1 spec.

EUCNEMIDAE

Hylis foveicollis (C. G. Thomson, 1874): 2.viii.-4.ix.2011, WT – AA, 1 spec., F. Trnka leg., R. Gabriš det., J. Vávra rev., J. Kašák coll.

Species occurring mainly in mountain regions of Central and Northern Europe. It inhabits forests with natural character. Development in dead wood of various deciduous trees in certain stage of decomposition (Burakowski et al. 2000).

GEOTRUPIDAE

Anoplotrupes stercorosus (Hartmann in L. G. Scriba, 1791): 10.v.-26.v.2011, PT – Hab2, 1 spec.; 26.v.-27.vi.2011, PT – Hab1, 1 spec.; 26.v.-27.vi.2011, PT – Hab2, 14 spec.; 26.v.-27.vi.2011, PT – Hab3, 1 spec.; 26.v.-27.vi.2011, SPT – Hab3, 1 spec.; 27.vi.-2.viii.2011, PT – Hab2, 9 spec.; 27.vi.-2.viii.2011, PT – Hab3, 1 spec.; 27.vi.-2.viii.2011, SPT – Hab3, 2 spec.; 2.viii.-9.ix.2011, PT – Hab2, 5 spec., 2.viii.-9.ix.2011, PT – Hab3, 1 spec.

HISTERIDAE

Margarinotus striola succicola (C. G. Thomson, 1882): 26.v.-27.vi.2011, WT – AA, 1 spec., J. Vávra det.

Plegaderus vulneratus (Panzer, 1792): 2.viii.-4.ix.2011, WT – PA, 1 spec., J. Vávra rev.

CHRYSOMELIDAE

Asioreestia femorata (Gyllenhal, 1813): 30.v.2012, 1 spec.

Gastrophysa viridula (De Geer, 1775): 26.v.2011, 1 spec.

Gonioctena viminalis (Linnaeus, 1758): 13.vii.2011, 1 spec.

Gonioctena quinquepunctata (Fabricius, 1787): 11.vii.2011, 2 spec., J. Pelikán det.

Hydrothassa marginella (Linnaeus, 1758): 26.v.2011, 1 spec.

Longitarsus suturellus (Duftschmid, 1825): 26.v.2011, 1 spec., P. Boža det.

Oulema gallaeciana (Heyden, 1870): 26.v.2011, 1 spec.

Plateumaris consimilis (Schrank, 1781): 30.v.2012, 1 spec.

Psylliodes napi (Fabricius, 1792): 4.ix.2011, 1 spec., P. Boža det.

Sclerophaedon carniolicus (Germar, 1824): 26.v.-27.vi.2011, PT – Hab1, 1 spec., J. Stanovský det.

Sphaeroderma testaceum (Fabricius, 1775): 11.vii.2011, 1 spec., P. Boža det.

Timarcha metallica (Laicharting, 1781): 26.v.-27.vi.2011, PT – Hab3, 1 spec., J. Kašák leg. et coll., F. Trnka det.; 26.v.-27.vi.2011, SPT – Hab3, 1 spec., J. Kašák leg. et coll., F. Trnka det.; 27.vi.-2.viii.2011, PT – Hab1, 1 spec., J. Kašák leg. et coll., J. Stanovský det.; 27.vi.-2.viii.2011, PT – Hab3, 1 spec., J. Kašák leg. et coll., J. Stanovský det.

LAGRIIDAE

Lagria hirta (Linnaeus, 1758): 11.vii.2011, 2 spec.

LATRIDIIDAE

Aridius nodifer (Westwood, 1839): 2.viii.-4.ix.2011, WT – PA, 1 spec.; 4.ix.-10.x.2011, WT – PS, 1 spec.

Dienerella vincenti Johnson, 2007: 10.x.2011, sifting of leaf litter, 1 spec., P. Průdek det.

Enicmus rugosus (Herbst, 1793): 11.vii.-2.viii.2011, WT – PA, 1 spec., P. Průdek det.

Latridius hirtus Gyllenhal, 1827: 2.viii.-4.9.2011, WT – PA, 1 spec.

Stephostethus alternans (Mannerheim, 1844): 26.v.2011, beaten, 1 spec.; 4.ix.2011, 2 spec., P. Průdek det.; 10.x.2011, sifting from leaf litter, 1 spec., P. Průdek det.

Stephostethus rugicollis (Olivier, 1790): 27.vi.-11.vii.2011, WT – PA, 1 spec.

LEIODIDAE

Anisotoma castanea (Herbst, 1791): 26.v.-27.vi.2011, WT – PA, 1 spec.; 27.vi.2011, 1 spec.; 27.vi.-2.viii.2011, PT – Hab2, 1 spec.; 11.vii.-2.viii.2011, WT – FS, 1 spec.; 11.vii.-2.viii.2011, WT – PA, 1 spec., all spec. J. Vávra det.

Anisotoma humeralis (Fabricius, 1792): 27.vi.2011, 1 spec.; 27.vi.-11.vii.2011, WT – FS, 1 spec., all spec. J. Vávra det.

Catops fuliginosus Erichson, 1837: 26.v.-27.vi.2011, PT – Hab2, 1 spec., J. Vávra det.

Catops kirbyi (Spence, 1815): 26.v.-27.vi.2011, PT – Hab1, 1 spec., J. Vávra det.

- Catops nigrita* (Erichson, 1837): 26.v.-27.vi.2011, PT – Hab2, 2 spec.; 26.v.-27.vi.2011, PT – Hab3, 3 spec.; 26.v.-27.vi.2011, SPT – Hab3, 1 spec.; 2.viii.-9.ix.2011, PT – Hab2, 1 spec.; 2.viii.-9.ix.2011, PT – Hab3, 1 spec., all spec. J. Vávra det.
- Catops subfuscus* Kellner, 1846: 26.v.-27.vi.2011, PT – Hab2, 4 spec.; 26.v.-27.vi.2011, PT – Hab3, 4 spec.; 27.vi.-2.viii.2011, PT – Hab1, 1 spec.; 27.vi.-2.viii.2011, PT – Hab2, 1 spec.; 27.vi.-2.viii.2011, PT – Hab3, 2 spec., all spec. J. Vávra det.
- Catops tristis* (Panzer, 1794): 2.viii.-9.ix.2011, PT – Hab2, 1 spec., J. Vávra det.
- Sciodrepoides watsoni* (Spence, 1815): 26.v.-27.vi.2011, PT – Hab3, 19 spec.; 26.v.-27.vi.2011, SPT – Hab3, 1 spec.; 2.viii.-9.ix.2011, SPT – Hab3, 1 spec., all spec. J. Vávra det.

LUCANIDAE

- Ceruchus chrysomelinus* (Hochenwarth, 1785): 26.v.2011, in rotten wood of fallen Silver fir (*Abies alba*), 13 spec., observ. et det. J. Kašák; 26.v.-27.vi.2011, WT – PA, 1 spec., J. Kašák, leg., det. et coll.; 13.vii.2011, at night on dead Silver fir (*Abies alba*), 1 spec., J. Kašák, observ. et det.
- Boreo-montane species occurring throughout the Europe. Larvae develop in rotten wood of firs (*Abies alba*), spruces (*Picea abies*) and rarely also in other tree species (Balthasar 1956). In the CR it lives mainly in higher mountains, but locally. From Hrubý Jeseník Mts. was presented in past from Karlova Studánka and massif of Praděd Mt. (Reitter 1870, Gerhardt 1910). From Hrubý Jeseník it is known recently only from Borek u Domašova (Kašák & Gabriš 2011), Kouty nad Desnou - 4.x.2012, 2 spec., in fallen trunk of alder (*Alnus* sp.), V. Slezák observ. and the Skalní potok NR - 1.xii.2012, 5 spec. in fallen trunks of Silver fir (*Abies alba*) and Norway spruce (*Picea abies*), J. Kašák observ.
- Sinodendron cylindricum* (Linnaeus, 1758): 26.v.2011, 1 spec.; 26.v.-27.vi.2011, WT – FS, 17 spec.; 27.vi.-11.vii.2011, WT – FS, 17 spec.; 11.vii.2011, 1 spec.

LYCIDAE

- Lygistopterus sanguineus* (Linnaeus, 1758): 11.vii.2011, 8 spec.
- Platycis minutus* (Fabricius, 1787): 2.viii.2011, 4 spec.
- Pyropterus nigroruber* (De Geer, 1774): 11.vii.2011, 1 spec.; 13.vii.2011, beaten from branches of dead fallen European beech (*Fagus sylvatica*), 2 spec.

LYMEXYLIDAE

- Elateroides flabellicornis* (Schneider, 1791): 26.v.-27.vi.2011, WT – PA, 6 spec., J. Kašák leg. et coll., J. Vávra det.
- The taxonomic status of this species has been not reliably solved. Species is characterized as a relict of taiga fauna. It occurs very sporadically throughout Central Europe. Larvae develop mainly in Norway spruce (*Picea abies*) and Silver fir (*Abies alba*). Recently, the species is known in CR only from few localities, mainly in the Moravskoslezské Beskydy Mts. (Kolibáč et al. 1983; Vávra 2005). Single record is from Služovice near Opava (Kolibáč et al. 1983) and the Sklenařovické údolí Natural Monument in the Giant Mts. (Kopecký & Mikát 2012). This record is first published evidence of occurrence in the Hrubý Jeseník Mts.
- Elateroides dermestoides* (Linnaeus, 1761): 26.v.-27.vi.2011, WT – PA, 1 spec., J. Vávra det.

MELANDRYIDAE

- Hallomenus binotatus* (Quensel, 1790): 11.vii.-2.vii.2011, WT – PA, 1 spec.; 2.vii.-4.ix.2011, WT – AA, 1 spec.; 2.vii.-4.ix.2011, WT – PA, 1 spec.
- Melandrya barbata* (Fabricius, 1792): 26.v.-27.vi.2011, WT – FS, 1 spec., J. Kašák leg., det. et coll., J. Vávra rev.
- In Central Europe rare species (Kubisz et al. 2010) usually lives in natural rich forest (Jelínek 1996). Larvae develop in dead wood of beeches (*Fagus* sp.) and other deciduous trees (Burakowski et al. 1987). This record is first published evidence of occurrence in the Hrubý Jeseník Mts.
- Orchesia minor* Walker, 1837: 11.vii.2011, beaten from branches of dead fallen European beech (*Fagus sylvatica*), 1 spec., O. Konvička det.; 4.ix.2011, 1 spec.
- Orchesia undulata* Kraatz, 1853: 26.v.2011, beaten from branches of dead fallen European beech (*Fagus sylvatica*), 3 spec., all spec. O. Konvička rev.; 13.vii.2011, beaten from branches of dead fallen European beech (*Fagus sylvatica*), 2 spec.
- Phloiotrya rufipes* (Gyllenhal, 1810): 13.vii.2011, beaten from branches of dead fallen European beech (*Fagus sylvatica*), 2 spec.

Serropalpus barbatus (Schaller, 1783): 26.v.-27.vi.2011, WT – FS, 1 spec., J. Kašák leg. et coll., R. Gabriš det., J. Vávra rev.

RHIZOPHAGIDAE

Rhizophagus bipustulatus (Fabricius, 1792): 27.vi.-11.vii.2011, WT – PA, 4 spec.

Rhizophagus dispar (Paykull, 1800): 26.v.-27.vi.2011, PTF – Hab3, 2 spec.; 27.vi.-11.vii.2011, WT – FS, 1 spec.; 27.vi.-11.vii.2011, WT – PA, 3 spec.; 27.vi.-11.vii.2011, WT – PS, 1 spec.; 2.viii.-4.ix.2011, WT – PA, 1 spec.

Rhizophagus ferrugineus (Paykull, 1800): 26.v.-27.vi.2011, WT – PA, 1 spec.; 26.v.-27.vi.2011, WT – PS, 1 spec.

Rhizophagus nitidulus (Fabricius, 1798): 26.v.-27.vi.2011, WT – FS, 1 spec.; 26.v.-27.vi.2011, WT – PA, 9 spec.; 27.vi.-11.vii.2011, WT – PA, 3 spec.; 11.vii.-2.viii.2011, WT – PA, 2 spec.

Rhizophagus perforatus Erichson, 1845: 26.v.2011, 1 spec.

MYCETOPHAGIDAE

Mycetophagus atomarius (Fabricius, 1787): 26.v.-27.vi.2011, WT – FS, 1 spec.; 2.viii.-4.ix.2011, WT – FS, 3 spec., all spec. J. Vávra rev.

NITIDULIDAE

Cychramus variegatus (Herbst, 1792): 26.v.2011, 2 spec.; 2.viii.-4.ix.2011, WT – FS, 4 spec.; 4.ix.2011, 2 spec.

Epuraea angustula Sturm, 1844: 2.viii.-4.ix.2011, WT – AA, 1 spec., J. Jelínek det.

Epuraea laeviuscula (Gyllenhal, 1827): 11.vii.-2.viii.2011, WT – PA, 2 spec.; 2.viii.-4.ix.2011, WT – PA, 2 spec., all spec. J. Kašák leg. et coll., J. Jelínek det.

Epuraea marseuli Reitter, 1872: 26.v.-27.vi.2011, WT – PA, 5 spec.; 11.vii.-2.viii.2011, WT – PA, 8 spec.; 2.viii.-4.ix.2011, WT – PA, 1 spec., all spec. J. Jelínek det.

Epuraea pallescens (Stephens, 1830): 27.vi.-11.vii.2011, WT – PS, 1 spec., J. Jelínek det.

Epuraea pygmaea (Gyllenhal, 1808): 26.v.-27.vi.2011, WT – PA, 1 spec.; 11.vii.-2.viii.2011, WT – PA, 1 spec.; 2.viii.-4.ix.2011, WT – PA, 2 spec., all spec. J. Jelínek det.

Epuraea thoracica Tournier, 1872: 11.vii.-2.viii.2011, WT – PA, 1 spec., J. Jelínek det.

Epuraea variegata (Herbst, 1793): 13.vii.2011, 1 spec., J. Jelínek det.

Meligethes aeneus (Fabricius, 1775): 26.v.-27.vi.2011, WT – PA, 1 spec., J. Jelínek det.

Pityophagus ferrugineus (Linnaeus, 1761): 26.v.-27.vi.2011, SPT – Hab3, 1 spec.; 26.v.-27.vi.2011, WT – PA, 3 spec.; 27.vi.-11.vii.2011, WT – PA, 3 spec.

Pocadius ferrugineus (Fabricius, 1775): 26.v.2011, 1 spec.

PYROCHROIDAE

Pyrochroa coccinea (Linnaeus, 1761): 26.v.2011, 2 spec., observ.

Schizotus pectinicornis (Linnaeus, 1758): 30.v.2012, 1 spec.

SALPINGIDAE

Salpingus ruficollis (Linnaeus, 1761): 2.viii.-4.ix.2011, WT – PA, 1 spec.; 11.vii.2011, 1 spec.

SCARABAEIDAE

Aphodius depressus (Kugelann, 1792): 30.v.2012, 1 spec.

Trichius fasciatus (Linnaeus, 1758): 11.vii.2011, on flower of family Apiaceae, 1 spec. F. Trnka leg., det. et coll.

SILPHIDAE

Nicrophorus investigator Zetterstedt, 1824: 2.viii.-4.ix.2011, WT – AA, 6 spec.

Nicrophorus vespilloides Herbst, 1784: 26.v.-27.vi.2011, PT – Hab2, 64 spec.; 26.v.-27.vi.2011, PT – Hab3, 53 spec.; 27.vi.-2.viii.2011, PT – Hab3, 14 spec.; 27.vi.-2.viii.2011, SPT – Hab3, 1 spec.; 2.viii.-9.ix.2011, PT – Hab1, 2 spec.; 2.viii.-9.ix.2011, PT – Hab2, 1 spec.; 2.viii.-9.ix.2011, PT – Hab3, 1 spec.

Oiceoptoma thoracicum (Linnaeus, 1758): 2.viii.-9.ix.2011, PT – Hab1, 2 spec.; 2.viii.-9.ix.2011, PT – Hab2, 1 spec.

Phosphuga atrata (Linnaeus, 1758): 26.v.-27.vi.2011, PT – Hab1, 4 spec.

SILVANIDAE

Dendrophagus crenatus (Paykull, 1799): 27.vi.-11.vii.2011, WT – AA, 1 spec., F. Trnka leg., det. et coll.

Rare boreo-montane species, lives under the loose bark of dead coniferous trees (Burakowski et al. 1986). In the CR it occurs mainly in Moravian mountains (Mertlik 2011). Species was historically recorded in the Hrubý Jeseník Mts. in Karlova Studánka (Letzner 1871; Gerhardt 1910), recently discovered in the Jelení Bučina NR (2009, J. Vávra observ.), Malé Bradlo Mt., Praděd Mt., Skalní potok NR and Suchý vrch NR (all 2012, J. Kašák observ.).

SPHAERITIDAE

Sphaerites glabratus (Fabricius, 1773): 26.v.-27.vi.2011, PT – Hab1, 1 spec., J. Vávra rev.

STAPHYLINIDAE

Acrulia inflata (Gyllenhal, 1813): 10.v.2011, on fungi, 2 spec.

Atheta britanniae Bernhauer et Scheerpeltz, 1926: 26.v.-27.vi.2011, PT – Hab2, 4 spec.; 26.v.-27.vi.2011, PT – Hab3, 7 spec.; 2.viii.-9.ix.2011, PT – Hab2, 1 spec., all spec. M. Mantič det.

Atheta crassicornis (Fabricius, 1792): 2.viii.-9.ix.2011, PT – Hab2, 1 spec., M. Mantič det.

Atrecus affinis (Paykull, 1789): 27.vi.-11.vii.2011, WT – FS, 1 spec.

Atrecus longiceps (Fauvel, 1873): 11.v.2011, 1 spec.; 30.v.2012 1 spec., all spec. R. Gabriš leg., det. et coll.

Rare montane species living under a bark of dead coniferous trees (Smetana 1958) in the Hrubý Jeseník Mts. known from Kouty nad Desnou (Vávra 2003), historical data from the Praděd Mt. (Gerhardt 1910).

Bisnius fimetarius (Gravenhorst, 1802): 2.viii.-9.ix.2011, PT – Hab1, 1 spec., M. Mantič det.

Bryaxis nodicornis (Aubé, 1833): 30.v.2012, sifted base of dead European beech (*Fagus sylvatica*), 10 spec.

Dinothenarus fossor (Scopoli, 1772): 27.vi.-2.vii.2011, PT – Hab3, 1 spec., M. Mantič det.

Eusphalerum signatum (Märkel, 1857): 26.v.-27.vi.2011, PT – Hab3, 1 spec.; 26.v.-27.vi.2011, WT – PS, 1 spec., all spec. M. Mantič det.

Geostiba circellaris (Gravenhorst, 1806): 11.v.2011, 1 spec., M. Mantič det.

Leptusa fumida (Erichson, 1839): 26.v.2011, 1 spec., M. Mantič det.

Lesteva longoelytrata (Goeze, 1777): 26.v.-27.vi.2011, PT – Hab1, 4 spec.; 10.x.2011, sifting of leaf litter, 6 spec., all spec. M. Mantič det.

Lesteva monticola Kiesenwetter, 1847: 26.v.-27.vi.2011, PT – Hab1, 4 spec., J. Kašák leg. et coll., M. Mantič det.

Lordithon lunulatus (Linnaeus, 1761): 26.v.-27.vi.2011, WT – FS, 4 spec.

Lordithon thoracicus (Fabricius, 1776): 2.vii.-9.ix.2011, PT – Hab1, 1 spec., M. Mantič det.

Megarthus nitidulus Kraatz, 1858: 2.vii.-9.ix.2011, PT – Hab1, 1 spec., M. Mantič det.

Mniusa incrassata (Mulsant et Rey, 1851): 26.v.-27.vi.2011, PT – Hab3, 1 spec., J. Kašák leg. et coll., M. Mantič det.

Nudobius lentus (Gravenhorst, 1806): 9.ix.-10.x.2011, WT – PA, 2 spec.

Omalium caesum Gravenhorst, 1806: 26.v.-27.vi.2011, PT – Hab1, 1 spec.; 2.vii.-9.ix.2011, PT – Hab3, 1 spec., all spec. M. Mantič det.

Omalium rivulare (Paykull, 1789): 26.v.-27.vi.2011, PT – Hab1, 2 spec.; 2.vii.-9.ix.2011, PT – Hab1, 1 spec., all spec. M. Mantič det.

Omalium rugatum Mulsant et Rey, 1880: 26.v.-27.vi.2011, PT – Hab1, 1 spec., J. Kašák leg. et coll., M. Mantič det.

Oxypoda formosa Kraatz, 1856: 26.v.-27.vi.2011, PT – Hab1, 3 spec., M. Mantič det.

Oxypoda opaca (Gravenhorst, 1802): 10.x.2011, sifting of leaf litter, 1 spec., M. Mantič det.

Parabolitobius inclinans (Gravenhorst, 1806): 26.v.2011, 1 spec., M. Mantič det.

Philonthus decorus (Gravenhorst, 1802): 26.v.-27.vi.2011, PT – Hab1, 6 spec.; 2.vii.-9.ix.2011, PT – Hab1, 3 spec., all spec. M. Mantič det.

Phloenopus pusillus (Gravenhorst, 1806): 27.vi.-11.vii.2011, WT – PA, 1 spec.

Phyllodrepa melanocephala (Fabricius, 1787): 26.v.-27.vi.2011, PT – Hab2, 5 spec.

Plectrophloeus fischeri (Aubé, 1833): 26.v.2011, 1 spec.; 26.v.-27.vi.2011, WT – FS, 1 spec.; 26.v.-27.vi.2011, WT – PS, 8 spec.; 27.vi.-11.vii.2011, WT – PA, 1 spec.; 11.vii.-2.viii.2011, WT – PS, 30 spec.

Pselaphus heisei Herbst, 1792: 11.vii.2011, sifting of leaf litter, 1 spec.

Proteinus atomarius Erichson, 1840: 26.v.-27.vi.2011, PT – Hab1, 2 spec.; 26.v.-27.vi.2011, PT – Hab3, 3 spec., all spec. M. Mantič det.

Quedius limbatus Heer, 1839: 26.v.-27.vi.2011, WT – AA, 1 spec.

Quedius mesomelinus (Marsham, 1802): 10.x.2011, sifted and individually collected, 5 spec., M. Mantič det.; 27.vi.-11.vii.2011, WT – FS, 1 spec.; 11.vii.2011, 1 spec.; 2.viii.-4.ix.2011, WT – FS, 1 spec.; 4.ix.-10.x.2011, WT – PS, 1 spec.

Quedius plagiatus Mannerheim, 1843: 11.vii.2011, 2 spec.
Quedius umbrinus Erichson, 1839: 26.v.-27.vi.2011, PT – Hab1, 2 spec., M. Mantič det.
Rugilus rufipes Germar, 1836: 26.v.-27.vi.2011, WT – PA, 1 spec.
Scaphidium quadrimaculatum Olivier, 1790: 10.v.2011, beaten, 1 spec.; 9.ix.2011, 2 spec.
Scaphisoma agaricinum (Linnaeus, 1758): 22.vi.-11.vii.2011, WT – FS, 1 spec.
Scopaeus sulcicollis (Stephens, 1833): 11.vii.2011, 1 spec., M. Mantič. det.
Staphylinus erythropterus Linnaeus, 1758: 26.v.-27.vi.2011, PT – Hab1, 4 spec., M. Mantič det.
Stenus glacialis Heer, 1838: 11.vii.2011, 1 spec., M. Mantič. det. et coll.
Tachinus laticollis Gravenhorst, 1802: 2.vii.-9.ix.2011, PT – Hab1, 1 spec., M. Mantič det.
Tachinus pallipes (Gravenhorst, 1806): 2.vii.-9.ix.2011, PT – Hab2, 1 spec., M. Mantič det.
Tachinus signatus (Gravenhorst, 1802): 26.v.-27.vi.2011, PT – Hab1, 1 spec., M. Mantič det.
Tyrus mucronatus (Panzer, 1805): 27.vi.-11.vii.2011, 1 spec.
Xantholinus tricolor (Fabricius, 1787): 26.v.-27.vi.2011, PT – Hab3, 3 spec., M. Mantič det.

TENEBRIONIDAE

Bolitophagus reticulatus (Linnaeus, 1767): 11.vii.2011, 1 spec.
Corticeus unicolor Piller et Mitterpacher, 1783: 11.vii.2011, 1 spec.
Scaphidema metallicum (Fabricius, 1792): 13.vii.2011, 1 spec.

TETRATOMIDAE

Tetratoma ancora Fabricius, 1790: 11.vii.-2.vii.2011, WT – FS, 2 spec.; 2.vii.-4.ix.2011, WT – FS, 1 spec.

THROSCIDAE

Trixagus carinifrons (Bonvouloir, 1859): 13.vii.2011, 1 spec.

TROGOSSITIDAE

Nemozoma elongatum (Linnaeus, 1761): 26.v.-27.vi.2011, WT – PS, 1 spec.; 27.vi.-11.vii.2011, WT – PA, 1 spec.
Ostoma ferruginea (Linnaeus, 1758): 26.v.2011, on fungi on Silver fir (*Abies alba*), 6 spec.; 11.vii.2011, 2 spec.; 10.x.2011, 1 spec.
Thymalus limbatus (Fabricius, 1787): 26.v.-27.vi.2011, WT – PA, 1 spec.; 11.vii.2011, 2 spec.; 13.vii.2011, at night on fungi on Silver fir (*Abies alba*), 2 spec.

Faunistic evaluation

The fauna of beetles of the Hrubý Jeseník Mts. has not been completely elaborated yet, nevertheless, it is very diversified with more than 750 species recorded in the most valuable area of the Hrubý Jeseník Mts. – the Praděd Mt. and its environs (Vávra 2003). Only 257 species of beetles were recorded during our entomological survey. Lower number can be explained due to the absence of open habitats (meadows, pastures, subalpine tundra etc.). Alike, in the highest parts of the mountain range, including the top of Praděd Mt., we found the following boreo-montane and relict saproxylic species also in the Borek u Domašova NR: *Dendrophagus crenatus* and *Diacanthous undulatus*. Among the most significant faunistic findings belongs especially the first published information of occurrence in the Hrubý Jeseník Mts.: a) to date *Elateroides flabellicornis* and *Melandrya barbata* and b) after more than 100 years - *Curimus erichsoni* and *Danosoma fasciata*.

Conservation evaluation

The community structure of beetles corresponds to the habitat heterogeneity of the natural (or seminatural) mountain forest. The composition of species varies with different ecological conditions in accordance with demand of each group of guild. From nature-conservation point of view, the most valuable are assemblages of saproxylic beetles depending upon old-growth

forest habitat (*Ceruchus chrysomelinus*, *Curimus erichsoni*, *Danosoma fasciata*, *Dendrophagus crenatus*, *Hylis foveicollis*, *Elateroides flabellicornis* and *Melandrya barbata*). The occurrence of these bioindicators confirms a spatial and time continuity of suitable habitat in the area of interest.

Protection of the area

Recently, the Borek u Domašova NR is protected by passive management. According to natural dynamics of the dominant habitat in the study area, we can evaluate this approach as an appropriate one. By contrast, forestry (especially the removing of overaged and dead trees) is undesirable. Another risk for specialized species is the small area of present-day NR which is surrounded by production forest. Therefore, a nature friendly solution consists of the enlargement of the special protected area. A suitable area for this purpose is the environs of the Zaječí potok brook with the population of *Carabus variolosus*, species under the protection of the Natura 2000 network. The real risk for the population of the specialized saproxylic beetles as lucanid *Ceruchus chrysomelinus* is represented by a sudden dying of firs (*Abies alba*). Therefore, we recommend a management measure based on a suitable support of firs (planting and protecting seedlings from a damage caused by deer).

Conclusion

Altogether 257 species of beetles were found during the entomological survey, including 25 species from the Red List (Farkač et al. 2005). The most valuable are assemblages of saproxylic beetles that include many bioindicatively important taxa related to old-growth mountain forest habitat as *Ceruchus chrysomelinus*, *Curimus erichsoni*, *Danosoma fasciata*, *Dendrophagus crenatus*, *Diacanthous undulatus*, *Elateroides flabellicornis*, *Hylis foveicollis* and *Melandrya barbata*. The presence of these beetles documents the continuity of suitable habitat in the locality. On the basis of aforementioned results, we can close: the Borek u Domašova NR is the area of high value from the coleopterological point of view, in the frame of the whole Hrubý Jeseník Mts. On the other hand, it is necessary to note, that some relict species, historically recorded from study area or its surrounding, we didn't find. Unfortunately these species are not recently known from whole of the Hrubý Jeseník Mts. For the successful protection of the populations of threatened species in the Borek u Domašova NR we recommend: not removing fallen and dead trees, enlarging the protected area and increasing the proportion of fir trees (*Abies alba*) by planting and protecting seedlings from a damage caused by deer.

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References

- Benedikt S., Borovec R., Fremuth J., Krátký J., Schön K., Skuhrovec J. & Trýzna M. (2010): Komentovaný seznam nosatcovitých brouků (Coleoptera: Curculionoidea bez Scolytinae a Platypodinae) České republiky a Slovenska. 1. díl. Systematika, faunistika, historie výzkumu nosatcovitých brouků v České republice a na Slovensku, nástin skladby, seznam. Komentáře k Anthribidae, Rhynchitidae, Attelabidae, Nanophyidae, Brachyceridae, Dryophthoridae, Eirrhinidae a Curculionidae: Curculioninae, Bagoinae, Baridinae, Ceutorhynchinae, Conoderinae, Hyperinae. [Annotated checklist of weevils (Coleoptera: Curculionoidea excepting Scolytinae and Platypodinae) of the Czech Republic and Slovakia. Part 1. Systematics, faunistics, history of research on weevils in the Czech Republic and Slovakia, structure outline, checklist. Comments on Anthribidae, Rhynchitidae, Attelabidae, Nanophyidae, Brachyceridae, Dryophthoridae, Eirrhinidae and Curculionidae: Curculioninae, Bagoinae, Baridinae, Ceutorhynchinae, Conoderinae, Hyperinae]. Klapalekiana Supplementum 46: 1-363.
- Balthasar V. (1956): Brouci listoroží – Lamellicornia. Díl I. Pleurostici. Fauna ČSR 8. 288 pp., NČSAV, Praha.
- Boháč J. & Matějčíček J. (2004): Inventarizační průzkum brouků (Coleoptera) na monitorovacích plochách v lesích Boubínskému masivu z hlediska dalšího monitorování stavu biotopů [Beetle assemblages on the

- monitoring plots of the Boubín massive in the Bohemian Forest and perspectives of long term monitoring of biotopes state]. In Dvořák L. & Šustr P. (eds.): Aktuality šumavského výzkumu II. Sborník z konference, pp. 212-217, Správa NP a CHKO Šumava, Vimperk.
- Boháč J., Matějček J. & Rous R. (2007): Check-list of the staphylinid beetles (Coleoptera, Staphylinidae) of the Czech Republic and the division of species according to their ecological characteristics and sensitivity to human influence. – Čas. Slez. Muz. Opava (A), 56: 227-276.
- Burakowski B., Mroczkowski M. & Stefańska J. (1986): Kat. Fauny Pol. Część XXIII, Tom 12. Chrząszcze Coleoptera, Cucujoidea, cz. 1. 266 pp., PWN, Warszawa.
- (1987): Kat. Fauny Pol. Część XXIII, Tom 14. Chrząszcze Coleoptera, Cucujoidea, cz. 3. 309 pp., PWN, Warszawa.
- (2000): Katalog fauny Polski. Część XXIII, Tom 22. Chrząszcze Coleoptera, Uzupełnienia tomów 2-21. MiIZ PAN, Warszawa. 252 pp.
- Cuccodoro G. (2007): Lymexyloidea, pp. 362-363. In Löbl I. & Smetana A. (eds): Catalogue of palearctic Coleoptera, Vol. 4: Elateroidea – Derodontoidea – Bostrichoidea – Lymexyloidea – Cleroidea – Cucujoidea. 935 pp., Apollo Books, Stenstrup.
- Farkač J., Král D. & Škorpík M. (2005): Červený seznam ohrožených druhů České republiky – Bezobratlí (Red list of threatened species in the Czech Republic – Invertebrates). 760 pp., AOPK, Praha.
- Gabriel C. (1903): Das Häutchen am Halsschild der Gattung Lathridius. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 28: 17-20.
- Gerhardt J. (1890): Fortsetzung des K. Letznerschen Verzeichnisses der Käfer Schlesiens. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 15: 285-348.
- (1891): Fortsetzung und Schluss des K. Letznerschen Verzeichnisses der Käfer Schlesiens. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 16: 349-433.
- (1900a): Neue Fundorte seltenerer schlesiseher Käfer aus dem Jahre 1899 und Bemerkungen. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 25: 1-9.
- (1900b): Neuheiten der schlesischen Käferfauna aus dem Jahre 1899. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 25: 15-18.
- (1902): Neue Fundorte seltenerer schlesiseher Käfer aus dem Jahre 1901. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 27: 9-19.
- (1903): Neue Fundorte seltenerer schlesischer Käfer aus dem Jahre 1902 nebst Bemerkungen. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 28: 1-9.
- (1906): Eine neue Homalotide *Atheta silesiaca* n. sp. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 31: 10-12.
- (1910): Verzeichnis der Käfer Schlesiens. 431 pp., Verlag von Julius Springer, Berlin.
- Chytrý M., Kučera T. & Kočí M. (eds.) (2001): Katalog biotopů České republiky (Habitat Catalogue of the Czech Republic). 304 pp., AOPK, Praha.
- Jelínek J. (1993): Seznam československých brouků. Check-list of Czechoslovak Insects IV (Coleoptera). – Fol. Heyr. Supplementum, 1: 1-172.
- Jelínek J. (1996): Coleoptera: Tenebrionoidea 2 (Melandryidae, Rhipiphoridae, Pyrochroidae and Salpingidae), pp. 527-530. In Rozkošný R. & Vaňhara J. (eds.): Terrestrial invertebrates of the Pálava Biosphere Reserve of UNESCO III. – Folia. Fac. Sci. Nat. Univ. Masarykianae Brunensis, Biologia, 94: 409-630.
- Kašák J. & Gabriš R. (2011): Nálezy ekofaunisticky významných druhů brouků (Coleoptera) na Jesenicku (severní Morava, Česká republika). – Acta. Muz. Beskid., 3: 187-192.
- Kelch A. (1846): Zu der öffentlichen Prüfung aller Classen des Königlichen Gymnasiums zu Ratibor den 4. Und 7. April, und dem mit Entlassung der Abiturienten verbundenen Redactus den 20. April laben ergebet ein Director und Lehrer Collegium. 54 pp., Ratibor.
- Kolibáč J., Orszulik K. & Stanovský J. (1983): Další nálezy *Hylocoetus flabellicornis* Schneid. z ČSSR (Lymexylonidae, Col.). – Entomol. zprav., Ostrava, 13: 41-42.
- Kopecký T. & Mikát M. (2012): Record of two boreal beetle species – *Micrambe* (Micrambe) *longitarsis* (Coleoptera: Cryptophagidae) and *Elateroides flabellicornis* (Coleoptera: Lymexylonidae) in the Giant Mts. – Opera Corcontica. 49: 215-218.
- Kubisz D., Ruta R., Jałoszyński P., Konwerski S. & Królik R. (2010): A faunistic review of beetles families Tetratomidae and Melandryidae (Coleoptera: Tenebrionoidea) of Poland. – Pol. Jour. of Ent., 79: 107-138.
- Laibner (2000): Elateridae of the Czech and Slovak Republics (in Czech and English). 292 pp., Kabourek, Zlín.
- Letzner K. – (1849-1852): Systematische Beschreibung der Laufkäfer Schlesiens. – Zeitschr. Entomol., 3(1849): 1-72, 4(1850): 73-112, 5(1851): 113-186, 6(1852): 187-292.
- (1871): Verzeichniss der Käfer Schlesiens. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 2: 1-328..
- (1885): Verzeichniss der Käfer Schlesiens. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 11: 69-148.

- (1888-1889): Verzeichniss der Käfer Schlesiens. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 13(1888a): 181-236, 14 (1889): 237-284.
- Malec B. (1976): Tesafíkovití v Chráněné krajinné oblasti Jeseníky (Cerambycidae, Coleoptera). – Zpr. Čs. Spol. Entomol., 12: 93-97.
- Mazalová M., Kašák J. & Kuras T. (2012): Annotated entomological bibliography of the Praděd National Nature Reserve (Hrubý Jeseník Mts.). – Čas. Slez. Muz. Opava (A), 61: 23-42.
- Mertlik J. (2011): Faunistic grid mapping of several saproxylic beetles on territory Czech republic and Slovakia. Permanent electronic publication available from: <http://www.elateridae.com/page.php?idcl=173>
- Mroczkowski M. (1958): Otrupkowate - Byrrhidae, Nosodendridae. Klucze do oznaczania owadów Polski. Część. 19. Chraszcze – Coleoptera. Zeszyt 50-51. 30 pp., PWN, Warszawa.
- Reitter E. (1870): Übersicht der Käfer-Fauna von Mähren und Schlesien. – Verhandl. Naturforsch. Ver. Brünn, 8 (2) (1869): i-vii + 1-195.
- Roger J. (1856): Verzeichniß der bisher im Oberschlesien aufgefundenen Käferarten. – Zeitschr. Entomol. Ver. Schles. Insekt. (Breslau), 10: 1-132.
- Roháček J. (1989): Pozoruhodné druhy členovců Severomoravského kraje, II. Část: střevlík *Carabus variolosus*. – Vlastiv. listy sev.-mor. kraje, 15 (1): 36-38.
- Skoupý V. (2004): Střevlíkovití brouci (Coleoptera: Carabidae) České a Slovenské republiky ve sbírce Jana Pulpána. 213 pp., Public history, Praha.
- Smetana A. (1958): Drabčíkovití - Staphylinidae I. Staphylininae. [The rove beetles - Staphylinidae I. Staphylininae]. Fauna ČSR 12. 437 pp., NČSAV, Praha.
- Stanovský J. & Pulpán J. (2006): Střevlíkovití brouci Slezska a severovýchodní Moravy. 159 pp., Muzeum Beskyd, Frýdek-Místek.
- Uechtritz M. v. (1846): Verzeichniss der in Schlesien bis jetzt gefundene Käfer (Coleoptera). – Uebers. Arb. Verand. Schles. Veselo. Vater. Kult, (1847): 42-45.
- Vávra J. (2005): Lymexyloidea (lesani), pp. 484-485. In Farkač J., Král D. & Škorpík M. (eds): Červený seznam ohrožených druhů České republiky – Bezobratlí (Red list of threatened species in the Czech Republic – Invertebrates). 760 pp., AOPK, Praha.
- (2003): Brouci (Coleoptera) NPR Praděd. Přehled dosavadních poznatků o fauně brouků (Coleoptera) NPR Praděd a nejbližšího okolí, 31 pp. (unpublished manuscript), Správa CHKO Jeseníky, Jeseník-Bukovice.
- Vavroušek J. (1980): Střevlíkovití v chráněné krajinné oblasti Jeseníky (Coleoptera, Carabidae). – Entomol. Zprav. 10(2): 35-40.
- (1983): Střevlíkovití a kovaříkovití v Chráněné krajinné oblasti Jeseníky (Coleoptera – Carabidae, Elateridae). – Zpr. Čs. Spol. Entomol., 19(3): 95-104.
- Weissmannová H. et al. (2004): Olomoucko, pp. 310. In Mackovčín P. a Sedláček M. (eds.): Chráněná území ČR, svazek VI. 454 pp., AOPK a EkoCentrum Brno, Praha.

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