

## Interesting records of small carrion beetles (Coleoptera: Leiodidae: Cholevinae) from Slovakia

Zajímavé nálezy práchnivců (Coleoptera: Leiodidae: Cholevinae) ze Slovenska

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**Faunistics, Coleoptera, Leiodidae, Cholevinae, Slovakia, central Europe**

**Abstract.** New distributional records are presented for seven taxa of small carrion beetles (Coleoptera: Leiodidae: Cholevinae) from Slovakia: *Anemadus strigosus strigosus* (Kraatz, 1852), *Catops nigricantoides* Reitter, 1901, *C. ventricosus rotundatus* Szymczakowski, 1963, *Dreopscia umbrina* (Erichson, 1837), *Eocatops pelopis pelopis* (Reitter, 1884), *Nemadus (Nemadus) colonoides* (Kraatz, 1851) and *Ptomaphagus (Merodiscus) validus* (Kraatz, 1852). Their known distribution in Slovakia is summarized and mapped and information about their ecology is presented.

### INTRODUCTION

At present, 51 species of small carrion beetles (Coleoptera: Leiodidae: Cholevinae) are reported from Slovakia (Majzlan 1999, Perreau 2004). The first comprehensive review of Slovak Cholevinae was made by Roubal (1930, 1937-1941), with supplementary records published by Havelka (1964). Additional distributional data can be found in many local faunistic papers (e.g., Szymczakowski 1956, Korbel 1951, Franc 1992a,b, 1997, Růžička 1993, Hlaváč & Lackner 1998 and many others). The only recent review of distribution for Slovak *Choleva* Latreille, 1796 was published by Růžička & Vávra (1993).

In the present paper, we summarize published and unpublished distributional records of seven species, which are treated as rare and local based on the literature. These species have specific ecology, which is summarized below under each of the species.

### MATERIALS AND METHODS

Here we treated only previously unpublished data. The only exceptions are records of Roubal (1930, 1937-41), published originally only in abbreviated form, and treated here in full.

Specimens for this study came from the following museums and private collections (acronyms of public institutions according to Arnett et al. 1993):

- APEC – collection of Antonín Peutlschmid, Olomouc, Czech Republic;
- BZBC – collection of Bořivoj Zbuzek, Praha, Czech Republic;
- FPAC – collection of Filip Pavel, Hradec Králové, Czech Republic;
- HNHM – Magyar Természettudományi Múzeum, Budapest (Ottó Merkl);
- IJEC – collection of Ivo Jeniš, Náklo, Czech Republic;

ISMС	– collection of Ivo Smatana, Košice, Slovakia;
JBRC	– collection of Jiří Brokeš, Litomyšl, Czech Republic;
JHOC	– collection of František Houška, České Budějovice, Czech Republic;
JJAC	– collection of Jiří Janák, Rtyň nad Bílinou, Czech Republic;
JJNC	– collection of Jiří Januš, Kladno, Czech Republic;
JMСB	– Jihočeské muzeum, České Budějovice, Czech Republic (Zdeněk Kletečka);
JNEC	– collection of Jiří Nežerka, Trnec, Czech Republic;
JPRC	– collection of Jaroslav Prouza, Litoměřice, Czech Republic;
JRUC	– collection of Jan Růžička, Praha, Czech Republic;
JVAC	– collection of Jiří Vávra, Ostrava, Czech Republic;
MVCH	– Muzeum východních Čech v Hradci Králové, Hradec Králové, Czech Republic (Miroslav Mikát);
LKLC	– collection of Libor Klíma, Ostrava, Czech Republic;
MJMC	– Muzeum jihovýchodní Moravy, Zlín, Czech Republic (Dušan Trávníček);
MMAC	– collection of Marion Mantič, Hlučín – Bobrovníky, Czech Republic;
MSVC	– collection of Martin Švarc, Liberec, Czech Republic;
MZYC	– collection of Miroslav Zýka, Rakovník, Czech Republic;
NHMB	– Naturhistorisches Museum, Basel (Daniel Burckhardt, Michel Brancucci);
NMPC	– Národní muzeum, Praha (Josef Jelínek, Jiří Hájek);
PHLC	– collection of Peter Hlaváč, Košice, Slovakia;
PKOC	– collection of Peter Koniar, Praha, Czech Republic;
PMOC	– collection of Pavel Moravec, Litoměřice, Czech Republic;
PŠTC	– collection of Petr Štourač, Praha, Czech Republic;
RLOC	– collection of Roman Lohaj, Košice, Slovakia;
RROC	– collection of Rudolf Rous, Praha, Czech Republic;
SNMB	– Slovenské národné múzeum, Bratislava (Iľja Okáli, Ivo Rychlík);
SURC	– collection of Stanislav Urban, Kladno, Czech Republic;
TLAC	– collection of Tomáš Lackner, Košice, Slovakia;
VKOC	– collection of Václav Kocourek, Praha, Czech Republic;
VTYC	– collection of Václav Týr, Žihle, Czech Republic.

Each locality is provided with a grid reference according to Zelený (1972). Within each species, localities are sorted according to their grid references from north to south and then from west to east. All specimens were identified or reviewed by Jan Růžička or Jiří Vávra. Nomenclature of ants follows Werner & Wiezik (2007).

## RESULTS

### *Anemadus strigosus strigosus* (Kraatz, 1852)

**Material examined.** Slovakia: Kraľovany (6880), 4.vi.1937, M. Fluge leg., 1 ♂ (coll. J. Hlisnikovský in NMPC); Opatovce (7173), 25.x.1997, M. Mantič leg., hollow in *Populus*, sifted, 1 ♀ (MMAC); Úbřež [=Úbrež] (7299), vi.1957, J. Gottwald leg., 1 ♂, 2 ♀♀ (coll. J. Gottwald in NHMB); Hronská Breznica (7479), v.1935, J. Roubal leg., 1 spec. (coll. J. Roubal in SNMB); Veľaty (7495), 22.-24.vii.2002, I. Smatana leg., 1 ♀ (ISMС); Malacky (7568), v.1965, R. Rous leg., 2 ♀♀ (RROC); Veľký Blh env., Teplý Vrch – Malá obora (7586), 28.viii.1997, M. Mantič leg., polypores on *Quercus*, 1 ♀ (MMAC); Plavecký Štvrtok (7668), 19.vi.1982, with *Lasius brunneus*, I. Jeniš leg., 3 ♀♀ (Ijec); Modra (7669), 2.vi.1998, A. Peutlschmid leg., 1 ♂ (extremely teneral) (APEC); Svätý Jur, Jurský Šúr (7769), iv.1968, J. Gottwald leg., 1 ♀ (teneral) (coll. J. Gottwald in NHMB); same locality, 5.vii.1999, M. Švarc leg., 1 ♂, 1 ♀ (MSVC); Svätý Jur (7769), 7.vi.2003, F. Pavel leg., 1 ♀ (FPAC); Svätý Jur, Panónsky háj (7769), 13.-14.v.1994, J. Janák leg., with *Lasius brunneus*, 1 ♂ (JJAC); Devínska Nová Ves (7867), 1940, V. Depta leg., 1 spec. (SNMB); Bratislava (7868-69), 18.vi.1987, E. Jendek leg., 1 ♂, 1 ♀ (JVAC); Petřžalka (7868), 1.vi.1946, V. Depta leg., 1 spec. (SNMB); Kováčov

(8178), iii.1936, J. Roubal leg., 1 spec. (coll. J. Roubal in SNMB); same locality, 4.v.1936, J. Roubal leg., on *Salix*, 2 spec. (coll. J. Roubal in SNMB); Štúrovo (81-8278), 16.vi.1985, P. Štourač leg., 1 ♂ (PŠTC); Zlatná na Ostrově (8273), 13.vii.1996, M. Mantič leg., 1 ♀ (MMAC); Komárno (8274), 10.v.1931, Roubal leg., 1 ♂ (coll. J. Havelka in NMPC); same locality, 10.v.1931, J. Roubal leg., from *Salix*, 1 spec. (coll. J. Roubal in SNMB); Čenkov (8277), 7.vi.1972, S. Bílý leg., 1 ♂ (JBRC).

**Distribution.** Western Palaearctic species, distributed from Germany and Italy to Romania and the Balkan Peninsula (Perreau 2004), populations from Turkey are differentiated as *A. s. saulcyi* Jeannel, 1936 (Perreau 2004).

Reported by Roubal (1937-1941) from Slovakia: Seleška (7392); Franc (1992a-c, 1997): Kunerád (6978), Banská Bystrica (72-7380-81), Hronská Breznica (7479), Teplý Vrch (7586), Dobrá Niva (7580), Devínska Nová Ves (7867), Bratislava – Petřžalka (7868), Kováčov (8178), Komárno (8274); Hlaváč & Lackner (1998): Piešťany (73-7472-73), Jurský Šúr (7769); Jászay (2001): Nová Sedlica – dolina Zbojského potoka valley (6900). Records are scattered mostly in warmer regions across the whole Slovakia (Fig. 1).

**Ecology.** Species known from lowlands to uplands, collected in old trunks and hollows of deciduous trees in well-preserved forests. Loosely associated with ants (mostly with *Lasius brunneus* (Latreille, 1798)) (see Roubal 1930, Franc 1992a,b).

### *Catops nigricantoides* Reitter, 1901

**Material examined. Slovakia:** Košice (7293), [without date and collector's name], 1 ♂ (JNEC); Piešťany (73-7472-73), vi.1961, J. Gottwald leg., 1 ♂ (coll. J. Gottwald in NHMB); Gyňov (7493), 17.x.2002, I. Smatana leg., 1 ♂ (ISMС); Malý Kamenc (7696), 11.x.1996, P. Koniar leg., 1 ♂ (PKOC); Tvrdošovce (7974), 30.iv.1999, salt steppe, sweeping, M. Mantič leg., 1 ♀ (MMAC); Šahy – Tešmak (7979), 28.v.1994, P. Moravec leg., 1 ♂ (PMOC); Kamenín (8177), vii.1956, J. Gottwald leg., 2 ♂♂, 1 ♀ (coll. J. Gottwald in NHMB); same locality, 16.vi.1987, J. Januš leg., 2 ♂♂, 1 ♀ (JJNC); same data, 1 ♂ (JRUC); same locality, 14.v.1989, S. Urban leg., 1 ♂ (SURC); Štúrovo (81-8278), 19.v.1962, Voříšek leg., 1 ♂ (JRUC); same locality, vi.1963, R. Rous leg., 1 ♂ (RROC); same locality, vi.1967, R. Rous leg., 1 ♂ (JRUC); same locality, v. 1973, M. Kybal leg., 1 ♂ (JRUC); same locality, 4.v.1992, Kučera leg., 1 ♂ (coll. V. Karas in JMС); Patince (8275), 10.v.1996, J. Prouza leg., 1 ♀ (JPRC); Mužla env., Jurský Chlm (8277), 23.-24.v.1995, steppe terrace, M. Mantič leg., 1 ♂ (MMAC); same locality, 24.v.2005, F. Houška leg., 1 ♂ (FHOC).

**Distribution.** Western Palaearctic species, distributed from Germany and Switzerland to Transcaucasia and Iran (Perreau 2004).

Older records from Slovakia were provided by Strejček (1965) and Majer (1980): Štúrovo (81-8278); Gottwald (1968); Piešťany (73-7472-73); Zwick (1981): Kamenín (8177); and reviewed by Růžička (1993): Bratislava (7868), Tvrdošovce (7974), Štúrovo (8178), Hegyafarok [= south-eastern part of Belianske kopce hills] (8178) and Kamenica nad Hronom (8178). Distributed only in the warm regions of Slovakia, here we present for the first time records from south-eastern Slovakia (Fig. 2).

**Ecology.** Known from open landscape on xerothermous habitats, often associated with nests of mammals (e.g., *Vulpes vulpes* Linnaeus, 1758, *Oryctolagus cuniculus* Linnaeus, 1758; J. Růžička & J. Vávra, unpubl. data).

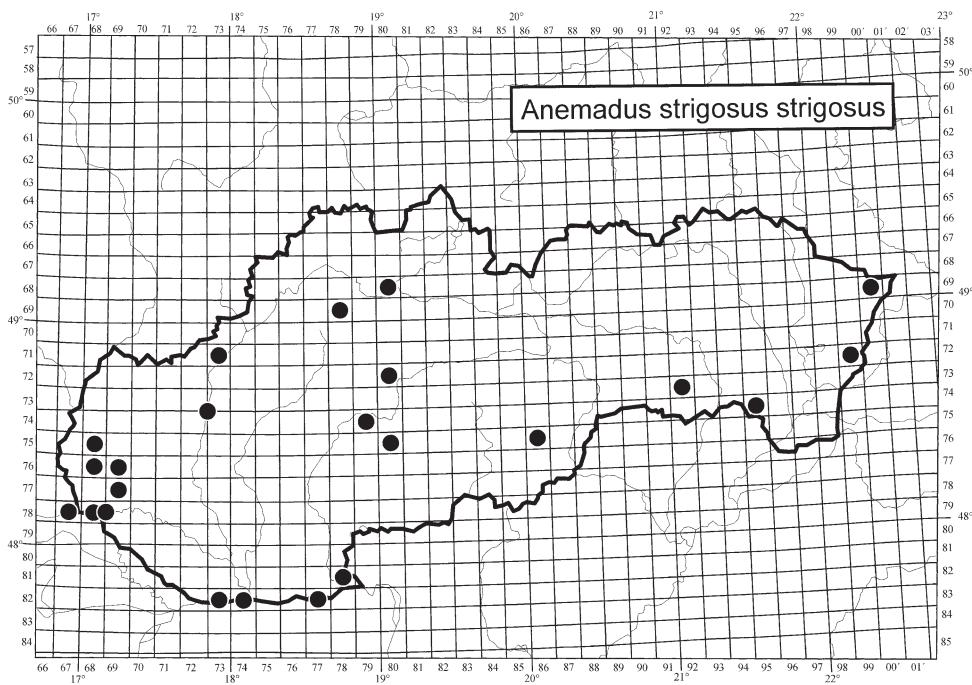


Fig. 1. Distribution of *Anemadus strigosus strigosus* (Kraatz, 1852) in Slovakia.

Obr. 1. Rozšírenie druhu *Anemadus strigosus strigosus* (Kraatz, 1852) na Slovensku.

#### *Catops ventricosus rotundatus* Szymczakowski, 1963

**Material examined. Slovakia:** Belianske Tatry mts., Javorina [=Tatranská Javorina] (6786), 1200 m, 20.-26.vi.1982, F. Krampl leg., 1 ♂ (NMPC); M. Tátra, Felkai völgy [=Vysoké Tatry mts, Velická dolina valley] (6887), 1350-1450 m, 11.vii.1962, Endrődy-Younga leg., ex sterc. equi [=from horse dung], 1 ♂ (HNHM).

**Distribution.** Western Palaearctic species with discontinuous distribution from Spain, France and Italy to Poland and Slovakia (Perreau 2004), populations from north-western Turkey and Transcaucasia are treated as *C. v. ventricosus* (Weise, 1878).

An older record from Slovakia was published by Szymczakowski (1956): Vysoké Tatry mts., Veľká studená dolina valley (6887); Růžička (1993): Vysoké Tatry mts., Zlomisková dolina valley (6886), the species is currently known from Slovakia only from Vysoké Tatry mountains (Fig. 6). Szymczakowski (1971) also briefly mentioned an imprecisely localised record from "Slovenské Rudohorie mts" in central Slovakia – this needs further confirmation.

**Ecology.** Known mostly from alpine habitats well above the tree-line (J. Růžička & J. Vávra, unpubl. data from Ukraine), record from Tatranská Javorina is exceptional for its relatively low altitude (only 1200 m).

#### *Dreposcia umbrina* (Erichson, 1837)

**Material examined. Slovakia:** Trenčianske Teplice (7075), [without date], Kočí leg., 1 spec. (SNMB); Herľany (7194), [without date], Machulka leg., 1 ♂ (coll. J. Hlisníkovský in NMPC); same locality, 4.iv.1999, F. Pavel leg., 1 ♀ (FPAC); Remetské Hámre (7199),

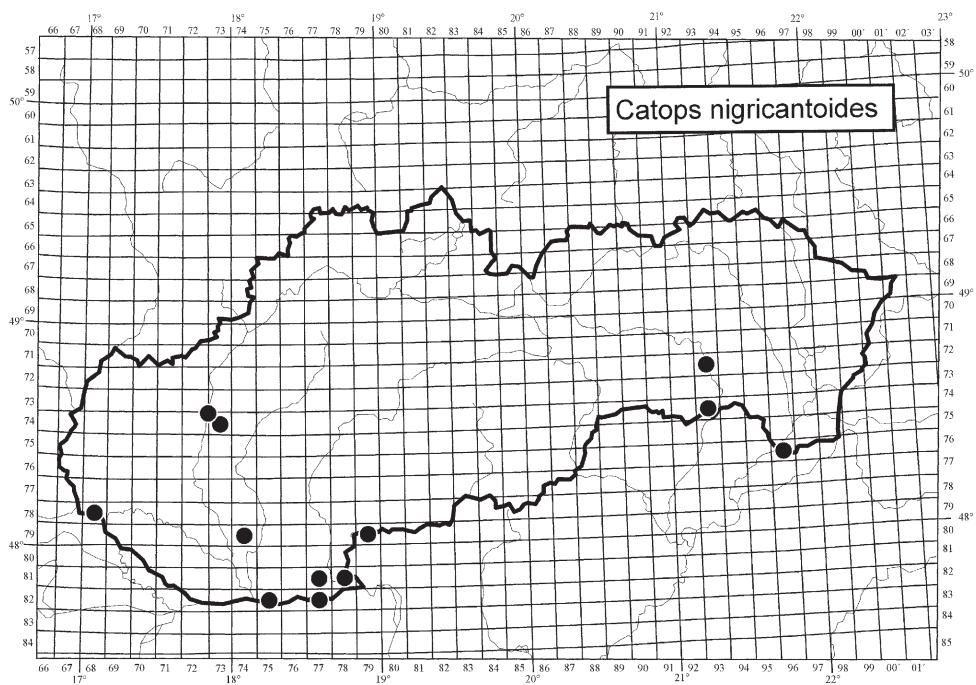


Fig. 2. Distribution of *Catops nigricantoides* Reitter, 1901 in Slovakia.

Obr. 2. Rozšírenie druhu *Catops nigricantoides* Reitter, 1901 na Slovensku.

7.vii.1953, A. Smetana leg., 1 ♂ (JRUC); Petrovce (7299), 12.ix.1992, I. Smatana leg., hollow in *Quercus*, 1 ♀ (ISMС); same locality, 22.vi.1994, P. Hlaváč leg., 1 ♀ (JRUC); same locality, 20.vii.1994, B. Zbužek leg., 1 ♀ (BZBC); same locality, 4.v.1996, P. Koniar leg., 1 ♂, 1 ♀ (PKOC); same locality, 4.v.1996, P. Hlaváč leg., 1 ♂ (PHLC); same locality, 25.v.1996, P. Koniar leg., 1 ♂ (PKOC); Hronská Breznica (7479), v.1933, J. Roubal leg., 1 spec. (coll. J. Roubal in SNMB); Zvolen (7480), [without date], R. Rous leg., 2 spec. (RROC); same locality, xi.1950, A. Olexa leg., 1 ♂ (JVAC); same locality, v.1952, A. Olexa leg., 1 ♂, 1 ♀ (JVAC); same locality, x.1953, A. Olexa leg., 1 ♂ (JVAC); Malacky (7568), vi.1986, V. Kubáň leg., 1 ♂ (JRUC); same locality, 4.v.1987, E. Jendek leg., 1 ♀ (JVAC); same locality, 27.x.1989, I. Jeniš leg., 1 ♀ (Ijec); Dobrá Niva (7580), 13.vii.2002, M. Zýka leg., 2 ♂♂, 1 ♀ (MZYC); Veľký Blh (7586), v.1930, J. Roubal leg., 1 spec. (coll. J. Roubal in SNMB); same locality, 2.v.1930, J. Roubal leg., 1 ♂ (JNEC); Plavecký Štvrtok (7668), 1.v.1988, O. Šauša leg., 3 ♂♂ (2 spec. teneral) (JVAC); Ladov (7684), 7.vi.1936, J. Roubal leg., 1 spec. (coll. J. Roubal in SNMB); Rimavská Sobota (7686), v.1924, J. Roubal leg., 2 spec. (coll. J. Roubal in SNMB); same locality, 4.v.1924, J. Roubal leg., 1 ♀ (coll. J. Volák in MVCH); same locality, v.1925, J. Roubal leg., 2 spec. (coll. J. Roubal in SNMB); same locality, v.1926, J. Roubal leg., 1 ♀ (coll. J. Volák in MVCH); Pajštún [= Borinka] (7768), vi.1944, V. Depta leg., 1 spec. (SNMB); same locality, 6.v.1995, P. Hlaváč leg., 1 ♂ (PHLC); Jur pri Bratislave [= Svätý Jur] (7769), 11.iv.1982, I. Jeniš leg., 1 ♀ (Ijec); same locality, 16.v.1982, R. Fornůsek leg., 1 ♂ (present deposition unknown); Svätý Jur, Jurský Šúr (7769), v.1944, V. Depta leg., 3 ♂♂ (SNMB);

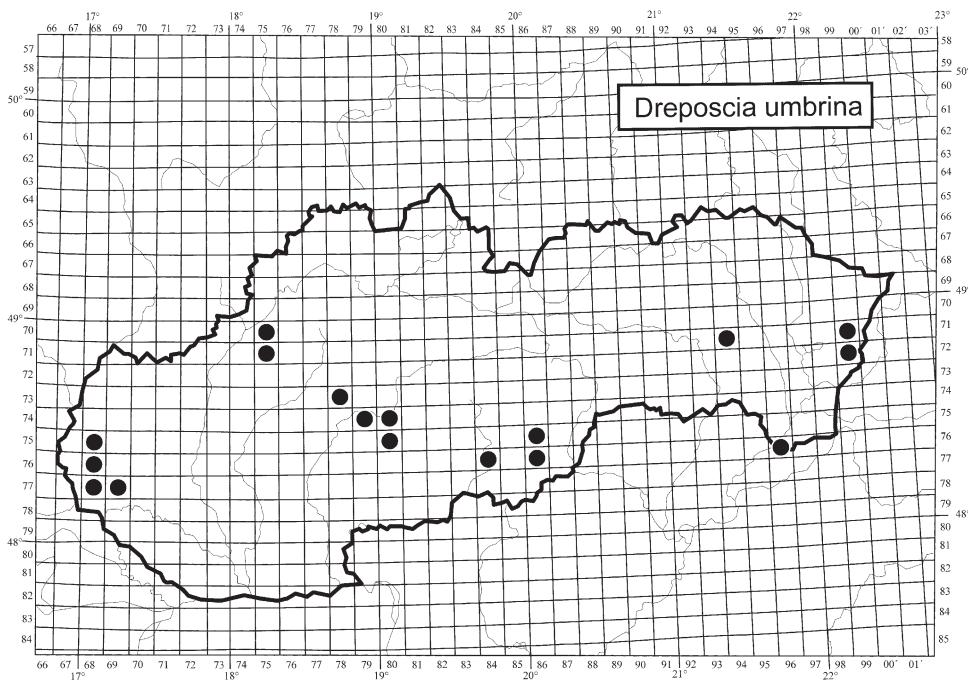


Fig. 3. Distribution of *Drepanocera umbrina* (Erichson, 1837) in Slovakia.

Obr. 3. Rozšíření druhu *Drepanocera umbrina* (Erichson, 1837) na Slovensku.

same locality, 7.v.1950, V. Depta leg., 1 spec. (SNMB); same locality, 21.xi.1984, M. Štrba leg., 1 ♂ (LKLC); same locality, 30.v.1998, V. Kocourek leg., 1 ♀ (VKOC); same locality, 22.vi.2008, O. Majzlan leg., Quercetum, 1 ♂ (JRUC); same locality, 8.v.2009, O. Majzlan leg., Quercetum, 2 ♀♀ (JRUC).

**Distribution.** Western Palaearctic species, distributed from central and southern Europe to Ukraine and Russia (Perreau 2004).

From Slovakia reported by Roubal (1930): Omšenie (7175), Herľany (7194), Veľký Blh (7586), Rimavská Sobota (7686), Slovenské Nové Mesto pod Štiatrom [= Slovenské Nové Mesto/Sátoraljaújhely] (7696); Korbel (1951): Svätojurský šúr [= Jurský Šúr] (7769); Havelka (1964; as *Depronria umbrina*): Remetské Hámre (7199), Handlová (7278); Hlaváč & Lackner (1998): Petrovce (7299), Jurský Šúr (7769). This species is known from Slovakia from several isolated localities, mostly from forested habitats in lowland and middle altitude (Fig. 3).

**Ecology.** In cavities of old and damaged deciduous trees in naturally rich forested habitats, from lowland to hills. Frequently associated with *Lasius brunneus* (Roubal 1930, Franc 1992c). Roubal (1930) characterized it ecologically as a “stenoecous quercicole”, but it occurs also in other deciduous tree species such as *Populus* spp., *Ulmus* spp. or *Aesculus hippocastanum* (J. Vávra, unpubl. data). In southern Moravia, pupae of *D. umbrina* were found in a cavity of large stem of *Populus* cf. *alba*, in black detritus produced by larvae of *Protaetia aeruginosa* (Drury, 1770) (Scarabaeidae). Larvae of *D. umbrina* form cocoons from detritus before pupation, similar in appearance to those of *Ampedus dubius* (Platia et Cate, 1990) or *Elater ferrugineus ferrugineus* Linnaeus, 1758 (both Elateridae) (J. Vávra, unpubl. data).

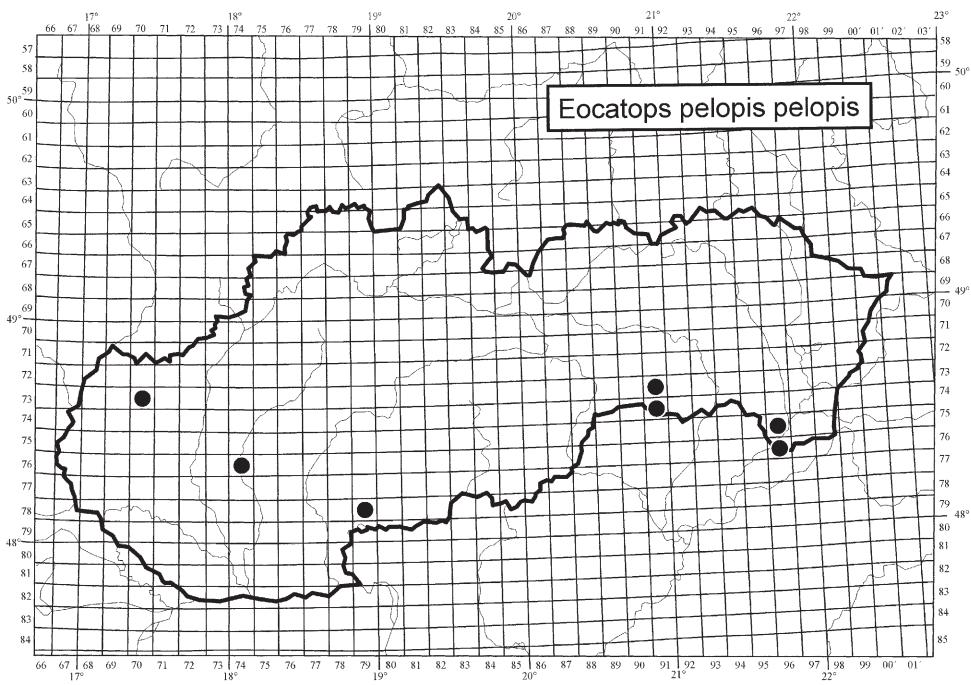


Fig. 4. Distribution of *Eocatops pelopis pelopis* (Reitter, 1884) in Slovakia.

Obr. 4. Rozšíření druhu *Eocatops pelopis pelopis* (Reitter, 1884) na Slovensku.

#### *Eocatops pelopis pelopis* (Reitter, 1884)

**Material examined. Slovakia:** Turňa nad Bodvou env., Háj (7391), 1.iv.1995, nest of *Messor* under stone, T. Lackner leg., 2 ♂♂ (TLAC); Turňa nad Bodvou (7491), [without date], V. Machulka leg., 1 ♂ (JVAC); same locality, 14.x.1996, T. Lackner leg., 1 ♂ (JRUC); same locality, 1.iv.1998, P. Koniar leg., 1 ♀ (PKOC); same locality, 24.x.1998, P. Koniar leg., 1 ♂ (PKOC); same locality, 26.iii.1999, P. Koniar leg., 1 ♂ (PKOC); same locality, 2.x.1999, P. Koniar leg., 1 ♂ (PKOC); same locality, 31.x.1999, P. Koniar leg., 3 ♂♂, 2 ♀♀ (PKOC); same locality, 7.xi.1999, P. Koniar leg., 1 ♂ (PKOC); same locality, 2.xi.2000, P. Koniar leg., 5 ♂♂, 8 ♀♀ (PKOC, JRUC); same locality, 2.xi.2000, nest of *Messor* under stone, J. Vávra leg., 4 ♂♂, 5 ♀♀ (JVAC); Turňa nad Bodvou env., Turnianský hrad (7391), 19.iii.2003, M. Švarc leg., 2 ♂♂, 2 ♀♀ (MSVC); Kolíňany env., Kolíňanský vrch hill (7674), 5.vi.2004, above quarry, nest of *Messor* under stone, M. Švarc & P. Koniar leg., 5 ♂♂, 3 ♀♀ (MSVC, PKOC); same locality, 18.v.2007, M. Švarc & P. Koniar leg., 1 ♂ (MSVC); Malý Kamenc (7696), 24.iii.1995, nest of *Messor* under stone, T. Lackner leg., 1 ♂, 1 ♀ (TLAC); same locality, 19.iv.1995, nest of *Messor* under stone, R. Lohaj leg., 1 ♀ (RLOC); same locality, 6.iv.1996, P. Koniar leg., 2 ♀♀ (PKOC); same locality, 7.x.1996, P. Koniar leg., 2 ♂♂ (PKOC); same locality, 11.x.1996, P. Koniar leg., 1 ♀ (PKOC); same locality, 12.iii.1997, nest of *Messor* under stone, P. Koniar leg., 1 ♀ (MSVC); same locality, 1.xi.2000, nest of *Messor* under stone, J. Vávra leg., 1 ♂, 2 ♀♀ (JVAC); Veľký Kamenc env., Tarbucka hill (7696), 8.iv.1995, nest of *Messor* under stone, I. Smatana leg., 1 ♀ (ISMC); same locality, 19.iv.1995, I. Smatana leg.,

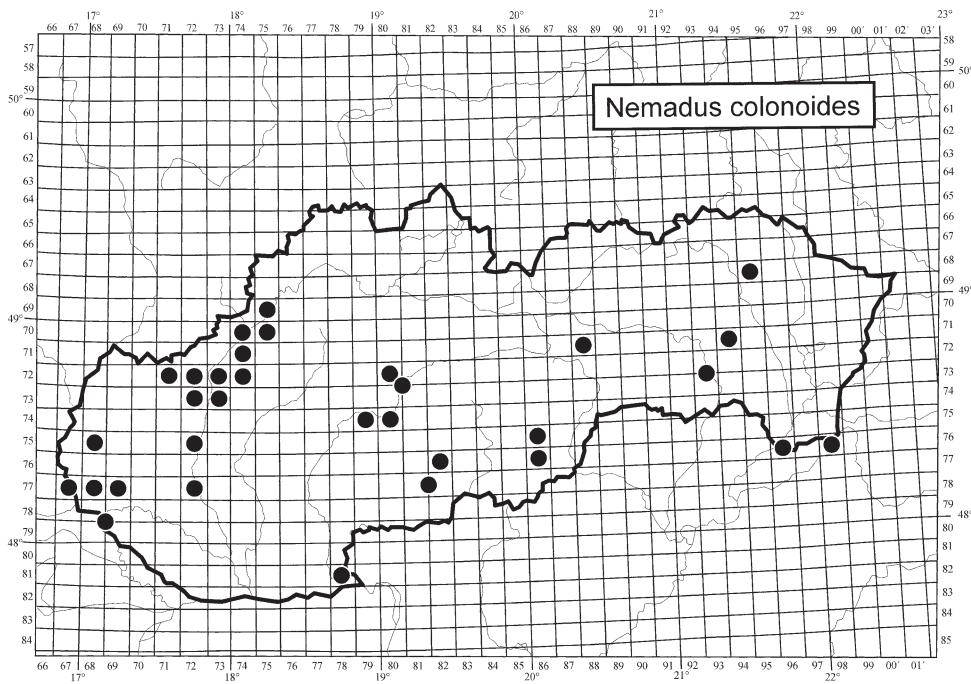


Fig. 5. Distribution of *Nemadus* (*Nemadus*) *colonoides* (Kraatz, 1851) in Slovakia.

Obr. 5. Rozšírenie druhu *Nemadus* (*Nemadus*) *colonoides* (Kraatz, 1851) na Slovensku.

1 ♂ (ISMС); same locality, 25.x.2009, P. Koniar & M. Švarc leg., 1 ♂, 4 ♀♀ (MSVC, PKOC, JRUC); Plášťovce (7879), 29.v.1994, steppe, P. Moravec leg., 1 ♀ (PMOC).

**Distribution.** Species distributed from the Czech Republic (southern Moravia) and Austria to Greece, Bulgaria, the Ukraine and Russia (Perkovsky & Gontarenko 2002, Perreau 2004). Populations from Finland and Sweden, described as a separate species (Szymczakowski 1975), have recently been treated only as *E. p. lapponicus* Szymczakowski, 1975 by Perkovsky & Gontarenko (2002).

Scattered records from Slovakia, including data from Machulka (1938; as *Nemadus pelopis*): Turňa nad Bodvou (7491); Roubal (1937-1941; as *Nemadus pelopis*): Zádiel (7391); Franc (1992c), Růžička (1993) and Hlaváč & Lackner (1998): Hradište pod Vrátnom (7370), Turňa nad Bodvou, slope of Turňa castle (7391), Malý Kamenc - Tarbucka hill (7696), are restricted to warmer regions (Fig. 4).

**Ecology.** Myrmecophilous species, associated with nests of *Messor* cf. *structor* (Latreille, 1798) in southern and central Europe (Franc 1992c, Růžička 1993, Hlaváč & Lackner 1998; see Werner & Wiezik (2007) for discussion about nomenclature and taxonomy of *Messor* Forel, 1890 in central Europe), and with *Formica lemani* Bondroit, 1917 in Scandinavia (Szymczakowski 1975, Perkovsky & Gontarenko 2002).

#### *Nemadus* (*Nemadus*) *colonoides* (Kraatz, 1851)

**Material examined. Slovakia:** Giraltovce (6895), 21.ix.1927, V. Depta leg., 4 spec. (SNMB); same locality, ix.1928, V. Depta leg., 2 spec. (SNMB); same locality, 1930, V. Depta leg.,

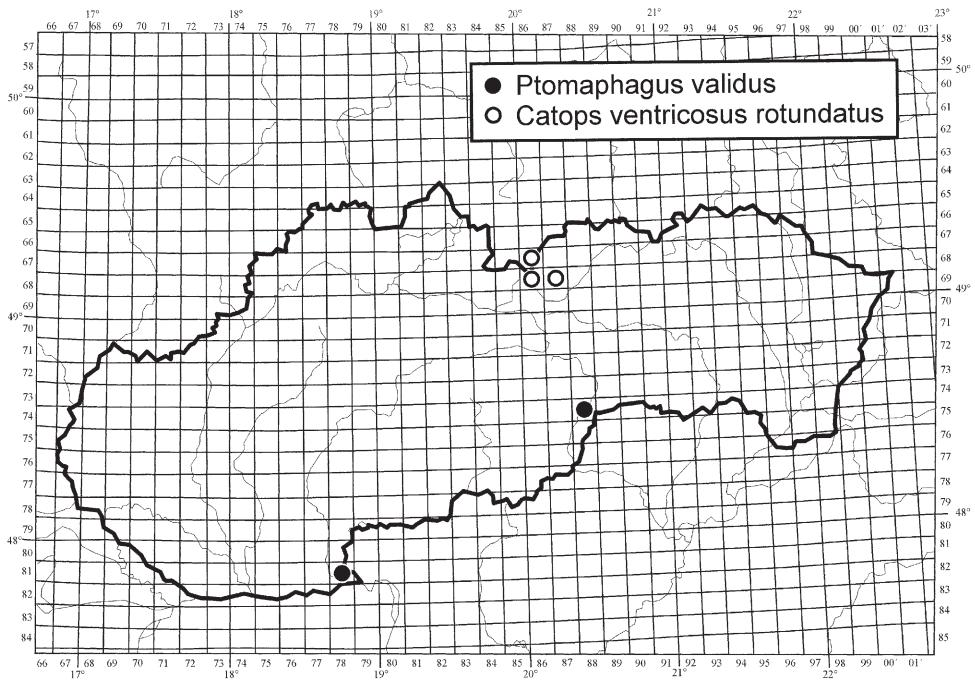


Fig. 6. Distribution of *Catops ventricosus rotundatus* Szymczakowski, 1963 and *Ptomaphagus (Merodiscus) validus* (Kraatz, 1852) in Slovakia.

Obr. 6. Rozšírení druhov *Catops ventricosus rotundatus* Szymczakowski, 1963 a *Ptomaphagus (Merodiscus) validus* (Kraatz, 1852) na Slovensku.

6 spec. (SNMB); same locality, 1932, V. Depta leg., 1 spec. (SNMB); same locality, 1933, V. Depta leg., 7 spec. (SNMB); Boleso-Pého [=Bolešov] (7074), [without date], J. Laco leg., 1 spec. (SNMB); Košecké Podhradie (7075), 28.x.1997, M. Mantič leg., 1 ♂, 3 ♀♀ (MMAC); same locality, 28.x.1997, M. Mantič leg., 2 ♀♀ (JRUC); Trenčianske Teplice (7075), [without date], Kočí leg., 1 spec. (SNMB); Babiná (7188), [without date], J. Roubal leg., 1 ♀ (coll. J. Havelka in NMPC); Herľany (7194), 21.iii.1996, P. Koniar leg., 1 ♀ (PKOC); Myjava (7271), i.1938, V. Depta leg., 1 spec. (SNMB); same locality, v.1938, V. Depta leg., 1 spec. (SNMB); Čachtice (7272), [without date], V. Depta leg., 1 spec. (SNMB); same locality, 1938, V. Depta leg., 1 spec. (SNMB); Trenčín env., Selec (7273), [without date], Kočí leg., 1 spec. (SNMB); Nové Mesto nad Váhom env., Inovec mt. (7274), [without date], A. Richter leg., 1 ♀ (MJMC); Vrbové (7372), [without date], Kočí leg., 2 spec. (SNMB); Nová Lehota (7373), 26.ii.1997, M. Mantič leg., 1 ♀ (MMAC); Zvolen (7480), v.1956, A. Olexa leg., 1 ♂ (JVAC); Zvolen – Stráž [=Stráže] (7480), [without date], J. Roubal leg., 2 spec. (coll. J. Roubal in SNMB, NMPC); Malacky (7568), [without date], J. Laco leg., 1 spec. (SNMB); same locality, 20.ii.1988, I. Jeniš leg., 1 ♀ (IJEC); Hlohovec (7572), 13.vii.1980, V. Kubáň leg., 1 ♂ (JVAC); Turie Pole (7682), 17.v.1931, J. Roubal leg., 1 spec. (coll. J. Roubal in SNMB); Rimavská Sobota (7686), 4.v.1924, J. Roubal leg., 1 spec. (coll. J. Roubal in SNMB); Malé Trakany (7698), 4.ix.1998, I. Smatana leg., 1 ♂ (ISMIC); Devínska Nová Ves (7767), 1940, V. Depta leg., 1 spec. (SNMB); same locality, 1941, V. Depta leg., 1 spec. (SNMB); same locality, iv.1941,

V. Depta leg., 2 spec. (SNMB); same locality, 1947, V. Depta leg., 1 spec. (SNMB); same locality, 11.i.1948, V. Depta leg., 1 spec. (SNMB); same locality, 25.i.1948, V. Depta leg., 1 spec. (SNMB); Pajštún [= Borinka] (7768), 1941, V. Depta leg., 1 spec. (SNMB); Svätý Jur, Jurský Šúr (7769), x.1940, V. Depta leg., 1 spec. (SNMB); same locality, xi.1940, V. Depta leg., 2 spec. (SNMB); same locality, 1941, V. Depta leg., 1 spec. (SNMB); same locality, iii.1941, V. Depta leg., 1 spec. (SNMB); same locality, 2.iv. 1950, V. Depta leg., 2 spec. (SNMB); Svätý Jur, Panónský háj (7769), 13-14.v.1994, J. Janák leg., *Lasius brunneus*, 1 ♂ (JJAC); Sered' (7772), 1939, V. Depta leg., 2 spec. (SNMB); Bratislava (77-7968-69), 1941, V. Depta leg., 1 spec. (SNMB); same locality, 11.i.1948, V. Depta leg., 1 spec. (SNMB); same locality, 11.viii.1954, I. Löbl leg., 1 spec. (SNMB); Modrý Kameň (7781-82), iv.1928, J. Roubal leg., 1 spec. (coll. J. Roubal in SNMB); Chľaba (8178), 28.ix.2009, M. Mantič leg., 1 spec. (MMAC); Kováčov (8178), 29.iv.1955, A. Smetana leg., 1 ♂, 3 ♀♀ (JRUC, NHMB, NMPC); same locality, 29.iv.1956, A. Smetana leg., 2 ♂♂ (JRUC); "Nízké Tatry" [without more precise locality, date or collector's name], 1 ♀ (NMPC); "Vysoké Tatry" [without more precise locality], x.1945, A. Pfeffer leg., 5 ♂♂, 4 ♀♀ (coll. A. Pfeffer in NMPC).

**Distribution.** Western Palaearctic species, distributed from France and Great Britain through southern and central Europe and southern Scandinavia to Ukraine and Russia (Perreau 2004).

Reported from Slovakia by Roubal (1930): Trenčín (7174), Košice (72-7393), Hronská Breznica (7479), Leopoldov (7572), Veľký Blh (7586), Rimavská Sobota (7686), Slovenské Nové Mesto pod Štiatrom [= Slovenské Nové Mesto/Sátoraljaújhely] (7696), Modrý Kameň (7781-82); Franc (1992b): Banská Bystrica (72-7380-81), Banská Bystrica env., Urpín hill (7280); Hlaváč & Lackner (1998): Horovce (6975), Jurský Šúr (7769), Šahy (7979). This species is distributed locally in Slovakia, from lowlands to hills, absent from higher altitudes (Fig. 5).

**Ecology.** Arboricolous species, found in cavities, in rotten wood or under old bark of different deciduous trees (i.e., *Quercus*, *Fagus*, *Populus*, *Salix*, *Tilia*, *Ulmus*, *Aesculus*, *Acer*, *Carpinus*) (Roubal 1930; J. Vávra, unpubl. data); here frequently in association with ants (e.g., *Lasius brunneus*, *L. fuliginosus* (Latreille, 1798)) (Roubal 1930, Franc 1992c, Hlaváč & Lackner 1998), in nests of birds (e.g., *Ardea cinerea* Linnaeus, 1758, *Upupa epops* Linnaeus, 1758) and rodents (e.g., Gliridae), or around nests of hornets (*Vespa crabro* Linnaeus, 1758) (Roubal 1907, Vysoký 2007; J. Vávra, unpubl. data). Majzlan & Rychlík (1992) reported this species from Slovakia (without precise localities) from nests of the following three bird genera: *Dendrocopos* Koch, 1816, *Ficedula* Brisson, 1760 and *Parus* Linnaeus, 1758.

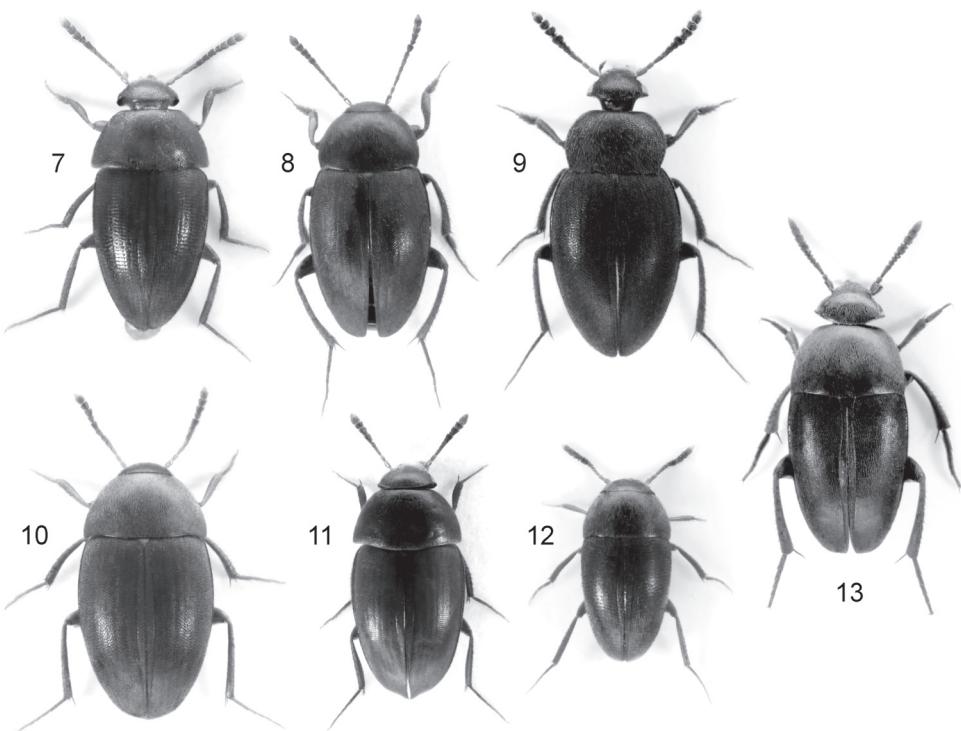
#### *Ptomaphagus (Merodiscus) validus* (Kraatz, 1852)

**Material examined. Slovakia:** 1.5 km SE of Malá nad Hronom [ca. 47°50'N 18°40'E] (8178), 18.-20.iv.2008, loess terraces, near burrows of *Vulpes vulpes*, V. Týr leg., 1 ♀ (VTYC).

**Distribution.** Species with discontinuous distribution from Slovakia, Hungary and Slovenia to Romania and south-western Ukraine (Nonveiller et al. 1999, Růžička 2000, Perreau 2004).

The only published record from Slovakia (and several records from adjacent parts of Hungary) are reviewed and mapped by Růžička (2000): Slavec – Gombasek (7488). Second known record from Slovakia (Fig. 6).

**Ecology.** Unknown, pattern of distribution is mostly associated with karst regions (Růžička 2000).



Figs 7–13. Habitus dorsally (body length in brackets): 7 – *Anemadus strigosus strigosus* (Kraatz) (3.2 mm), 8 – *Catops nigricantoides* Reitter (4.9 mm), 9 – *Catops ventricosus rotundatus* Szymczakowski (4.3 mm), 10 – *Dreposcia umbrina* (Erichson) (4.3 mm), 11 – *Eocatops pelopis pelopis* (Reitter) (3.7 mm), 12 – *Nemadus (Nemadus) colonoides* (Kraatz) (1.8 mm), 13 – *Ptomaphagus (Merodiscus) validus* (Kraatz) (6.7 mm).

Obr. 7–13. Habitus dorzálně (v závorce délka těla): 7 – *Anemadus strigosus strigosus* (Kraatz) (3,2 mm), 8 – *Catops nigricantoides* Reitter (4,9 mm), 9 – *Catops ventricosus rotundatus* Szymczakowski (4,3 mm), 10 – *Dreposcia umbrina* (Erichson) (4,3 mm), 11 – *Eocatops pelopis pelopis* (Reitter) (3,7 mm), 12 – *Nemadus (Nemadus) colonoides* (Kraatz) (1,8 mm), 13 – *Ptomaphagus (Merodiscus) validus* (Kraatz) (6,7 mm).

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## REFERENCES

- ARNETT R. H. jr., SAMUELSON G. A. & NISHIDA G. M. 1993: *The Insect and Spider Collections of the World, 2. edition*. Sandhill Crane Press, Gainesville, vi + 309 pp.
- FRANC V. 1992a: Interesting findings of beetles (Coleoptera) in the urban area of Banská Bystrica (Slovakia). *Acta Universitatis Carolinae, Biologica*, 35: 229–237.
- FRANC V. 1992b: Zaujímavé nálezy chrobákov (Coleoptera) v intraviláne Banskej Bystrice. (Interesting findings of beetles (Coleoptera) in the Urban Area of Banská Bystrica). *Práce Slovenskej Entomologickej Spoločnosti pri SAV*, 9: 23–30 (in Slovak, English abstr.).

- FRANC V. 1992c: Myrmecophilous beetles of Slovakia with special reference to their endangerment and perspectives for protection. *Acta Universitatis Carolinae, Biologica*, 36: 299-324.
- FRANC V. 1997: Old trees in urban environments – refugia for rare and endangered beetles (Coleoptera). *Acta Universitatis Carolinae, Biologica*, 41: 273-283.
- GOTTWALD J. 1968: Nové a zajímavé nálezy brouků z Československa (Col.), 2. příspěvek. (Neue und interessante Funde der Käfer aus der Tschechoslowakei (Col.), 2. Beitrag). *Acta Entomologica Bohemoslovaca*, 65: 246-249 (in Czech, German summary).
- HAVELKA J. 1964: Příspěvek k poznání Coleopter Slovenska. 1. část. Doplňky k Roubalovu Katalogu Coleopter. (Beitrag zur Kenntnis der Coleopteren der Slowakei. 1. Teil. Nachträge zum Katalog Coleopter von J. Roubal). *Acta Rerum Naturalium Musei Nationalis Slovaci, Bratislava*, 10: 66-123 (in Czech, German summary).
- HLAVÁČ P. & LACKNER T. 1998: Contribution to the knowledge of myrmecophilous beetles of Slovakia. *Entomofauna Carpathica*, 10: 1-9.
- JÁSZAY T. 2001: *Chrobáky (Coleoptera) Národného parku Poloniny. (Coleoptera of the National Park Poloniny)*. Štátnej ochrana prírody SR & Správa Národného parku Poloniny, Banská Bystrica & Snina, 234 pp (in Slovak, English summary).
- KORBEL L. 1951: *Coleoptera Svätojurského šíru. (The Svätý Júr Marchland from the coleopterological aspect)*. Slovenská akadémia vied a umení, Bratislava, 155 pp (in Slovak, Russian and English summaries).
- MACHULKA V. 1938: Coleopterologické poznámky. [Coleopterological notes]. *Časopis Československé Společnosti Entomologické*, 35: 104-105 (in Czech).
- MAJER K. 1980: Zpráva o výskytu zástupců čeledi Catopidae v okolí Olomouce. (Bericht über die Familie Catopidae von der Olmützer Umgebung (Coleoptera)). *Zprávy Československé Společnosti Entomologické při ČSAV*, 16: 97-158 (in Czech, German abstr.).
- MAJZLAN O. 1999: Faunistic records from Slovakia. *Entomological Problems*, 30: 60.
- MAJZLAN O. & RYCHLÍK I. 1992: Topicko-trofické vzťahy chrobákov (Coleoptera) v hniezdach vtákov na Slovensku. (Topic-trophic relationship of beetles (Coleoptera) in the nests of birds in Slovakia). *Práce Slovenské Entomologické Společnosti*, 9: 71-92 (in Slovak, English abstr.).
- NONVEILLER G., PAVIČEVIĆ D. & POPOVIĆ M. 1999: *Les Cholevinæ des territoires de l'ancienne Yougoslavie (excepté les Leptodirini) (Coleoptera, Staphylinidae, Leiodidae): aperçu faunistique*. Institut pour la protection de la nature de Serbie, Beograd, 127 pp + 1 map.
- PERKOVSKY E. E. & GONTARENKO A. V. 2002: Kholevina Eocatops pelopis (Coleoptera, Leiodidae, Cholevinae) na yuge Vostochnoy Evropy i ee prokhorez na sever v glocene. (The Cholevine beetle Eocatops pelopis (Coleoptera, Leiodidae, Cholevinae) in the South of Eastern Europe and its prochoresis to the North in Holocene). *Vestnik Zoologii*, 36: 91-94 (in Russian, English abstr.).
- PERREAU M. 2004: Family Leiodidae Fleming, 1821, pp. 133-203. In: LÖBL I. & SMETANA A. (eds.): *Catalogue of Palaearctic Coleoptera. Vol. 2: Hydrophiloidea – Histeroidea – Staphylinoidea*. Apollo Books, Stenstrup, 942 pp.
- ROUBAL J. 1907: O broucích ve hnizdech ssavců a ptáků. [Beetles in nests of mammals and birds]. *Časopis České Společnosti Entomologické*, 4: 124-134 (in Czech, Latin summary).
- ROUBAL J. 1930: *Katalog Coleopter (brouků) Slovenska a Podkarpatska na základě bionomickém a zoogeografickém a spolu systematický doplněk Ganglbauerových „Die Käfer von Mitteleuropa“ a Reitterovy „Fauna germanica“*. Svazek 3. (*Catalogue des Coléoptères de la Slovaquie et de la Russie subcarpathique d'après les documents bionomiques et zoogéographiques ainsi que supplément systématique au Ganglbauer; Die Käfer von Mitteleuropa et Reitter; Fauna germanica*). Učená Společnost Šafaříkova v Bratislavě, Praha, 527 pp (in Czech, French title).
- ROUBAL J. 1937-1941: *Katalog Coleopter (brouků) Slovenska a východních Karpat na základě bionomickém a zoogeografickém a spolu systematický doplněk Ganglbauerových „Die Käfer von Mitteleuropa“ a Reitterovy „Fauna germanica“, Dil III. (Catalogus der Coleopteren der Slowakei und der Ost-Karpathen auf bionomischer und zoogeographischer Grundlage und zugleich Ergänzungen Ganglbauer's „Die Käfer von Mitteleuropa“ und zu Reitters „Fauna germanica“, III. Teil; Catalogue des Coléoptères de la Slovaquie et des Carpates orientales d'après les documents bionomiques et zoogéographiques ainsi que supplément systématique au Ganglbauer, „Die Käfer von Mitteleuropa“ et Reitter „Fauna germanica“, tome III<sup>e</sup>)*. Orbis, Praha, 363 pp (in Czech, German summary, German and French titles).
- RŮŽIČKA J. 1993: Příspěvek k faunistice brouků podčeledi Cholevinæ z Moravy a Slovenska (Coleoptera: Leiodidae). (Notes on faunistics of small carrion beetles (Coleoptera: Leiodidae: Cholevinæ) from Moravia and Slovakia). *Klapalekiana*, 29: 45-48 (in Czech, English abstr.).

- RŮŽIČKA J. 2000: Distribution and morphometrical variability of *Ptomaphagus* (*Merodiscus*) *validus* (Coleoptera: Leiodidae: Cholevinae). *Klapalekiana*, 36: 283-287.
- RŮŽIČKA J. & VÁVRA J. 1993: Rozšíření a ekologie brouků rodu *Choleva* (Coleoptera: Leiodidae: Cholevinae) na území Čech, Moravy a Slovenska. (The distribution and ecology of the genus *Choleva* (Coleoptera: Leiodidae: Cholevinae) throughout Bohemia, Moravia and Slovakia). *Klapalekiana*, 29: 103-130 (in Czech, English abstr.).
- STREJČEK J. 1965: Příspěvek k poznání fauny brouků Československa. [Contribution to the knowledge of beetle fauna in Czechoslovakia]. *Zprávy Československé společnosti entomologické při ČSAV*, 1(1): 3 (in Czech).
- SZYMCAKOWSKI W. 1956: Poznámky o niektorých druhoch člade Catopidae (Col.) z Tatier. (Bemerkungen über einige Arten der Familie der Catopidae, Col., aus der Hohen Tatra). *Biológia* (Bratislava), 11: 564-569 (in Slovak, German and French abstr.).
- SZYMCAKOWSKI W. 1971: Catopidae, pp. 204-237. In: FREUDE H., HARDE K. W. & LOHSE G. A. (eds.): *Die Käfer Mitteleuropas, Band 3, Adephaga 2, Palpicornia, Histeroidea, Staphylinoidea 1*. Goecke & Evers, Krefeld, 365 pp.
- SZYMCAKOWSKI W. 1975: Unerwarteter Fund einer neuen Eocatops-Art in Schweden und Finnland (Col. Catopidae). *Entomologisk Tidskrift*, 96: 3-7.
- VYSOKÝ V. 2007: Zástupci čeledí Agrytidae, Silphidae a Leiodidae vyskytující se na území Ústeckého kraje (Coleoptera). [Representatives of families Agrytidae, Silphidae and Leiodidae, occurring on the territory of the Ústí nad Labem district (Coleoptera)]. *Fauna Bohemiae Septentrionalis*, Suppl. [1]: 1-254 (in Czech).
- WERNER P. & WIEZIK M. 2007: Vespoidea: Formicidae (mravencovití), pp. 133-164. In: BOGUSCH P., STRAKA J. & KMENT P. (eds.): Annotated checklist of the Aculeata (Hymenoptera) of the Czech Republic and Slovakia. (Komentovaný seznam žahadlových blanokřídlých (Hymenoptera: Aculeata) České republiky a Slovenska). *Acta Entomologica Musei Nationalis Pragae*, Suppl. 11: 1-300 (in English and Czech).
- ZELENÝ J. 1972: Návrh členění Československa pro faunistický výzkum. (Entwurf einer Gliederung der Tschechoslowakei für Zwecke der faunistischen Forschung). *Zprávy Československé Společnosti Entomologické při ČSAV*, 8: 3-16 (in Czech, German abstr.).
- ZWICK P. 1981: *Catops nigricantoides* Reitter und *Catops andalusicus* Heyden, zwei verkannte europäische Arten (Coleoptera, Cholevidae). *Entomologische Blätter*, 77: 32-48.

## SOUHRN

Práce shrnuje publikované i nepublikované údaje o rozšíření sedmi vzácněji nalézaných druhů práchnivců (Coleoptera: Leiodidae: Cholevinae) na Slovensku. Jedná se o druhy *Aenamodus strigosus strigosus* (Kraatz, 1852), *Catops nigricantoides* Reitter, 1901, *C. ventricosus rotundatus* Szymczakowski, 1963, *Dreposcia umbrina* (Erichson, 1837), *Eocatops pelopis pelopis* (Reitter, 1884), *Nemadus (Nemadus) colonoides* (Kraatz, 1851) a *Ptomaphagus (Merodiscus) validus* (Kraatz, 1852). Shrnutý jsou také poznatky o jejich ekologii, jejich rozšíření na Slovensku je zobrazeno ve faunistických síťových mapách.