

New and interesting records of true bugs (Hemiptera: Heteroptera) from the Czech Republic and Slovakia V

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KMENT P. *et al.* 2013: New and interesting records of true bugs (Hemiptera: Heteroptera) from the Czech Republic and Slovakia V. In: KMENT P., MALENOVSKÝ I. & KOLIBÁČ J. (eds.): Studies in Hemiptera in honour of Pavel Lauterer and Jaroslav L. Stehlík. *Acta Musei Moraviae, Scientiae biologicae* (Brno) 98(2): 495–541. – The following species are recorded for the first time from the Czech Republic: *Microvelia pygmaea* (Dufour, 1833) (from Moravia), *Isometopus mirificus* Mulsant et Rey, 1879 (Moravia), *Tupiocoris rhododendri* (Dolling, 1972) (Bohemia), *Tuponia macedonica* Wagner, 1957 (Moravia), *Geocoris erythrocephalus* (Lepeletier et Serville, 1825) (Moravia), and *Camptopus lateralis* (Germar, 1817) (Moravia); Bohemia: *Sigara iactans* Jansson, 1983; Moravia: *Pachycoleus waltli* Fieber, 1860, *Aradus kuthyi* Horváth, 1899; and Slovakia: *Microvelia pygmaea*, *Heterocordylus cytisi* Josifov, 1958, *Aradus bimaculatus* Reuter, 1872. Additional records of 22 rare species or species previously considered as regionally extinct in the Czech Republic and Slovakia are provided: *Arctocoris germari germari* (Fieber, 1848), *Notonecta reuteri reuteri* Hungerford, 1928, *Microvelia buenoi* Drake, 1920, *Salda henschi* (Reuter, 1891), *Salda muelleri* (Gmelin, 1790), *Agramma atricapillum* (Spinola, 1837), *Phytocoris hirsutulus* Flor, 1861, *Polymerus brevicornis* (Reuter, 1879), *Hyoidea notaticeps* Reuter, 1876, *Conostethus hungaricus* Wagner, 1941, *Harpocera hellenica* Reuter, 1876, *Peirates hybridus* (Scopoli, 1763), *Aradus crenaticollis* R. Sahlberg, 1848, *Aradus mirus* Bergroth, 1894, *Aradus signaticornis* R. Sahlberg, 1848, *Arocatus melanocephalus* (Fabricius, 1798), *Melanocoryphus albomaculatus* (Goeze, 1778), *Melanocoryphus tristrami* (Douglas et Scott, 1868), *Tropidophlebia costalis* (Herrich-Schaeffer, 1850), *Coriomeris scabricornis scabricornis* (Panzer, 1805), *Aelia rostrata* Boheman, 1852, and *Eurydema fieberi* Fieber, 1837. The species *Conostethus griseus* Douglas et Scott, 1870 is excluded from the list of Slovak fauna. Including the new records presented in this paper, the number of true bug species recorded reaches 869 in the Czech Republic (762 in Bohemia and 810 in Moravia) and 850 in Slovakia. Thanks to the discovery of *Tupiocoris rhododendri* and *Tuponia macedonica*, the number of alien species of Heteroptera established in the Czech Republic increases to 22.

Keywords. Heteroptera, true bugs, faunistics, distribution, biology, central Europe, Czech Republic, Slovakia

Introduction

The present paper is a further continuation of the “New and interesting records of true bugs (Heteroptera) from the Czech Republic and Slovakia” series (KMENT & BRYJA 2001; KMENT *et al.* 2003, 2005; HRADIL *et al.* 2008). Since the last part of the series, faunistic research into Czech and Slovak Heteroptera has been far from idle, and a number of contributions presenting new records or regional faunal inventories have been published. The following new species have been added to the fauna of the Czech Republic: *Corixa panzeri* Fieber, 1848 (Corixidae) (recorded in Moravia, STRAKA *et al.* 2009), *Lasiacantha hermani* Vásárhelyi, 1977 (Tingidae) (Moravia, MALENOVSKÝ *et al.* 2011), *Dicyphus escalerae* Lindberg, 1934 (Miridae) (Moravia, HRADIL 2010), *Charagochilus spiralifer* Kerzhner, 1988, *Heterocordylus cytisi* Josifov, 1958 (both Miridae) (Moravia, KMENT & BAŇAŘ 2012), *Dysepicritus rufescens* (A. Costa, 1847) (Anthocoridae) (Moravia, KMENT & BAŇAŘ 2012), *Nagusta goedelii* (Kolenati, 1857) (Reduviidae) (Bohemia, KMENT & DOLEJŠOVÁ 2010), and *Belonochilus numenius* (Say, 1831) (Moravia, HRADIL 2011). Moreover, SYCHRA & KMENT (2009) have confirmed the occurrence of *Sigara scotti* (Douglas et Scott, 1868) (Corixidae) based on material from westernmost Bohemia, previously listed without exact records by ŠTUSÁK (1980). The fauna of Bohemia has been enriched with records of *Cimex pipistrelli* Jenyns, 1839 (Cimicidae) (BALVÍN *et al.* 2012), *Tropidothorax leucopterus* (Goeze, 1778) (Lygaeidae) (KMENT *et al.* 2009a) and *Oxycarenus lavatae* (Fabricius, 1787) (Oxycarenidae) (KMENT *et al.* 2010), and the Moravian fauna by records of *Gerris lateralis* Schummel, 1832 (Gerridae) (JEZIORSKI *et al.* 2013), *Salda muelleri* (Gmelin, 1790) (Saldidae) (ROHÁČOVÁ 2011), *Acalypta platycheila* (Fieber, 1844) (Tingidae), *Phytocoris hirsutulus* Flor, 1861 (Miridae) (both KMENT & BAŇAŘ 2012), *Halticus saltator* (Geoffroy, 1785) (Miridae) (HRADIL *et al.* 2013), *Loricula ruficeps* (Reuter, 1884) (Microphysidae), and *Elatophilus nigricornis* (Zetterstedt, 1838) (Anthocoridae) (both KMENT & BAŇAŘ 2012). Among these additions, *Dicyphus escalerae* and *Belonochilus numenius* represent new alien species (HRADIL 2010, 2011), while the single recorded specimen of *Nagusta goedelii* found in synanthropic conditions in Prague is probably only a case of accidental introduction (KMENT & DOLEJŠOVÁ 2010). On the other hand, *Heterocordylus leptocerus* (Kirschbaum, 1856) (Miridae) has been excluded from the Moravian fauna due to a misidentification of *H. cytisi* (KMENT & BAŇAŘ 2012). As well as the new records, two species previously considered extinct in the Czech Republic (KMENT & VILÍMOVÁ 2006) have recently been recorded again – *Eurydema fieberi* Fieber, 1837 (Pentatomidae) (Bohemia, KMENT & JINDRA 2008) and *Pithanus hrabei* Stehlík, 1952 in its *terra typica* in the Jeseníky Mts. (Moravia; LACINA 2010, 2011).

A number of recent faunal inventories are relevant and worthy of mention. In Bohemia, the detailed results of long-term studies of aquatic insects in the mountain lakes of the Šumava National Park, also including aquatic and semi-aquatic true bugs, has been published by SOLDÁN *et al.* (2012). Further inventories covered the fauna of Přebuz environs in the Krušné hory Mts (SYCHRA & KMENT 2009, MALENOVSKÝ *et al.* in press), the Český les Mts. (KMENT & KEJVAL 2011), the Pamferova hut' locality in the Šumava National Park (DVOŘÁK *et al.* 2010) and the Žďár Nature Park in south-western Bohemia

(ZÁHLAVOVÁ 2009). Data on water bugs also appear in the summary of a long-term study of benthic macroinvertebrates of the River Labe (= Elbe) (KOLAŘIKOVÁ *et al.* in press). In Moravia, KMENT & BAŇAŘ (2012) presented the results of extensive sampling in the Bílé Karpaty Protected Landscape Area, where 500 species were documented, thus promoting the Bílé Karpaty to the ranks of the best-explored areas in the Czech Republic. MALENOVSKÝ *et al.* (2011) presented an inventory of 15 well-preserved grassland sites in the Pannonian part of southern Moravia. Further, ROHÁČOVÁ (2011, 2012a, b, 2013) published inventories of four reserves in the area of the Moravskoslezské Beskydy Mts. and the Javorníky Mts., while B. LIS (2012) made an inventory of the true bugs in the Štramberský Botanical Garden. In addition to locality inventories, detailed data for several species have been reviewed: *Macrosaldula scotica* (Curtis, 1835) (Saldidae) (KRIST & KMENT 2010), *Cimex lectularius* Linnaeus, 1758 (SADÍLEK *et al.* 2013), *Cimex pipistrelli* Jenyns, 1839 (BALVÍN *et al.* 2012), *Tropidothorax leucopterus* (KMENT *et al.* 2009a), *Eurydema fieberi* (KMENT & JINDRA 2008), and *Pinthaeus sanguinipes* (Fabricius, 1781) (Pentatomidae) (KMENT *et al.* 2009b), the last five of which also include records from Slovakia. Additional faunistic records are included in certain ecological papers published recently (e.g. ROHÁČOVÁ 2008a, b; ROHÁČOVÁ & DROZD 2009; SPITZER *et al.* 2010; SUCHÁ 2010; TROPEK *et al.* 2010, 2012; HRADIL *et al.* 2013).

Considerably less attention has been paid to the fauna of Heteroptera in Slovakia than that of the Czech Republic. KMENT & BAŇAŘ (2010) excluded *Maccevetus corsicus corsicus* Signoret, 1862 (Rhopalidae) from the Slovak fauna due to a misidentification of *Maccevetus caucasicus* (Kolenati, 1845), while KMENT & BAŇAŘ (2012) corrected Slovak records of *Charagochilus weberi* Wagner, 1953 (Miridae) as belonging to misidentified *Ch. spiralifer*. KMENT & CUNEV (in press) submitted a manuscript to *Entomofauna Carpathica* in 2011 providing the first record of *Belonochilus numenius* from Slovakia; however, this has not yet been published. Not a single faunal inventory was published in Slovakia, with records of Heteroptera limited to incidental notes included in otherwise-focused papers (see BARTA 2008, 2009; KMENT & JINDRA 2008; KMENT *et al.* 2009a, b; KMENT & BAŇAŘ 2010; KMENT & VILÍMOVÁ 2010; KOLLÁR *et al.* 2009; VINOKUROV 2009; MANKO 2011; BALVÍN *et al.* 2012; KRIŠTOFÍK & DANKO 2012; MATOCQ & PLUOT-SIGWALT 2012; VOTÝPKA *et al.* 2012; KNYSHOV & KONSTANTINOV 2013; SADÍLEK *et al.* 2013; ZHAO *et al.* 2013). The most promising event in Slovak Heteroptera research is the current species inventory and ecological study of aquatic and semi-aquatic Heteroptera (KLEMENTOVÁ 2012), of which only preliminary records have been published to date, including first Slovak records of *Anisops sardeus* Herrich-Schaeffer, 1849, *Notonecta lutea* Müller, 1776, *Notonecta maculata* Fabricius, 1794 (Notonectidae), *Arctocoris carinata* C. R. Sahlberg, 1819, and *Sigara distincta* Fieber, 1848 (KLEMENTOVÁ *et al.* 2011, 2012a, b; KLEMENTOVÁ & SVITOK in press).

A number of additional changes to the faunal lists of the Czech Republic have resulted from recent progress in heteropteran taxonomy. These include reinstating *Maccevetus errans caucasicus* (Kolenati, 1845) (Rhopalidae) to species status (KMENT & BAŇAŘ 2010), synonymization of *Amblytylus macedonicus* Wagner, 1956 with *Megalocolus naso* (Reuter, 1879) (MATOCQ & PLUOT-SIGWALT 2012), reinstatement of

Plagiognathus (Plagiognathus) vitellinus (Scholz, 1847) to the resurrected genus *Parapsallus* Wagner, 1952, as *Parapsallus vitellinus* (Scholtz, 1847) (DUWAL *et al.* 2013), and synonymization of *Ventocoris (Ventocoris) trigonus* (Krynicky, 1871) with *V. (V.) rusticus* (Fabricius, 1781) (DURSUN & FENT 2013). The status of bat bugs of the *Cimex pipistrelli* species-group (i.e. *C. pipistrelli*, *C. dissimilis* (Horváth, 1910), and *C. stadleri* Horváth, 1935) in the western Palaearctic remains controversial, since neither morphometric nor DNA characters allow more than one taxon to be distinguished. BALVÍN *et al.* (2013) therefore suggested “treating *C. dissimilis* and *C. stadleri* as junior synonyms of *C. pipistrelli* until new evidence is available”. One additional change concerning our fauna, reinstating the subspecies *Graphosoma (Graphosoma) lineatum italicum* (O. F. Müller, 1766) (PÉRICART 2010), was not generally accepted (see e.g. AUKEMA *et al.* 2013).

Including the new records presented in this paper, the number of the recorded true bug species reaches 869 in the Czech Republic (762 in Bohemia and 810 in Moravia) and 850 in Slovakia. Findings of *Tupiocoris rhododendri* and *Tuponia macedonica* bring the number of alien species of Heteroptera established in the Czech Republic to 22 (see also KMENT 2006; HRADIL *et al.* 2008; KMENT & DOLEJŠOVÁ 2010; RABITSCH 2010a; HRADIL 2010, 2011).

Material and methods

The Czech Republic is here divided into Bohemia and Moravia, defined by their historical boundaries (see KMENT 2009). Codes from the Central European mapping grid (EHRENDORFER & HAMANN 1965) follow PRUNER & MÍKA (1996) and NOVÁK (1989). Our taxonomic system is after CASSIS & GROSS (1995, 2002) and the nomenclature follows AUKEMA & RIEGER (1995, 1996, 1999, 2001, 2006) and AUKEMA *et al.* (2013).

The following abbreviations are used throughout the text: bor. – northern, centr. – central, mer. – southern, occ. – western, or. – eastern; ditto – at the same locality; NM – Nature Monument, NNM – National Nature Monument, NNR – National Nature Reserve, NP – National Park, NR – Nature Reserve, PLA – Protected Landscape Area, SAC – Special Area of Conservation (defined in the European Union’s Habitats Directive 92/43/EEC); spec. – unsexed imago; L – larva; ap – apterous, ma – macropterous; YPT – yellow pan trap.

The material examined is deposited in the following collections:

BMFC	.....	Muzeum Beskyd [= Beskydy Museum], Frýdek-Místek, Czech Republic
JCNS	.....	Jozef Cunev collection, Nitra, Slovakia
JSBC	.....	Jan Sychra collection, Brno, Czech Republic
JVPC	.....	Jitka Vilímová collection, Praha, Czech Republic
KHMC	.....	Karel Hradil collection, Miletín, Czech Republic
MCHD	..	Muzeum Chodska [= Museum of Chodsko Region], Domažlice, Czech Republic
MHBC	.....	Michal Horsák collection, Brno, Czech Republic
MMBC	.....	Moravian Museum, Brno, Czech Republic
MMHC	.....	Marion Mantič collection, Hlučín, Czech Republic
MMLC	.....	Municipal Museum Mariánské Lázně, Czech Republic
MSHC	.....	Michal Straka collection, Hustopeče, Czech Republic

MVBC	.....	Martin Vašíček, Brno, Czech Republic
NMPC	.....	National Museum, Praha, Czech Republic
OBPC	.....	Ondřej Balvín collection, Praha, Czech Republic
OKZC	.....	Ondřej Konvička collection, Zlín, Czech Republic
OMOC	.....	Ostravské muzeum [Museum of Ostrava], Ostrava, Czech Republic
PKBC	.....	Petr Komzák collection, Brno, Czech Republic
TDCC	.....	Tomáš Ditrich collection, České Budějovice, Czech Republic
VHNC	.....	Václav Hanzlík, Neratovice, Czech Republic
VMPC	.....	Východočeské muzeum v Pardubicích [Museum of Eastern Bohemia in Pardubice], Pardubice, Czech Republic
VZPC	.....	Vladimír Zeman collection, Přešov, Czech Republic
ZJPC	.....	Zdeněk Jindra collection, Praha, Czech Republic

Results

DIPSOCORIDAE

Pachycoleus waltli Fieber, 1860

Material examined. Moravia centr.: Moravský kras PLA, Adamov env., under the Býčí skála NNR (49°18'25.258"N 16°41'37.042"E, 6666), alluvium along stream, sifting of wet moss covering dead branches with subsequent extraction using Winkler apparatus, 29.iii.2010, 3 ♂♂ 4 ♀♀ (one pair collected in copula), P. Baňář lgt. et det., D. Rédei revid. (MMBC).

Remarks. European species distributed from Ireland and Great Britain in the west to European Russia in the east, and from Sweden and Finland in the north to southern France and Bulgaria in the south (KERZHNER 1995, HEISS & PÉRICART 2007, AUKEMA *et al.* 2013). It lives in shaded habitats in permanently wet to very wet moss (*Sphagnum*, *Hypnum*, *Brachythecium*, *Cratoneurum*), i.e. in various types of swamp, spring fen and wet meadow, seepages in forests, as well as on the shores of bodies of water and along small brooks and drains in more open situations; the specimens stay often fully submerged (AUKEMA *et al.* 2002, WACHMANN *et al.* 2006, HEISS & PÉRICART 2007). In the Czech Republic, the species was previously known only from the Sphagneto-Callunetum at Trstěnice (6042) in north-western Bohemia (ROUBAL 1957a, as *P. rufescens*). New species for Moravia.

CORIXIDAE

Arctocoris germari germari (Fieber, 1848)

(Fig. 10)

Material examined. Bohemia bor.: Lomnice nad Popelkou (5458), v.1953, 1 ♂ 1 ♀, J. Roubal lgt. et det., P. Kment revid. (NMPC). **Bohemia occ.:** Přebuz (5641), 4.viii.1980, 1 ♂, J. Pávek lgt., P. Kment det. (MMLC); according to the collector of the specimen, the precise locality may well be the Rolavský rybník (or Lieche) pond north of Přebuz (910 m a.s.l.) (J. Pávek, pers. comm. to L. Dvořák).

Remarks. Euro-Siberian species, with the nominotypical subspecies distributed from Ireland and Norway to East Siberia; the other subspecies, *A. g. mongolica* Kanyukova, 2003, is endemic to Mongolia (JANSSON 1995, KANYUKOVA 2003, AUKEMA *et al.* 2013). *Arctocoris germari* is a pelagic species inhabiting large oligotrophic waters, including those affected by acidification or slightly brackish ones, preferring deep waters with little

or no vegetation and sandy bottom, especially lakes, dune lakes, fens, sand holes and sand pits (e.g. HENRIKSON & OSCARSON 1981, 1985; SAVAGE 1989; AUKEMA *et al.* 2002; WACHMANN *et al.* 2006). In Lusatia, the species was found in the lakes that form in open-pit coal mines, in the littoral and pelagic zones where the pH of the water was 2.2–3.8 and there were high concentrations of Fe and Al cations (WOLLMANN 1998, 2000). In the Czech Republic, the species is known from only four localities in Bohemia: TEYROVSKÝ (1930) collected two females in April 1928 in a reservoir several metres deep in a quarry near Babice (5954). In mid-May, 1953 ROUBAL (1957b) discovered a large population (40 ♂♂ 20 ♀♀) overwintering in a swimming pool in Lomnice nad Popelkou (5458), and he also reported a finding of 3 specimens in the Souš reservoir (51–5257) in the Jizerské hory Mts. Finally ŠTYS (1976) recorded a single female from the Fláje reservoir in the Krušné hory Mts. (5347), extracted from the stomach contents of an American brook trout (*Salvelinus fontinalis* (Mitchill, 1814)), together with two females of *Arctocorisa carinata carinata* (C. Sahlberg, 1819). Here we provide one additional record and confirm Roubal's identification based on examination of male genitalia and strigil. However, recent extensive sampling of aquatic bugs in the environs of Přebuz has not confirmed the occurrence of *A. germari* (see. SYCHRA & KMENT 2009, MALENOVSKÝ *et al.* in press).

***Sigara iactans* Jansson, 1983**

Material examined. Bohemia bor.: Děčín – Podskalí, Severní tůň pool (50°48'59"N 14°13'26"E, 5151), 14.ix.2011, 2 ♂♂, M. Straka lgt. et det., P. Kment revid. (MSHC, NMPC). **Moravia bor.:** Pustějov, Pustějovský potok brook (49°42'02.22"N 18°03'47.50"E; 6374), 24.vii.2002, 1 ♂, 22.ix.2002, 1 ♂, K. Petřivalská, P. Kment det. (NMPC); Pustějovský potok brook (49°41'17.45"N 18°01'25.26"E; 6374), 28.x.2002, 2 ♂♂, K. Petřivalská, P. Kment det. (NMPC).

Remarks. Ponto-Mediterranean species (distributed in Bulgaria, Greece, Macedonia, Romania, Russia (South European Territory), Turkey (both European and Asian), and Ukraine), established and spreading in north-western Europe (Belgium, Denmark, Czech Republic, England, France, Germany, the Netherlands, Poland, Sweden) (JANSSON 1995, AUKEMA *et al.* 2013). WACHMANN *et al.* (2006) noted *S. iactans* from nutrient-poor, sparsely vegetated waters, partially with low pH; also as a pioneer species in newly-created reservoirs. In the Netherlands, most waters where *S. iactans* is found have little submerged vegetation and the acidity (pH) is generally alkaline (>7), the species avoids acid waters; inhabited waters are always permanent and usually quite large (eutrophic watercourses, mesotrophic sandpits); slow current is tolerated, but the species was only infrequently found in brooks. Strikingly often it is found in fresh and slightly brackish dune lakes on the West Frisian Islands and the species also occurs in "boezem" waters (= system of reservoirs of superfluous polder-water), but peat areas are not inhabited (CUPPEN 1988, AUKEMA *et al.* 2002). It has been collected in sandpits in England (NAU & BROOKE 2006), and in northern France in a pond with littoral vegetation (ELDER & CHÉRAU 2003). In the Czech Republic, it was previously recorded only from Poodří PLA (6274–75) in northern Moravia, collected in eutrophic ponds with littoral vegetation and

an oxbow lake (BRYJA & KMENT 2001). KMENT & SMÉKAL (2002) later provided additional records from Poodří PLA (the specimens from River Odra appear to have originated from a pond discharged few days ago) and one male from Slezské Pavlovice (Velký Pavlovický rybník Pond, 5672), also in northern Moravia. New species for Bohemia.

NOTONECTIDAE

Notonecta (Notonecta) reuteri reuteri Hungerford, 1928

Material examined. Moravia bor.: Rejvíz, Rejvíz NNR (50°13'11.6"N 17°17'12.7"E, 5769), peat-bog, Velké mechové jezírko Pool, 768 m a.s.l., 15.viii.2011, 2 ♂♂ 1 ♀, P. Kment & J. Sychra lgt. et det. (JSBC, NMPC).

Remarks. Euro-Siberian boreo-montane species with the nominotypical subspecies distributed from Ireland and Norway to Japan; *N. r. ribauti* Poisson, 1935 is confined to the Western Alps (POLHEMUS 1995). In the Czech Republic, the species is classified as endangered (KMENT & VILÍMOVÁ 2006). It usually lives in more or less oligotrophic fens on sandy soils, preferring complex habitats with abundant plants and dead plant matter; tyrophilous with strong preference to peat bogs (SVENSSON *et al.* 2000, AUKEMA *et al.* 2002, WACHMANN *et al.* 2006). In the Czech Republic known largely from peat-bogs and vegetated dystrophic ponds in Bohemia (Soos NNR, Šumava NP, Novohradské hory Mts., Třeboňsko PLA, and Českomoravská vysočina Highlands (e.g. ŠTYS 1960, 1961; PAPÁČEK 1991, 2002, 2004; KMENT & SMÉKAL 2002; SOLDÁN *et al.* 2012). However, in Moravia the species is known from only a single locality, the Velké mechové jezírko Pool in the Rejvíz NNR (TEYROVSKÝ 1950, STEHLÍK 1952, ŠTYS 1960). ŠTYS (1960) collected it there in 1955, together with the morphologically very similar *N. lutea*. KMENT & SMÉKAL (2002) recorded only *N. lutea* in the Velké mechové jezírko Pool. Here we confirm the occurrence of *N. reuteri* in Rejvíz after an interval of 57 years.

VELIIDAE

Microvelia (Microvelia) buenoi Drake, 1920

(Figs 1, 11–14)

Material examined. Bohemia centr.: Kokořín, Kokořínský důl NR, Kačírek pond (50°25'54.8"N 14°34'55.8"E, 5553), 24.viii.2009, 2 ♂♂ (ma) 2 ♂♂ (ap), P. Kment & J. Sychra lgt. et det. (JSBC); Chudíř, travertine spring fen above Olšový rybník pond (50°18'06.1"N 15°01'04.1"E, 5656), NE of Nový rybník pond, 235 m a.s.l., 21.viii.2012, 1 ♂ (ap), P. Kment & J. Sychra lgt. et det. (JSBC); Lysá nad Labem, Hrabanovská černava NNR (50°12'49.7"N 14°49'38.1"E, 5754), shaded pool in SW corner of the reserve, 23.viii.2012, 1 ♂ (ma) 11 ♂♂ (ap) 1 ♀ (ma) 9 ♀♀ (ap), P. Kment & J. Sychra lgt., P. Kment det. (NMPC); Přelouč, Labišťata, vegetated pools (50°2'37"N 15°32'24"E, 5959), 27.iv.2012, 1 ♂ (ap), M. Straka lgt. et det. (MSHC); Přelouč, Střídeň, pool at road (50°2'47"N 15°34'34"E, 5959), 13.iv.2012, 1 ♂ (ap), M. Straka lgt. et det. (MSHC). **Bohemia mer.:** Horusice, Ruda NNR (49°09'03.9"N 14°41'27.7"E, 6854), 13.ix.2010, 1 ♀ (ap), P. Kment lgt. et det. (NMPC); Lužnice, Velký a Malý Tisý NNR, between Velký and Malý Dubovec ponds (49°03'58.4"N 14°43'22.0"E, 6954), shaded pool in *Alnetum*, 425 m a.s.l., 14.ix.2010, 1 ♂ (ma) 13 ♂♂ 3 ♀♀ (ap), P. Kment & J. Sychra lgt. et det. (JSBC, NMPC); Bukovec, Jizba pond (48°52'45.99"N 14°26'21.37"E, 7152), a single cove shaded by *Alnetum*, v.–ix.2011, 13 ♂♂ 16 ♀♀ (ap), v.–x.2012, 8 ♂♂ 10 ♀♀ (ap), 18.vi.2013, 2 ♂♂ 3 ♀♀ (ap), T. Ditrich lgt. et det. (TDCC). **Moravia occ.:** Ptáčov, Starý Ptáčovský rybník pond, littoral growth in NE part of the pond (49°13'39.25"N 15°55'20.01"E, 6761), 1.v.2011, 1 ♂ (ap), J. Sychra lgt. et det. (JSBC). **Moravia mer.:** Bojanovice, U Huberta SAC, abandoned fish-pond (48°57'11"N 16°00'00"E, 7061–62),

19.viii.2009, 1 ♀ (ap), M. Straka lgt. et det., P. Kment revid. (MSHC); Ivaň, Betlém NR, pools (48°54'25"N 16°35'26"E, 7065) 25.v.2010, 1 ♂ (ap), M. Straka lgt. et det. (MSHC); Lednice, Pastvisko NNR, northern part (N 49°44'49.11"N 12°24'45.28"E, 7166), 26.iv.2003, 1 ♂ (ma), M. Horsák lgt., P. Kment det. (NMPC); Hrabětice, Travní Dvůr SAC, reed pool (48°47'14"N 16°25'43"E, 7264), 30.iv.2009, 1 ♂ (ma) 2 ♂♂ (ap) 1 ♀ (ap), M. Straka lgt. et det. (MSHC); Hrabětice, Travní dvůr SAC (48°47'19.8"N 16°25'41.0"E, 7264), wetland meadows, shaded ox-bow lake in a forest, 14.v.2011, 1 ♂ (ap), M. Horsák & P. Kment lgt., P. Kment det. (NMPC).

Remarks. Holarctic species distributed from Great Britain to Central Asia and the Russian Far East, also in Canada and the USA (SMITH 1988, ANDERSEN 1995, AUKEMA *et al.* 2013). Minute species with two generations per year, overwintering as an adult; the majority of the specimens are apterous, with macropterous specimens occurring only rarely (WRÓBLEWSKI 1980). It is bound to quiet, shaded, exclusively standing waters, living in the littoral zones of lakes detached by stands of rushes and shaded by trees, in natural peaty waters (pools in peat-bogs), pools left by peat extraction, and small reservoirs in forests (especially within stands of alder). It is predatory, feeding mainly on collembolans (WRÓBLEWSKI 1980, WACHMANN *et al.* 2006). One exceptional find occurred on a shaded bank of the Podstola river in Poland, among grasses and leaf-litter (KRAJEWSKI 1969). KURZAŃKOWSKA (1999) classified it as a grade II tyrophilous species, inhabiting various dystrophic, polyhumic waters, often in forests. It is characterized in similar fashion by SAVAGE (1989) for the British Isles: rare, distributed in lakes, ponds and pools with a high content of organic matter in the bottom substrate, pH > 6 and conductivity 100–1000 µS/cm, at altitudes below 300 m. In Poland the species is considered widespread but rare (WRÓBLEWSKI 1980). In the Netherlands, AUKEMA *et al.* (2002) described the ecology of the species as follows: *Microvelia buenoi* occurs along the margins and shores of canals, ditches, fens and pools, where it can be especially abundant between emergent macrophytes and overhanging branches of shrubs and trees. On places without such vegetation, the species does not occur or is found only sporadically and in low numbers. It prefers a better water quality than *M. reticulata* (Burmesiter, 1835). In peat-moor areas it prefers a higher acidity than the latter and in the river area it prefers relatively natural habitats as ditches with *Carex* vegetation and original swamps. In cultivated landscape it is very rare (AUKEMA *et al.* 2002).

Our recently-discovered localities are appropriate to these descriptions, including pools in alder stands and floodplain forests, small pools in peat-bogs and the shaded coves of ponds; the most interesting finding comes from a travertine spring fen, suggesting the species is not bound exclusively to low pH. In some localities *M. buenoi* occurred together with the common *M. reticulata* (e.g. Horusice, Ruda NNR; Chudíř, travertine spring fen; Lysá nad Labem, Hrabanovská černava NNR; Bukovec, Jizba Pond, where *M. buenoi* regularly constituted 5–30 % of *Microvelia* population in one shaded cove). At the Travní Dvůr SAC locality we discovered *M. buenoi*, *M. pygmaea* and *M. reticulata* within one area of floodplain forests and meadows, although we cannot confirm their occurrence in the same microhabitat. *Microvelia buenoi* is classified as “endangered” in the Red List of Czech Heteroptera (KMENT & VILÍMOVÁ 2006). In the Czech Republic, the species was listed from Bohemia by HOBERLANDT (1977a, as *M. umbricola* Wróblewski, without any exact locality. ŠTUSÁK (1980) considered the

occurrence of the species in Czechoslovakia as unconfirmed. KMENT (1999) published first records for it from the Pálava PLA in southern Moravia (Přítluky, Had, 7166; Mikulov, Nový rybník NR, 7266) (see also KMENT & SMÉKAL 2002). The first exact records for Bohemia were provided by KMENT & SMÉKAL (2002) and BRYJA & KMENT (2006a) in Kokořínsko PLA (four localities in Kokořínský důl NR, 5553). Here we provide additional localities from both Bohemia and Moravia.

***Microvelia (Picaultia) pygmaea* (Dufour, 1833)**

(Figs 1, 15–17)

Material examined. Moravia mer.: Ivaň, Nové Mlýny – Střední nádrž dam (48°54'34"N 16°36'12"E, 7065), 27.iv.2010, 1 ♀ (ap), M. Straka lgt. et det. (NMPC); Hrabětice, Travní Dvůr SAC, slowly running canal (48°46'43"N 16°26'9"E, 7264), 12.vi.2009, 1 ♀ (ma), M. Straka lgt. et det. (MSHC); Úvaly, Úvalský rybník pond (48°44'45,6"N 16°42'42,4"E, 7266), 12.ix.2009, 1 ♂ (ap), J. Sychra lgt. et det., P. Kment revid. (JSBC). **Slovakia occ.:** Most pri Bratislave, Zelená voda gravel pit (48°9.234'N 17°15.083'E, 7869), recently abandoned gravel pit with sunlit shores, mineral bottom substrate and only sparse vegetation and detritus, 5.v.2011, 1 ♂ 3 ♀♀ (ap), M. Straka lgt. et det. (MSHC).

Remarks. Holomediterranean–Central Asiatic species distributed from Great Britain and Morocco in the west to Kyrgyzstan and Tajikistan in the east, reaching as far north as the Netherlands, Germany, Austria, and Hungary (ANDERSEN 1995, HOFFMANN & MELBER 2003, AUKEMA *et al.* 2013). *Microvelia pygmaea* is a rare although quite widely-distributed species in the Pannonian lowland in Hungary (BENEDEK 1970; KONDOROSY *et al.* 1996; KONDOROSY & FÖLDESSY 1998; JUHÁSZ *et al.* 1999; KONDOROSY 2000, 2001, 2011; BAKONYI *et al.* 2002; BODA *et al.* 2004, 2012; VÁSÁRHELYI & BAKONYI 2005; VÁSÁRHELYI *et al.* 2005, 2007; BODA 2006; NOSEK *et al.* 2007; SOÓS *et al.* 2009; KÁLMÁN *et al.* 2011; MÓRA *et al.* 2011) and Romania (DAVIDEANU 1999). The only verified record of this species in Austria is from historical material collected in Vorarlberg (close to the Swiss border) in the 1920s (RABITSCH 1999a). WACHMANN *et al.* (2006) characterized its habitat as sheltered, vegetation-rich standing waters with reed belts along the shore; they reported it from oxbow lakes surrounded with trees, as well as from swamps and ditches in meadows. In Hungary, BAKONYI *et al.* (2002) collected the species in a ditch by the road, and BODA *et al.* (2004) in stands of *Carex* in a marsh. In the British Isles, the species is limited to southern England and altitudes <300 m; SAVAGE (1989) summarized its ecological requirements as standing waters (more frequently lakes than pools and ponds), its frequency growing with increasing plant cover and content of organic matter in the bottom substrate, conductivity <1000 µS/cm. In the Netherlands, *M. pygmaea* occurs along the margins of eutrophic canals, canalized brooks and pools, being especially numerous close to the shores between emergent macrophytes and overhanging branches of shrubs and trees. After disturbance they move to open water. The species is only rarely found along shores without vegetation or with only a small strip of emergent vegetation, and if so, only in low numbers. It is only occasionally found in acid, running or temporary waters (AUKEMA *et al.* 2002). There are far fewer macropterous specimens than apterous within a given population (WACHMANN *et al.* 2006). For identification of *Microvelia pygmaea* and the two remaining European *Microvelia* species, see SAVAGE (1989) and KANYUKOVA (2006). New species for the Czech Republic and Slovakia.

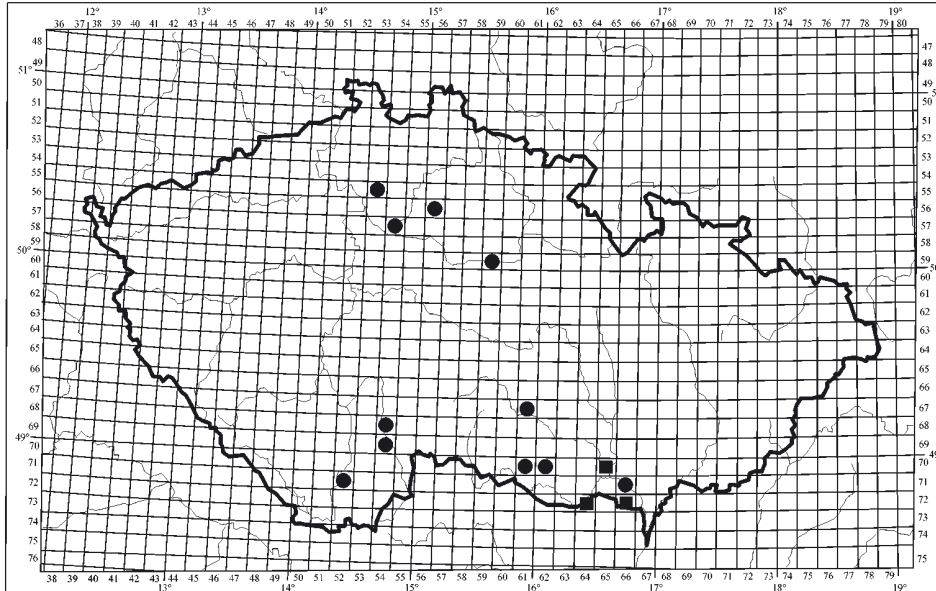


Fig. 1. Distribution of *Microvelia buenoi* Drake, 1920 and *M. pygmaea* (Dufour, 1833) in the Czech Republic.
 ● – occurrence of *M. buenoi* only, ■ – occurrence of both *M. buenoi* and *M. pygmaea*.

SALDIDAE

Salda henschi (Reuter, 1891)

(Figs 2, 18)

Material examined. Moravia bor.: Rejvíz, Rejvíz NNR (50°13'11.6"N 17°17'12.7"E, 5769), 21.iv.1993, 1 spec., I. Malenovský lgt., P. Kment det. (NMPC); ditto, Velké mechové jezírko, in wet *Sphagnum* at shores of the pool, 768 m a.s.l., 15.viii.2011, 2 ♂♂, P. Kment, V. Sýrovátka & J. Sychra lgt. et det. (NMPC).

Remarks. European boreo-montane species known from southern Sweden, Hogland Island in the Gulf of Finland (North European Territory of Russia), the Alps and other mountains of central Europe (Austria, Czech Republic, Germany, Liechtenstein, Poland, Slovakia, and Switzerland) (HOBERLANDT 1977b; LINDSKOG 1991, 1995). It usually lives in very wet *Sphagnum* growths in raised bogs (LINDSKOG 1991, WACHMANN *et al.* 2006). In the Vysoké Tatry Mts. [= High Tatras] (Slovakia), it was also collected on the clayey bank of a small mountain brook in a coniferous zone (HOBERLANDT 1977b). The species is classified as endangered in the Czech Republic (KMENT & VILÍMOVÁ 2006). In Bohemia, it was recorded from the Šumava Mts. (Polečnice, 7150), the Orlické hory Mts. (Jelení lázeň NR at Šerlich, 5664) and the Krušné hory Mts. (Boží Dar, 5543) (HOBERLANDT 1977b). In Moravia, the species is known only from the Velké mechové jezírko Pool near Rejvíz (Jeseníky Mts.), with published records for 1946–1964 (STEHLÍK

Records of true bugs from Czech Republic and Slovakia V

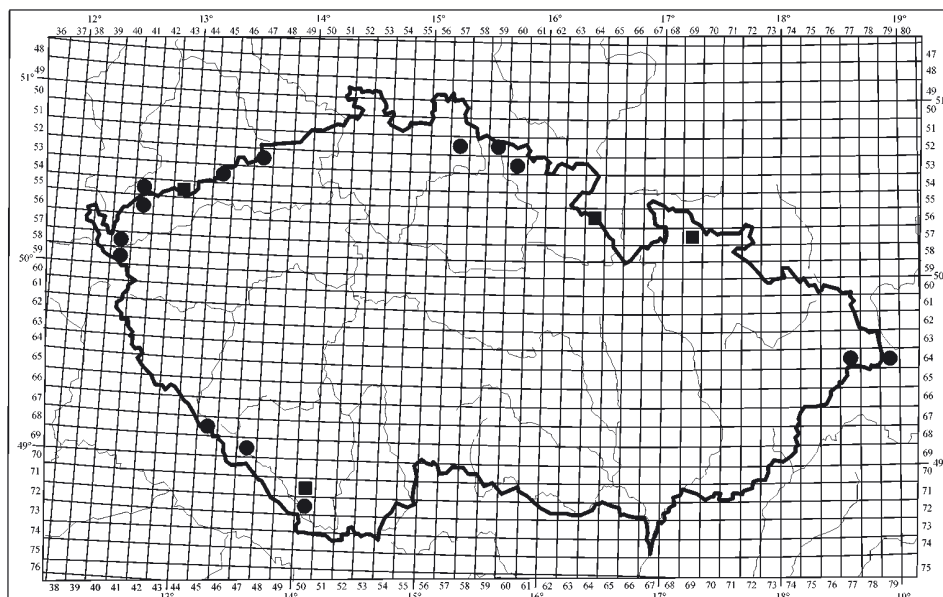


Fig. 2. Distribution of *Salda muelleri* (Gmelin, 1790) (●) and *S. henschi* (Reuter, 1891) (■) in the Czech Republic.

1952, HOBERLANDT 1977b). Here we confirm the occurrence of the species in the Jeseníky Mts.

Salda muelleri (Gmelin, 1790)

(Fig. 2)

Material examined. Bohemia bor.: Hrabětice, Tichá říčka NR (5257), 750 m a.s.l., 30.vii.–29.viii.2004, YPT, 1 ♂ 1 ♀, J. Preisler & P. Vonička lgt., K. Hradil lgt. et det. (KHMC); Jizerské hory Mts. (no details), 8.–15.viii.1981, 1 ♂, P. Bílek lgt., Z. Jindra det. (ZJPC); Jizerské hory Mts., Horní Maxov, Malá Strana NR (5257), 20.vi.2009, 1 ♀, K. Hradil lgt. et det. (KHMC); Krkonoše Mts., Špindlerovka (5259), 26.vii.2000, 1 ♂, K. Hradil lgt. et det. (KHMC); Fláje env. (5347), 13.vi.1999, 4 ♂♂, J. Vilímová lgt., P. Kment det. (NMPC); Hora Svatého Šebestiána env. (5445), 18.x.1983, pitfall trap, 1 ♀, K. Absolon lgt., P. Kment det. (NMPC). **Bohemia occ.:** Přebuz, Rotava river (5641), 12.vii.1990, 2 ♀♀, V. Šilha lgt., Z. Jindra det. (ZJPC); Kateřina, NPR Soos (5840), NPR Soos (5840), 8.vi.1975, 1 ♀, 23.vi.1978, 2 ♀♀, J. Strejček lgt., Z. Jindra det. (ZJPC); ditto, 11.–12.vii.1989, 2 ♀♀, J. Vilímová lgt., P. Kment det. (NMPC). **Bohemia mer.:** Černá v Pošumaví, Slavkovice env. (7250), 23.vi.1986, 1 ♂ 1 ♀, Z. Jindra lgt. et det. (ZJPC). **Moravia bor. or:** Bukovec, Bukovec NR (49°32'57.27.5"N 18°51'31.6"E, 6479), 500 m a.s.l., 29.v.–19.vi.2013, pitfall trap in the most swampy part of the mire meadow (*Calthion* without *Sphagnum* spp. tufts), 3 larvae; ditto, 19.vi.–30.vii.2013, 4 ♀♀, together with numerous specimens of *Chartoscirta cocksi*, M. Roháčová lgt. et det. (BMFC).

Remarks. Euro-Siberian, boreo-montane species distributed from Ireland and France to the Far East of Russia (LINDSKOG 1995, AUKEMA *et al.* 2013). In the Czech Republic, the

species is confined to peat-bogs, where it lives in wet tufts of *Sphagnum* spp. (HOBERLANDT 1977b), but in the Soos NNR it was also found in a salt marsh on bare soil under rushes (ROUBAL 1957b, ŠTYS 1961). In other parts of its area of distribution it also occurs in salt marshes along sea coasts (AUKEMA *et al.* 2002, WACHMANN *et al.* 2006). In the Czech Republic, it was previously known from only a few localities in Bohemia: Wies (= Stráž u Chebu, village abandoned after World War II; 5940) (DALLA TORRE 1877, as *S. flavipes*), Soos NNR (ROUBAL 1957a, ŠTYS 1961, HOBERLANDT 1977b), Krkonoše Mts. (former Liščí bouda cottage in Liščí louka Meadow, 5360) (ROUBAL 1959), the Šumava Mts. (Jezerní slat' raised bog, 6947; Železná Ruda, 6845) (BOZDĚCHOVÁ 1973, HOBERLANDT 1977b), and the Krušné hory Mts. (Slatinný potok Brook, 5541; Chaloupky, 5641; Myší kout, 5641) (MALENOVSKÝ *et al.* in press). In Moravia, it was previously known from only a single locality – Obidová NM (6477) in the Moravskoslezské Beskydy Mts. (ROHÁČOVÁ 2011). Here we provide additional localities for this endangered species (cf. KMENT & VILÍMOVÁ 2006).

TINGIDAE

Agramma (Agramma) atricapillum (Spinola, 1837)

(Fig. 19)

Material examined. Moravia mer.: Hrabětice, Travní dvůr SAC (48°47'19.8"N 16°25'41.0"E, 7264), wetland meadows, on *Bolboschaenus maritimus*, 14.v.2011, 10 ♂♂ 46 ♀♀, M. Horsák & P. Kment lgt., P. Kment det. (9 ♂♂ 42 ♀♀ in NMPC, 1 ♂ 4 ♀♀ in MMBC, 1 ♂ 7 ♀♀ in KHMC). **Slovakia mer.:** Hajnáčka, Velká dolina valley (7785–86), 20.v.2007, 1 ♀, J. Ch. Vávra lgt., P. Kment det. (OMOC); Pataš, Čiližské močiare SAC (47°52'26.5"N 17°40'15.1"E, 8172), reed swamp near Čiližský potok brook, 12.v.2012, 1 ♀, P. Kment lgt. et det. (NMPC).

Remarks. Holomediterranean species, extending to central Asia, known in central Europe from only the Pannonian lowlands (PÉRICART & GOLUB 1996, AUKEMA *et al.* 2013). *Agramma atricapillum* occurs in humid habitats, both saline and non-saline. It develops on various plants of the families Juncaceae, Cyperaceae and Typhaceae (*Juncus*, *Scirpus*, *Bolboschoenus*, *Carex*, *Schoenoplectus*, *Typha*) (PÉRICART 1983, WACHMANN *et al.* 2006). In Slovakia, it was first recorded from Močenok (7773) and Gemerské Dechtáre (7786) by KMENT *et al.* (2003). In the Czech Republic, the species was previously known from only two specimens collected in a saline meadow near Vrbovec (7162) in southernmost Moravia (BALVÍN 2007). Both Moravian records are also in close proximity to the only two known localities in Lower Austria, which are Zwingendorf (RABITSCH 1999b) and Laa an der Thaya (W. Rabitsch, pers. comm.). Here we provide additional records for Moravia and Slovakia.

MIRIDAE

Conostethus hungaricus Wagner, 1941

Material examined. Slovakia mer.: Kamenín (8177), 30.v.1953, 24 ♂♂ 34 ♀♀, Exc. M. N. Pragae lgt., P. Kment det. (NMPC); ditto, 6.vi.1960, 16 ♂♂ 18 ♀♀, Exc. M. N. Pragae lgt., L. Hoberlandt 1960 det. as *C. salinus*, P. Kment revid. (NMPC); Veľké Kosihy, Mostová NR (= Derhidia) (8273), salt meadow, collected walking on the soil surface among sparse halophilous vegetation, 11.v.2012, 1 ♂ 3 ♀♀, P. Kment lgt. et det.

(NMPC); Čenkov (8277), 7.vi.1960, 1 ♂, Exc. M. N. Pragae lgt., L. Hoberlandt 1960 det. as *C. salinus*, P. Kment revid. (NMPC).

Remarks. Ponto-Mediterranean–Central Asiatic species distributed in the steppe zone from Austria to East Siberia, Mongolia and Uzbekistan (KERZHNER & JOSIFOV 1999, AUKEMA *et al.* 2013). *Conostethus hungaricus* is an inhabitant of salt marshes; WAGNER (1965) gave *Lepidium crassifolium* (Brassicaceae) as the host plant, but other authors suggest it probably lives on Poaceae as well (e.g. *Agrostis stolonifera* ssp. *maritima*, *Puccinellia limosa*) (see WAGNER 1941, MELBER *et al.* 1991, WACHMANN *et al.* 2004). In Slovakia, it has been previously recorded only from Čenkov (8277) (STEHLÍK & ŠTEPANOVIČOVÁ 1961). Another species, *Conostethus griseus* Douglas et Scott, 1870, was recorded under its junior synonym *C. salinus* J. Sahlberg, 1870, from Kamenín (salt marsh, 6.vi.1960) (STEHLÍK 1961, HOBERLANDT 1963) and Čenkov (sands, 7.vi.1960) (HOBERLANDT 1963). According to the identification characters given by WAGNER (1952), particularly body length not exceeding 3.8 mm, all the Slovak specimens belong to the single species *C. hungaricus*. Further, it is possible that both *C. griseus* and *C. hungaricus* are just synonyms (see MATOCQ 1991). ŠTEPANOVIČOVÁ & BIANCHI (2001) included *C. hungaricus* in the Red List of Slovak Heteroptera as an endangered species. Here we present a recent record of *C. hungaricus* from Slovakia, while *C. griseus* is excluded from the list of the Slovak fauna.

Harpocera hellenica Reuter, 1876

(Fig. 21)

Material examined. Moravia mer.: Mohelno, Mohelenská hadcová step NNR (N 49°06'31.53" E 16°11'12.99", 6863), 11.v.2013, 2 ♀♀, M. Horsák, P. Kment & Biotým lgt. (NMPC).

Remarks. Ponto-Mediterranean species recorded from Albania, Bulgaria, Greece, Asian Turkey, Israel and Jordan (KERZHNER & JOSIFOV 1999, CARAPEZZA 2002, AUKEMA *et al.* 2013), recently found extending into the Pannonian lowland (Czech Republic, Austria, possibly also Slovakia) (KMENT *et al.* 2005, RABITSCH 2010b). A zoophytophagous species living on oaks (*Quercus* spp.). It overwinters in the egg stage and adults appear for only a short period in May (JOSIFOV 1978, KMENT *et al.* 2005, RABITSCH 2010b). In the Czech Republic, it was first recorded on the basis of two females collected on Děvín Hill (7065) on May 9, 2003. It was later found in Malaise trap samples from Machová NR near Javorník (7171c) (8.–28.v.2007) and Hryzlácké Mlýny near Nová Lhota (7171b) (7.iv.–12.v.2009) in the Bílé Karpaty Protected Landscape Area, and by pyrethroid spraying of apple trees in orchards at Velké Bílovice (7167) (11.v.2011) in southern Moravia. Here we present additional Moravian record from a well-sampled locality further west and north, suggesting a possible recent spread of the species within the Pannonian lowland.

Heterocordylus (Heterocordylus) cytisi Josifov, 1958

(Figs 3–7)

Material examined. Moravia occ.: Třebíč (6761), no date, 1 ♂ 2 ♀♀, J. L. Stehlík lgt., P. Kment det. (MMBC); Studenec (6762), 5.vii.1942, 2 ♂♂, J. L. Stehlík lgt., P. Kment det. (MMBC); Březník, valley of

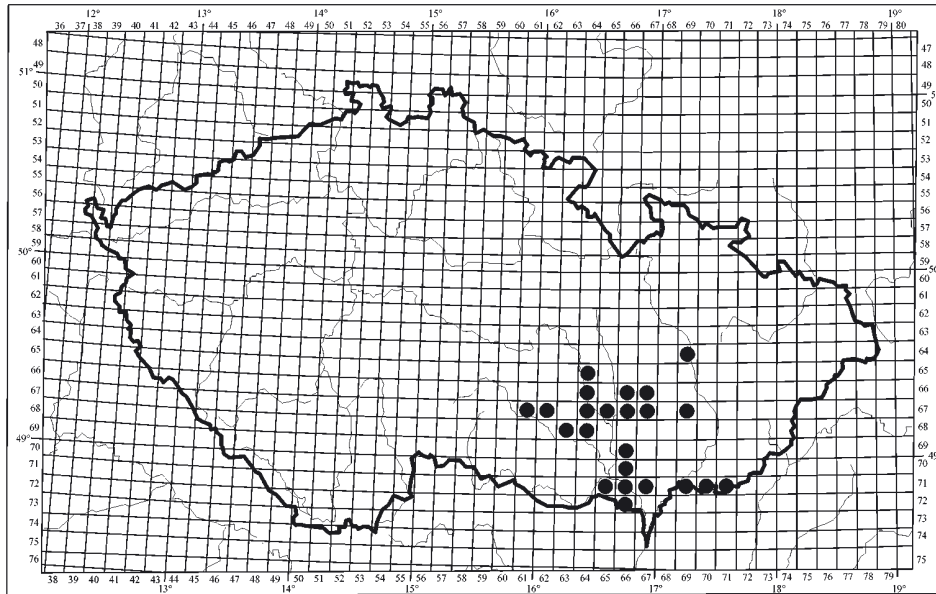


Fig. 3. Distribution of *Heterocordylus cytisi* Josifov, 1958 in the Czech Republic.

Chvojnice river (6863), 28.vi.1942, 1 ♂, J. L. Stehlík lgt., P. Kment det. (MMBC); Mohelno, Mohelenská hadcová step NNR (6863), rocky steppe on serpentinite, western corner of the reserve, 350–400 m a.s.l., 20.vi.1975, 1 ♀, J. L. Stehlík lgt. (MMBC); Senorady (6863), v.1943, 1 ♀, Matoušek lgt., P. Kment det. (MMBC). **Moravia centr.:** Žerůvky, Baba hill (ca. 4 km N of Olšany) [= Na skále NNM] (6469), secondary steppe on loess loam, 240–260 m a.s.l., 6.vii.1963, 1 ♀, P. Lauterer lgt., P. Kment det. (MMBC); Kozárov (6564), meadows and forest undergrowth between Rašov and Kozárov, 600–630 m a.s.l., 3.vii.1970, 2 ♂♂ 1 ♀, L. Pospíšilová lgt. (MMBC); Zdounky, Divoky (6769), xerothermic vegetation (*Inuletum ensifoliae*), 10.vii.1963, 1 ♂, L. Pospíšilová lgt. (MMBC); Jedovnice, Rakovecké údolí valley (6666–67, 6766–67), meadow in forest, 11.vii.1969, 1 ♂, J. L. Stehlík lgt. (MMBC). **Moravia mer.:** Říčany, slopes above mill (6764), steppe, 26.vi.1963, 1 ♂ 1 ♀, L. Pospíšilová lgt. (MMBC); Brno – Medlánky, Medlánecká skalka NM (49°14'29"N 16°34'03"E, 6765c), 275–300 m a.s.l., 26.v.2012, 1 ♂ 1 ♀, I. Malenovský lgt. (NMPC); Kývalka, 1.5 km W towards Omice (6864), forest margins on granodiorite, 380 m a.s.l., 1.vi.1964, 2 ♂♂ (newly hatched), P. Lauterer lgt. (MMBC); Kurdějov, Nová hora hill (6966), steppe on loess, 300–350 m a.s.l., 8.vii.1971, 1 ♀, J. L. Stehlík lgt., P. Kment det. (MMBC); Vranov nad Dyjí, along road to Lančov, ca. 1 km W of the village (7060), forest margins and mesic to xerothermic meadows on schist, 400–415 m a.s.l., 28.vi.1976, 1 ♂ 1 ♀, J. L. Stehlík lgt., P. Kment det. (MMBC); Klentnice, Kotelná [= Kotel hill]–Klausen [= Soutěska] (7165), S margin of forest E of Kotelná hill, 350–370 m a.s.l., 10.vi.1964, 2 ♂♂ 3 ♀♀, P. Lauterer lgt., P. Kment det. (MMBC); Klentnice, Tabulová hora hill (7165), 25.v.1959, 2 ♂♂, J. L. Stehlík lgt., P. Kment det. (MMBC); Perná (towards Horní Věstonice), SW–W slope of Kotelná hill NE of Perná (7165), steppe on limestone, 330–400 m a.s.l., 20.v.1982, 1 ♀, J. L. Stehlík lgt. (MMBC); Pavlov (7165–66), ruderal vegetation among fields and vineyards, on limestone, 270 m a.s.l., 4.vii.1974, 2 ♂♂ 2 ♀♀, J. L. Stehlík lgt., P. Kment det. (MMBC); Hlohovec, Stará hora hill [Kamenice u Hlohovce NM] (7266), steppe on sandy limestone, 214 m a.s.l., 25.v.1971, 1 ♂ 1 ♀, J. L. Stehlík lgt., P. Kment det. (MMBC); Valtice (7266), 15.vi.1963, 1 ♂ 1 ♀, V. Krejčí lgt. (MMBC). **Slovakia bor.:** Hornádská kotlina valley, Spišské Podhradie, Dreveník hill (7090), steppe and

Records of true bugs from Czech Republic and Slovakia V

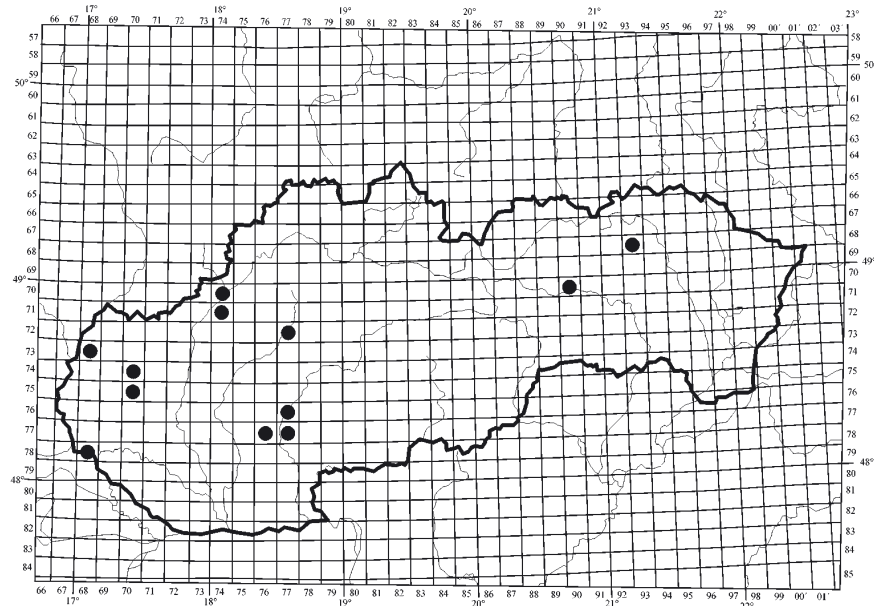


Fig. 4. Distribution of *Heterocordylus cytisi* Josifov, 1958 in Slovakia.

pasture vegetation on limestone, 600 m a.s.l., 11.vi.1971, 1 ♀, J. L. Stehlik lgt. (MMBC). **Slovakia occ.:** Trenčín (70–7174), no date, 1 ♂ 2 ♀♀, Čepelák lgt. (NMPC); Šaštín, Č.[= Červený] rybník NNR (7368), 29.v.1950, 2 ♀♀, J. L. Stehlik lgt. (MMBC); Malé Karpaty Mts., Smolenice (74–7570), 2.vii.1962, 1 ♂, V. Krejčí lgt. (MMBC); Bratislava (7868), no date, 2 ♂♂, no collector (NMPC). **Slovakia centr.:** Bojnice, Kalvaria hill (7277), forest steppe and forest margins on limestone, 350–450 m a.s.l., 21.vi.1964, 2 ♂♂, P. Lauterer lgt. (MMBC). **Slovakia or.:** Vyšné Raslavice (6893), pasture SW of the village, xerothermic vegetation, 320 m a.s.l., 19.vi.1965, 1 ♂ 1 ♀, L. Pospíšilová lgt. (MMBC). **Slovakia mer.:** Štiavnické pohorie Mts., Čajkov, above Čajkovský potok brook (76–7777), steppe and forest steppe on andesite, 190–300 m a.s.l., 5.vi.1971, 1 ♂, J. L. Stehlik lgt. (MMBC); Pohronská pahorkatina Hills, Mochovce, Dembrica [= Dobrica] hill (7776), rocky steppe and undergrowth of sparse forest on andesite slopes, 280–320 m a.s.l., 8.vi.1971, 1 ♀, L. Pospíšilová lgt. (MMBC). All P. Kment det.

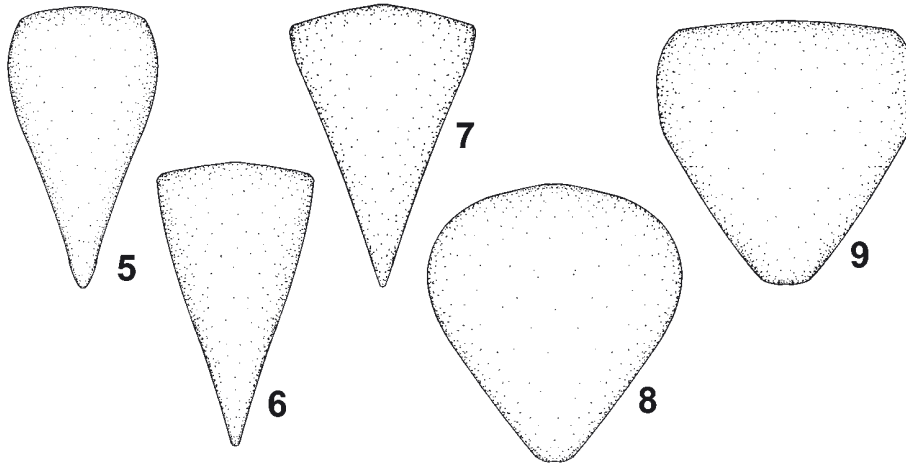
Remarks. Balkan-Pannonian species described from Bulgaria by JOSIFOV (1958) and later recorded from Transcarpathian Ukraine (ROSHKO 1976), Macedonia (JOSIFOV 1986, without exact locality, see PROTIĆ 1998), Slovenia (GOGALA & GOGALA 1986, GOGALA 2006), and southern Moravia in the Czech Republic (KMENT & BAŇAŘ 2012). In Moravia it had previously been recorded from Kobylí (7167) (HOBERLANDT 1947, as *H. leptocerus*) and Svatý kopeček NR near Mikulov (7165) (BRYJA & KMENT 2006b, as *H. genistae*), Malhostovická pecka NM near Malhostovice (6664), and several localities in the southern part of the Bílé Karpaty PLA: Radějov: Žerotín NM (7169b), Holý vrch Hill (7169–70); Kněždub, Čertoryje NNR (7170); Javorník: loam-pit (7171a), Machová NR (7171), SW slopes of Háj hill (7171a), Výzkum Hill (7171c); Velká nad Veličkou:

towards Javorník (7171a); Nová Lhota: Fojtické Mlýny (7171b) (KMENT & BAŇAŘ 2012).

Recently, P. Kment examined several hundred *Heterocordylus* specimens, collected in the territory of the former Czechoslovakia, preserved in the collections of NMPC and MMBC. These yielded additional localities for *H. cytisi* as well as for the morphologically very similar *H. genistae* (Scopoli, 1763). *Heterocordylus genistae*, living on *Genista* spp. and *Cytisus* spp. (including *C. scoparius*) (WACHMANN *et al.* 2004) was found to be around ten times as numerous as *H. cytisi* (1131: 92 specimens) in the samples examined (in terms of both numbers of localities and specimens) and quite widely distributed in both thermophyticum and mesophyticum throughout Bohemia, Moravia and Slovakia. On the other hand, *H. cytisi* appears to be a rare species limited to central and southern Moravia and Slovakia, collected only in the thermophyticum. To judge by available locality data, *H. cytisi* is bound to xerothermic grassland localities, usually steppes, forest steppes and xerothermic meadows on hill-slopes, predominantly on basic substrates (limestone, andesite, loess, flysh sediments), although there are two records on acidic substrates as well (granodiorite, schist) (KMENT & BAŇAŘ 2012, this paper). However, *H. cytisi* is locally more abundant than *H. genistae* (limestone hills of the Pavlovské kopce Hills, xerothermic species-rich meadows on basic flysh in the south of the Bílé Karpaty PLA). The localities for *H. cytisi* are situated mostly at altitudes of between 200 and 400 m, but in ideally suitable localities it has been recorded as high as 630 m (KMENT & BAŇAŘ 2012, this paper). The occurrence of *H. cytisi* together with *H. genistae* on a same site has been documented only rarely, e.g. in the localities of the Chvojnice river valley (with 11 ♂♂ 13 ♀♀ of *H. genistae*), Kozárov (with 1 ♂ 1 ♀ of *H. genistae*) and Smolenice (with 1 ♀ of *H. genistae*) (this paper). In Moravia and Slovakia, adults of *H. cytisi* were collected between May 20 and July 11 (KMENT & BAŇAŘ 2012, this paper).

The only known host plant of *H. cytisi* is *Chamaecytisus* (= *Cytisus*) *supinus* (JOSIFOV 1958, 1963; GÖLLNER-SCHIEDING & ARNOLD 1988). According to the locality data from the MMBC database, “*Cytisus* sp.” was mentioned among plant species sampled in the localities of Bojnice, Kýchvalka, Vranov nad Dyjí, Vyšné Raslavice, and Žerůvky. The distribution of *Ch. supinus* in Moravia corresponds roughly with known records of *H. cytisi* (see SKALICKÁ 1995). However, a closer comparison shows that *Ch. supinus* does not grow in some of the localities, e.g. Kurdějov, Kobylí, the Pavlovské kopce Hills, and the environs of Radějov and Velká nad Veličkou in the Bílé Karpaty Mts., where it is replaced by the closely-related *Ch. virescens* (V. Grulich, pers. comm.). *Heterocordylus cytisi* is therefore definitely not a monophagous species, and its host-plant relationships will reward further investigation.

Heterocordylus cytisi is absent from the basic identification keys for the Central European Heteroptera (e.g. WAGNER 1952, 1967; WAGNER & WEBER 1964) so it has remained overlooked, previously misidentified as either *H. genistae* (females) or *H. leptocerus* (Kirschbaum, 1856) (males). However, the males may easily be differentiated by the structure of the parameres, using the original description (JOSIFOV 1958) as well as the keys by KERZHNER (1964) and WAGNER (1974). For identification of females, we



Figs 5–9. Squama covering base of ovipositor in females (ventral view). 5–7 – *Heterocordylus cytisi* Josifov, 1958, 8–9 – *Heterocordylus genistae* (Scopoli, 1763).

recommend the shape of the squama covering the base of the ovipositor, which is short, about equilaterally triangular in *H. genistae* (Figs 8–9), while it is elongated, in the form of a narrow isosceles triangle in *H. cytisi* (Figs 5–7) (see also KERZHNER 1964).

Because of the discovery of *H. cytisi*, the occurrence of *Heterocordylus leptocerus* in Slovakia requires confirmation. In Slovakia, the species was recorded from Svätý Jur (BALTHASAR 1937) and recently from Devínska Kobyla Hill near Bratislava (HERCZEK & LUKÁŠ 1997). Unfortunately the voucher specimens of the latter record are lost (A. Herczek, pers. comm.) so we are currently unable to confirm occurrence of the species in Slovakia. Despite the voucher specimen of BALTHASAR'S (1937) record is supposed to be in Slovak National Museum in Bratislava we prefer to exclude *H. leptocerus* from the list of Slovak fauna for the time being.

***Hyoidea notaticeps* Reuter, 1876**

(Fig. 20)

Material examined. Slovakia mer.: Čenkov (8277), 8.vi.1965, 58 ♂♂ 294 ♀♀ 1 L, M. Kocourek lgt., P. Kment det. (52 ♂♂ 213 ♀♀ 1 L in NMPC, 6 ♂♂ 81 ♀♀ in MMBC); Čenkov, Čenkovská step NNR (N 47°46'07.6" E 18°31'12.0", 8277), *Stipa* steppe on sands with intermixed *Ephedra distachya*, 13.v.2011, 1 ♂ 1 ♀, P. Kment lgt. et det. (NMPC).

Remarks. Species of the Palaearctic steppes, distributed from Ukraine and the Southern Territory of European Russia further east to Iran, Tajikistan, and Inner Mongolia in northern China; there is also an isolated disjunct area of distribution in the Pannonian lowlands (southern Slovakia, Hungary) (KERZHNER & JOSIFOV 1999, AUKEMA *et al.* 2013, KNYSHOV & KONSTANTINOV 2013). The species is trophically bound to *Ephedra* species

(*E. distachya*, *E. strobilacea*, *E. intermedia*) (HOBERLANDT 1963, PUTSHKOV & PUTSHKOV 1983, KAPLIN 1993, KNYSHOV & KONSTANTINOV 2013). It is univoltine and larvae were collected from the end of March until the middle of May, adults from April until May in Turkmenistan (KAPLIN 1993), while in central Europe the adults occur from the middle of May until June (HOBERLANDT 1963).

In Slovakia, the species was first recorded from “Čenkov” based on 31 ♂♂ and 40 ♀♀ collected between June 6 and 11 in 1960–1962 by L. Hoberlandt and P. Štys (HOBERLANDT 1963). These records refer, in fact, to the Čenkovský les Reserve, near Mužla, which is the single locality for its host plant – *Ephedra distachya* – in Slovakia. ŠTYS (1972) reported another abundant population of *E. distachya* also hosting numerous *H. notaticeps* on the northern margin of Čenkovský les Forest c. 2–3 km from the reserve (5.–6.vi.1965, P. Štys & M. Kocourek lgt.). The numerous specimens labelled as “Čenkov” with the same date, deposited in the NMPC and MMBC collections originate from this sample. Besides the published records, P. Štys regularly observed (not collected) larvae and adults of this species on *Ephedra distachya* at this locality during intermittent visits between 1995 and 2010 (P. Štys, pers. comm.). KNYSHOV & KONSTANTINOV (2013) studied several specimens from Čenkov originating from samples published by HOBERLANDT (1963) and ŠTYS (1972), and 1 ♂ from Štúrovo (47.8°N 18.7333°E, 18.vi.1991, H. Günther lgt.). However, the record from Štúrovo lies, according to the geographical co-ordinates given, in Kamenica nad Hronom, where the host plant does not grow (V. Grulich, pers. comm.), strongly suggesting a mislabelling. ŠTYS & ŠKAPEC (1992) included *H. notaticeps* in the first edition of the Red List of Czechoslovakia as an “endangered species”, but provided no additional records. ŠTEPANOVIČOVÁ & BIANCHI (2001) classified the species as “critically endangered” in Slovakia. *Hyoidea notaticeps* as well as its host plant, *E. distachya*, are remarkable examples of glacial relicts surviving in the remnants of the Pleistocene loess steppes as represented by the steppe localities of the Pannonian lowlands (BEZUS’KO 1999). Here we confirm recent occurrence for this species in Slovakia.

Isometopus mirificus Mulsant et Rey, 1879

(Fig. 22)

Material examined. Moravia mer.: Tvrdonice env., Rýnava (7268a), 27.vii.2012, 1 ♀, L. Bobot lgt., P. Kment det. (NMPC). The locality is an elevation in hardwood floodplain forest (*Aesculus*, *Quercus*, *Tilia*, *Fraxinus*); the species was collected at light (blacklight-blue bulb) during a warm and foggy night (over 20°C at midnight) (L. Bobot, pers. comm.).

Remarks. Generally northern Mediterranean species, known from France, Italy, Germany, Hungary, Serbia, Romania, Bulgaria, Greece, Ukraine, and Asian Turkey (KERZHNER & JOSIFOV 1999, KONDOROSY 2005, PROTIĆ 2008, AUKEMA *et al.* 2013); listed in error for Iran by AUKEMA *et al.* (2013), based on a misinterpretation in LINNAVUORI *et al.* (1998). On the other hand, both KERZHNER & JOSIFOV (1999) and AUKEMA *et al.* (2013) overlooked recent records from Germany, where the species was discovered quite recently in Baden-Württemberg, Rhineland-Palatinate and Hesse (RIETSCHEL 2000, SIMON 2002, WACHMANN *et al.* 2004). It dwells on the bark of leafy trees (*Juglans*,

Quercus pubescens, *Pyrus*) (PÉRICART 1965, RIETSCHEL 2000, SIMON 2002, WACHMANN *et al.* 2004, PROTÍČ 2008). The larvae occur in May and July, adults appear from June to August and September, the females living longer (WACHMANN *et al.* 2004). New species for the Czech Republic.

***Phytocoris (Phytocoris) hirsutulus* Flor, 1861**

Material examined. Moravia centr.: Brno – Nový Lískovec (6865), 305 m a.s.l., on *Malus domestica*, 21.vi.2012, 1 ♂, P. Šťastná lgt., K. Hradil det. (KHMC). The apple trees were fogged (Puls Fog) with an insecticide containing deltamethrin and the dead insects were collected from canvas placed under the crowns of the trees.

Remarks. A very rare central European species distributed in Germany, Latvia (KERZHNER & JOSIFOV 1999), Slovenia (FLOREN & GOGALA 2002, GOGALA 2006), Estonia (COULIANOS 2005), Czech Republic (HRADIL *et al.* 2008), and Lithuania (Coulianos in AUKEMA *et al.* 2013). It dwells on the bark of old fruit trees, e.g. apple (*Malus domestica*) and pear (*Pyrus communis*), but is occasionally found on oak (*Quercus*) (SIMON 1992, MORKEL 2006, WACHMANN *et al.* 2004) and beech (*Fagus sylvatica*) as well (FLOREN & GOGALA 2002, GOGALA 2006). In the Czech Republic, it was first found in 2002 in Bohemia (Holovousy, 5659) (HRADIL *et al.* 2008), while in Moravia it was first encountered in Malaise trap samples from Jazevčí NNR (7171) in the Bílé Karpaty Mts. in 2009 (KMENT & BAŇAŘ 2012). Second record for Moravia.

***Polymerus (Poeciloscytus) brevicornis* (Reuter, 1879)**

Material examined. Slovakia mer.: Nitra, Kalvária hill and city (7774a), 140–273 m a.s.l., 19.vi.1984, 2 ♀♀, P. Lauterer lgt., J. Bryja det. (MMBC); Velké Kosihy, Mostová NR (= Derhidia) (8273), salt meadow, 11.v.2012, 3 ♀♀, P. Kment lgt. et det. (NMPC); Čenkov, Čenkovská step NNR (47°46'07.6"N 18°31'12.0"E, 8277), *Stipa* steppe on sands with intermixed *Ephedra distachya*, 13.v.2012, 1 ♀, P. Kment lgt. et det. (NMPC).

Remarks. Euro-Siberian species distributed from Sweden and Portugal to the Far East of Russia, Korea, and Tajikistan (KERZHNER & JOSIFOV 1999, AUKEMA *et al.* 2013). It lives on *Galium* (usually *G. verum*) in xerothermic, nutrient-poor grasslands, especially on sandy substrates (WACHMANN *et al.* 2004, RABITSCH 2007). In Slovakia, the species was recorded by STEHLÍK & HOBERLANDT (1953) from Okoličná na Ostrove (8173) and Čenkov (8277), by DOBŠÍK (1988) from Plešivecká planina (73–7488) and by DOBŠÍK (1991) from Nitra, Kalvária. Here we provide additional Slovak findings, confirming the other records.

***Tupiocoris rhododendri* (Dolling, 1972)**

Material examined. Bohemia bor.: Lázně Libverda (5157), on *Rhododendron* sp., 9.vii.2013, 3 ♂♂ 5 ♀♀, K. Hradil lgt. et det. (KHMC, NMPC); Sněžník (5250), 605 m a.s.l., in yellow trap near *Rhododendron* sp., 7.viii.2011, 1 ♂, E. Kula lgt., K. Hradil det. (KHMC).

Remarks. Nearctic species (USA: Ohio, Pennsylvania, Tennessee, West Virginia) (HENRY & WHEELER 1976, 1988) introduced to England, where it was discovered in 1971

and described as a new species, *Dicyphus rhododendri* (DOLLING 1972). In 2002 it was encountered in the Netherlands (AUKEMA *et al.* 2005), in 2004 in Germany (Baden-Württemberg, HARMUTH 2004; North Rhine-Westphalia, SCHRAMEYER 2004, HOFFMANN 2010), in 2007 in Belgium (AUKEMA *et al.* 2007), and recently in Denmark (Skipper in AUKEMA *et al.* 2013). Predator dwelling on various species of *Rhododendron* (including *Azalea*), most frequently of the *R. ponticum* species-group (DOLLING 1972, HENRY & WHEELER 1976), where it preys on the aphid *Illinoia (Masonaphis) lambersi* (McGillavry, 1960) and other tiny insects. It overwinters in the egg stage, with the adults occurring from June to the beginning of August (DOLLING 1972; AUKEMA *et al.* 2005, 2007; HOFFMANN 2010).

***Tuponia (Tuponia) macedonica* Wagner, 1957**

(Fig. 23)

Material examined. Moravia mer., Břeží (7165) near Mikulov, 11.vii.2009, 1 ♂, K. Hradil lgt. et det., A. Carapezza revid. (KHMC).

Remarks. Ponto-Mediterranean species distributed in Bulgaria, Macedonia, Greece, European and Asian Turkey, Cyprus and Iran (KERZHNER & JOSIFOV 1999, AUKEMA *et al.* 2013); recently found introduced into southern Slovakia (Gbelce, 8177) (HRADIL *et al.* 2008). It lives on *Tamarix* spp. (WAGNER 1974); in Slovakia it was collected on *Tamarix parviflora* together with *Tuponia (Chlorotuponia) hippophaes* (Fieber, 1861) and *Tuponia (Tuponia) elegans* (Jakovlev, 1867) (KMENT 2004, HRADIL *et al.* 2008). New species for the Czech Republic.

REDUVIDAE

***Peirates hybridus* (Scopoli, 1763)**

Material examined. Bohemia centr.: Wran [= Vrané nad Vltavou] (6052), 1897, 1 ♂, Nosalek lgt., P. Kment det. (NMPC); Zavisť (6052), no date, 1 ♀, no collector, P. Kment det. (NMPC). Bohemia or.: Litomyšl (6163), 1879, L. Duda [coll.], P. Kment det. (NMPC). Moravia mer.:

Silůvky (6864), 'U křížku', field road between xerothermic hedges, 9.viii.2009, 1 L, P. Kment lgt. et det. (PKPC); Hodonín, brickyard (48°52'30"N 17°09'01"E, 7168), 13.v.2010, 1 ♀, J. Dolanský lgt., P. Kment det. (VMPC); Klentnice (7165), 17.x.2003, 1 ♂, J. Dolanský lgt. et det., P. Kment revid. (VMPC). Slovakia occ.: Trenčín (70–7174), no date, 3 ♂♂ 2 ♀♀, Čepelák lgt., P. Kment det. (NMPC); Lúka nad Váhom (7373), 30.iii.2002, 1 ♂, M. Mantič lgt., P. Kment det. (MMHC). Slovakia centr.: Muráň env., Hrdzavá dolina valley (7286), meadow, 28.v.2004, 1 ♀, M. Mantič lgt., P. Kment det. (MMHC); Zádiel plateau (7390), v.1978, 1 ♀, V. Šilha lgt., Z. Jindra det. (ZJPC); ditto, 22.ix.1995, 1 ♀, M. Škorpik lgt., Z. Jindra det. (ZJPC). Slovakia or.: Kaluža (7198), 25.v.2003, 1 ♀, B. Zbuzek lgt., Z. Jindra det. (ZJPC); Hrhov (7390), 7.x.1994, J. Vávra lgt., P. Kment det. (MMHC); Sirmík (7496), 14.ix.1951, 1 ♀, Mařan lgt., P. Kment det. (NMPC); Streda nad Bodrogom, Tarbucka sands (7696), 28.ix.1991, J. Král lgt., P. Kment det. (JVPC). Slovakia mer.: Štúrovo, Hegyfárok [= Belianské kopce hills] (8177), 5.–14.ix.1995, 2 ♂♂ 3 ♀♀ (JVPC, NMPC, PKBC); Kamenica nad Hronom (8178), 16.iii.1997, 1 ♂, Jurčíček lgt., Z. Jindra det. (ZJPC); Štúrovo, Parkán (81–8278), 23.v.1935, no collector, 1 ♀, P. Kment det. (NMPC); Štúrovo (81–8278), 15.v.1970, 1 ♀, Z. Jindra lgt. et det. (ZJPC).

Remarks. Holomediterranean–Central Asiatic species distributed from France and Morocco to Kyrgyzstan, Afghanistan and north-western China (Xinjiang), reaching as far

north as southern Germany, Czech Republic, and Slovakia (PUTSHKOV & PUTSHKOV 1996, HOFFMANN & MELBER 2003, WACHMANN *et al.* 2006, LIU *et al.* 2011, AUKEMA *et al.* 2013). In central Europe it lives in xerothermic, stony, open habitats, mostly on limestones; in more eastern areas the species seems more hygrophilous, found on the banks of various water reservoirs and streams. It is epigeic, preying largely on other Heteroptera (PUTSHKOV 1987, STEHLÍK & VAVŘÍNOVÁ 1997a, WACHMANN *et al.* 2006, RABITSCH 2007, PUTSHKOV & MOULET 2010). In the Czech Republic, *P. hybridus* is apparently extinct in Bohemia, not recorded since 1897: Závist u Prahy, environs of Litomyšl (DUDA 1884, 1885; here revised), and Vrané nad Vltavou (NICKERL 1905; here revised). In Moravia, the species is known in the southern, Pannonian region; there are several old records (most recent from 1948) summarized by STEHLÍK & VAVŘÍNOVÁ (1997a) and one additional record from 1998 (Ratiškovice – Rudník, 7069) (KMENT & BRYJA 2001). In Slovakia, the species is known from about 20 localities throughout the warm regions of the country, with a gap between records in 1979 and 1993 (DOBŠÍK 1979, STEHLÍK & VAVŘÍNOVÁ 1998, ŠTEPANOVIČOVÁ 2001). In the Czech Republic, the species is classified as “critically endangered” (KMENT & VILÍMOVÁ 2006). Here we provide new recent records from both Moravia and Slovakia.

ARADIDAE

Aradus (Aradus) bimaculatus Reuter, 1872

(Fig. 24)

Material examined. **Bohemia centr.:** Praha – Smíchov (5952a), city park, under bark of stump of *Aesculus* sp., 26.iii.1985, 1 ♀, J. Růžička lgt., P. Kment det. (NMPC); Praha – Hostivař (5953), 31.i.1976, 1 ♂ 4 ♀♀, Z. Kačenka lgt., Z. Jindra det. (ZJPC). **Slovakia mer.:** Hajnáčka env., Ragáč hill (7785), 24.viii.2011, 1 ♀, O. Konvička lgt., P. Kment det. (OKZC).

Remarks. Euro-Siberian species (Andorra, Austria, Czech Republic, Finland, France, Germany, Hungary, Poland, Spain, Sweden, Ukraine, and Russia (European Territory, East Siberia)), extending to central Asia (Asian Kazakhstan, Uzbekistan) (HEISS 2001, KANYUKOVA & VINOKUROV 2008, AUKEMA *et al.* 2013). Mycophagous, the species is associated with deciduous trees (*Acer*, *Alnus*, *Malus*, *Quercus*, *Populus tremula*, *Tilia*), although it has also been recorded from *Picea abies* (ROUBAL 1958, OSSIANNILSSON 1967, COULIANOS 1989, HEISS & PÉRICART 2007, WACHMANN *et al.* 2007, ESSER 2010). COULIANOS (1989) reported the species from *Populus tremula* infested with *Entoleuca* (= *Hypoxylon*) *mammatum* (Ascomycetes: Xylariaceae) in Sweden. ESSER (2010) found specimens of *A. bimaculatus* collected on the mazegill fungus *Daedalea quercina* (Basidiomycetes: Fomitopsidaceae), sitting between the gills of the sporocarp and in the gap between the sporocarp and the bark of *Quercus robur* in Brandenburg. In the Czech Republic, *A. bimaculatus* was found in 1955–1956 on *Acer campestre* and *Tilia* in two localities in central Bohemia, Roztoky u Prahy (5852) and Veltrusy (5751–52) (ROUBAL 1958). KMENT & VILÍMOVÁ (2006) classified the species as “endangered” in the Czech Republic. Here we provide additional records from Bohemia and a first record for Slovakia.

***Aradus (Aradus) crenaticollis* R. Sahlberg, 1848**

(Fig. 25)

Material examined. Bohemia centr.: Milovice (5755), under bark of spruce stumps, 15.iv.2013, 3 ♂♂ 1 ♀, V. Hanzlík lgt., P. Kment det. (VHNC, MNPC).

Remarks. Euro-Siberian species known in Austria, Czech Republic, Finland, France, Germany, Italy, Latvia, Norway, Spain, Sweden, Switzerland, Russia (Central and Northern European Territory, Siberia, Far East), Asian Kazakhstan, and Mongolia (HEISS 2001, KANYUKOVA & VINOKUROV 2008, AUKEMA *et al.* 2013). It prefers coniferous trees, and is known from *Picea abies* and *Pinus sylvestris* (SEIDENSTÜCKER 1961, WAGNER 1966, RAMPAZZI & DETHIER 1997, HEISS & PÉRICART 2007). In the Alps it occurs largely in the coniferous zone at medium altitudes on *Picea abies* (WACHMANN *et al.* 2007). However, HELIÖVAARA & VÄISÄINEN (1983) noted it from both deciduous and coniferous trees in burned forests. *Aradus crenaticollis* prefers charred trees after wildfires and it is attracted to the small spot fires (e.g. burning ants' nests) that may continue for several days after passing of a fire front. This attraction is associated with a high migration capacity (COULIANOS 1989; AHNLUND & LINDHE 1992; WIKARS 1992, 1997). WIKARS (1992) reported observations of this species in the immediate vicinity of glowing ants' nests, sometimes copulating. It probably feeds largely on pyrophilous fungi. However, it has also been found on tree-trunks in sawmills (COULIANOS 1989). Despite its reported pyrophilous tendencies, no photomechanical infrared sensilla, known in some other pyrophilous *Aradus* spp., have been found in *A. crenaticollis* (SCHMITZ *et al.* 2010). In the Czech Republic, the species was previously known from the Šumava Mts. in southern Bohemia, localities Vimperk – Veselka, 3 km N of Boubín (6948) and Kubova Hut', Šeravský les Forest (7048). It was classified as "endangered" in the Red List of the Czech fauna (KMENT & VILÍMOVÁ 2006). Here we provide an additional record, the first for central Bohemia.

***Aradus (Aradus) kuthyi* Horváth, 1899**

Material examined. Bohemia centr.: Vonoklasy (6051), 25.v.2005, 1 ♀, B. Zbuzek lgt., Z. Jindra det. (ZJPC); Praha – Točná, Šance, Břežanský důl valley, 16.iv.1979, 1 ♀, J. Strejček lgt., Z. Jindra det. (ZJPC); Praha – Točná, Šance (6052a), 9.vi.2001, 1 ♂, J. Strejček lgt., P. Kment det. (OBPC). **Moravia mer.:** Senorady (1.5 km N), Oslava river valley, Levnov castle ruin (6863c), rocks, viii.2012, 1 ♀, V. Kubáň lgt., P. Kment det. (NMPC); Podyjí NP, Podmolí env., Liščí skála rocks (7161), 3.vii.1995, 1 ♀, S. Bílý lgt., P. Kment det. (NMPC). **Slovakia mer.:** Plášťovce (7879), 30.v.1993, 1 ♀, B. Zbuzek lgt., Z. Jindra det. (ZJPC).

Remarks. Balkan-Pannonian species, known only from Albania, Austria, Bosnia and Herzegovina, Czech Republic, Greece, Hungary, and Slovakia (HEISS 2001, AUKEMA *et al.* 2013). It occurs on *Juglans regia*, *Quercus* spp. (*Q. cerris*, *Q. petraea*, *Q. robur*), and *Pinus sylvestris* (HOBERLANDT 1956, ŠTYS 1976, ADLBAUER 1992, HEISS & PÉRICART 2007, WACHMANN *et al.* 2007). In the Czech Republic, it is recorded only from central Bohemia, Závist near Praha (6052), where it was found under a fine scale of bark on a thin *Pinus sylvestris* twig, the tree isolated on a xerothermic, rocky slope (ŠTYS 1976). In Slovakia, *A. kuthyi* was collected in the Kováčovské kopce Hills near Štúrovo (8177) (HOBERLANDT 1956, STEHLÍK & HEISS 2001) and Pstruša (7481) (STEHLÍK & HEISS 2001).

It is regarded an endangered species in both the Czech Republic (KMENT & VILÍMOVÁ 2006) and Slovakia (ŠTEPANOVIČOVÁ & BIANCHI 2001). New species for Moravia, and second record for Bohemia.

***Aradus (Aradus) mirus* Bergroth, 1894**

Material examined. Bohemia bor.: Julčín, Na Černčí NR (5452), *Pulsatillo-Pinetea*, 1.vi.1999, 1 L, I. Malenovský lgt., P. Kment det. (NMPC). **Bohemia occ.:** Skláře near Mariánské Lázně (6042), 20.v.2001, 1 ♀, J. Strejček lgt., P. Kment det. (OBPC); Obora near Plzeň (6146), 1976, 1 ♀, no collector, L. Hoberlandt det. (NMPC). **Bohemia centr.:** Křivoklát, Baba hill [= Na Babě NR] (5949), 28.v.1988, 1 ♀, S. Bílý & J. Jelínek lgt., P. Kment det. (NMPC); Sedlčany env., Kounova [= Kosova] Hora (6352), 27.v.2005, 1 ♀, J. Strejček lgt., P. Kment det. (NMPC); Louňovice pod Blaníkem, Velký Blaník hill (6355), 600 m a.s.l., 2.vii.1988, 1 ♀, J. Strejček lgt., Z. Jindra det. (ZJPC); Sedlice, Želivka dam, Sedlické údolí valley (6356), 28.v.1966, 1 ♀, J. Strejček lgt., P. Kment det. (NMPC). **Bohemia mer.:** Vráž near Písek (6650), 400 m a.s.l., 19.–25.vi.2010, 1 ♀, M. Barták lgt., Z. Jindra det. (ZJPC). **Moravia occ.:** Kost. Mysletice [= Kostelní Myslová] (6858), 8.–13.x.1973, Z. Šustek lgt., P. Kment det. (MMBC: coll. Dobšík). **Moravia mer.:** Bzenec – Přívoz (7069), beating branches of *Pinus*, 3.iv.2010, 1 ♀, J. Ch. Vávra lgt., P. Kment det. (OMOC). **Slovakia occ.:** Malacky (7568), 28.xi.1987, 1 ♀, I. Jeniš lgt., P. Kment det. (PKBC).

Remarks. Species endemic to the Pannonian lowlands (Austria, Moravia, Hungary, Slovakia), extending into Bohemia (HEISS 2001). It lives on pines (*Pinus sylvestris*, *P. nigra*) on xerothermic localities in lowlands. Unlike most other bark bugs, *A. mirus* very probably sucks direct from the phloem of its host plants. Both adults and larvae may overwinter and may be found throughout the year (HEISS & PÉRICART 2007, RABITSCH 2007, WACHMANN *et al.* 2007). The species is considered endangered in the Czech Republic (KMENT & VILÍMOVÁ 2006) as well as in Lower Austria (RABITSCH 2007). In Bohemia, it was previously known from Libřice near Vrané nad Vltavou (HOBERLANDT 1944a, c, 1956) and Svádov (5350) (HOBERLANDT 1956), in Moravia from Mohelno (Mohelenská hadcová step NNR, 6863) (STEHLÍK 1946, STEHLÍK & HEISS 2000) and Nemočice (Vysoká Hill) (STEHLÍK & HEISS 2000), and in Slovakia from Trenčín (70–7174) and Košice (72–7393) (HOBERLANDT 1944b, c). Here we provide recent records from all three Lands.

***Aradus (Aradus) signaticornis* R. Sahlberg, 1848**

Material examined. Bohemia centr.: Praha – Břevnov, Pod Královkou (5952), at window in a house, 5.v.2003, 1 ♀, J. Růžička lgt., P. Kment det. (PKBC).

Remarks. Holarctic species, distributed from Sweden and France to the Far East of Russia, Korea, and south-western China (Yunnan) (HEISS 2001, 2010; KANYUKOVA & VINOKUROV 2008; AUKEMA *et al.* 2013). It is a pioneer species, occupying habitats in early phases of succession, such as industrial wastelands, spoil heaps after coal mining, forest clearings, and forest fire sites (PERSSON 1966, ŠTUSÁK 1976, HELIÖVAARA & VÄISÄINEN 1983, BALS *et al.* 1997, WIKARS 1997, ABS *et al.* 1999, HJÄLTÉN *et al.* 2006, HEISS & PÉRICART 2007, WACHMANN *et al.* 2007). It has been recorded on both coniferous and deciduous trees (*Pinus*, *Larix*, *Betula*) (PERSSON 1966, BALS *et al.* 1997, WIKARS

1997, HEISS & PÉRICART 2007, WACHMANN *et al.* 2007). In the Czech Republic, the species was previously known only from Bohemia, locality Zbůch (6345) 13 km south-west of Plzeň; this record was based on a single specimen bred from a 5th-instar larva found under a stone in a large heap of stones carted away from the coal mine, the locality being almost devoid of vegetation, with only scattered young birches (*Betula* sp.) (ŠTUSÁK 1976). Here we provide the second record for the Czech Republic.

LYGAEIDAE

Arocatus melanocephalus (Fabricius, 1798)

(Fig. 26)

Material examined. Slovakia mer.: Zlatná na Ostrove – Veľký Lel, Veľký Lel Island (N 47°44'51.6" E 17°56'33.8", 8273), Zlatňanský luh floodplain forest, beating lower branches of *Ulmus laevis*, 12.v.2012, 1 ♀, E. Liznarová lgt., P. Kment det. (NMPC).

Remarks. Northern Mediterranean species distributed from Germany and Portugal to Iran, recently discovered in Xinjiang (NW China) as well (PÉRICART 2001, AUKEMA *et al.* 2013, GAO *et al.* 2013). It develops on *Ulmus*, both adults and larvae sucking nourishment from seeds. It overwinters in the adult stage, seeking shelter under the loose bark of trees (elms, oaks, etc.), often in aggregations, or in crevices in tree-trunks, in pine-cones, or in layers of dead leaves (PUTSHKOV 1969, PÉRICART 1999a). In central Europe it has also been recorded from *Quercus* and *Alnus* (WACHMANN *et al.* 2007). In the first decade of the 21st century, sudden mass occurrences and subsequent intrusions into human dwellings by *A. melanocephalus*, previously considered a very rare species, were observed during summer in urban environments in northern Italy (REGGIANI *et al.* 2005, MAISTRELLO *et al.* 2006, DUTTO & CARAPEZZA 2011) and Germany (HOFFMANN & TERME 2012). There appears to be a link between this phenomenon and recent climate warming, which seems to favour the survival of overwintering adults during winter and developing larval stages in spring but endanger both larvae and adults (intolerant to temperature >30°C) on hot summer days and force them to seek cool aestivation shelters inside buildings (MAISTRELLO *et al.* 2006). On the other hand, DUTTO & CARAPEZZA (2011) hypothesised that the migration into houses is induced by mean temperatures similar to those in autumn, which apparently causes the insects to seek out places suitable for hibernation. There is only one record of this species for Slovakia, a single specimen collected in the Svätý Peter oak forest (S Slovakia, 8175d) on 1.vii.1959 (ŠTEPANOVIČOVÁ 2003). Here we confirm the occurrence of the species in Slovakia after an interval of 53 years.

Melanocoryphus albomaculatus (Goeze, 1778)

Material examined. Moravia mer.: Moravské Bránice (6964), 6.ix.2008, 1 ♀, K.Hradil lgt. et det. (KHMC); Hnanice, Šobes (7162), 1.v.2004, 1 ♂, J. Vilimová lgt., P. Kment det. (NMPC).

Remarks. Northern Mediterranean–Central Asiatic species distributed from the Netherlands, Portugal, and Morocco in the west to Iran and central Asia in the east (PÉRICART 2001). Epigeic, thermophilous species, living chiefly on sunlit rocky hillsides

and in clearings, where it is found under lichens, moss, dry leaves, stones, etc. It feeds largely on *Vincetoxicum hirundinaria* (especially the larvae), although other plants (e.g., *Digitalis*, *Senecio*) may serve as well, feeding mostly on seeds (STEHLÍK & VAVŘÍNOVÁ 1996, 1997b; PÉRICART 1999a; WACHMANN *et al.* 2007). In Moravia, there was a long gap in records between 1962 and 1992 and in the 1990s the species was documented only in the Podyjí National Park (STEHLÍK & VAVŘÍNOVÁ 1997b, KMENT *et al.* 2003). Only recently did MALENOVSKÝ *et al.* (2011) record *M. alboacuminatus* from Budkovické skály Rocks (6964) near Budkovice outside Podyjí NP. In the Czech Republic, the species is classified as “critically endangered” (KMENT & VILÍMOVÁ 2006). Here we provide two additional records.

***Melanocoryphus tristrami* (Douglas et Scott, 1868)** (Fig. 27)

Material examined. Slovakia mer.: Čenkov, Čenkovská step NNR (47°46′07.6″N, 18°31′12.0″E, 8277), *Stipa* steppe on sands, 13.v.2011, 1 ♀ (ma), P. Kment lgt. et det. (NMPC).

Remarks. Ponto-Mediterranean–Central Asiatic species distributed from Hungary and Croatia to Iran and central Asia (PÉRICART 2001, AUKEMA *et al.* 2013). It is a xerophilous, epigeic species dwelling among plant detritus, feeding on the seeds of various plants (PUTSHKOV 1969, PÉRICART 1999b). In Slovakia, the species was previously known from only a single record from Belianské kopce Hills (= Hegyfarok) near Štúrovo (8177) (KMENT *et al.* 2003). Here we provide a second Slovak locality.

GEOCORIDAE

***Geocoris (Piocoris) erythrocephalus* (Lepeletier et Serville, 1825)** (Fig. 28)

Material examined. Moravia mer.: Pošterná, environs of Boří les railway station (48°44′09.98″N 16°52′10.63″E, 7267), sweeping of xerothermic ruderal vegetation on slopes around sludge bed, 18.viii.2013, 1 ♂, P. Kment lgt. et det. (NMPC).

Remarks. Holomediterranean species extending to the southern areas of central Europe (Austria, Hungary, Slovakia), Iran and Kazakhstan (PÉRICART 2001, AUKEMA *et al.* 2013). Predatory species, largely epigeic, overwintering in the adult stage (STEHLÍK & VAVŘÍNOVÁ 1996, PÉRICART 1999a, WACHMANN *et al.* 2007). In the Mediterranean area it is quite an euryecious species, also found in humid habitats (PÉRICART 1999a, WACHMANN *et al.* 2007), while in central Europe it appears bound to xerothermic habitats with scattered groups of vegetation, such as disused vineyards and pastures, and steppe vegetation on the slopes of readily-warmed rocks (especially andesite) (STEHLÍK & VAVŘÍNOVÁ 1996, ŠTEPANOVIČOVÁ 2001, ŠTEPANOVIČOVÁ & BIANCHI 2003, RABITSCH 2007). In Austria, the species is known from a few localities in Burgenland, Styria (ADLBAUER 1995, 1997), and Lower Austria, where it was first recorded in 2003 in an abandoned sand-pit near Lichtenegg (RABITSCH 2003, 2007). In Slovakia, the species is known from a number of localities, although all of them are situated in southern parts of the country (STEHLÍK & VAVŘÍNOVÁ 1996, ŠTEPANOVIČOVÁ 2001, RUS & KMENT 2007). The westernmost Slovak localities are the environs of Bratislava (7868–69) (ORTVAY

1902, as Pozsóny) and Jurský Šúr near Svätý Jur (7769) (ORSZÁGH 1966), both about 60 km south of Břeclav and Kňazi vrch Hill (7373) in the Tematínské kopce hills (ŠTEPANOVIČOVÁ 2001) 77 km east of Břeclav. The species was listed for Moravia by HOBERLANDT (1977a) based on ROUBAL (1964, 1968), but its occurrence in Moravia was rejected by STEHLÍK & VAVŘÍNOVÁ (1997b). *Geocoris erythrocephalus* might be considered among the species recently and naturally expanding their distribution ranges in central Europe due to changes in climatic conditions that favour them (see e.g. RABITSCH 2008). New species for the Czech Republic.

OXYCARENIDAE

Tropidophlebia costalis (Herrich-Schaeffer, 1850)

Material examined. Bohemia bor.: Kleneč, Kleneč NNM (5651), 17.v.2008, 1 ♀, K. Hradil lgt. et det. (KHMC). **Bohemia mer.:** Lužnice env., 0.5 km NE of the village, Slepíčí vršek hill NM (6954), sandy dune, under *Calluna*, 2.v.2008, 1 ♀, Z. Kejval lgt., P. Baňar det. (MCHD). **Moravia mer.:** Bzenec – Přívoz, Vojenské cvičiště NM (48°57'30"N 17°17'25"E, 7069), sands in former military training area, 15.v.2010, 1 ♂, P. Kment lgt et det. (NMPC); Havraníky, Havranické vřesoviště heathland (7162), 4.vii.1995, pitfall trap, 3 ♂♂ 3 ♀♀ (one couple in copula), 16.viii.1995, 2 ♀♀, pitfall trap, A. Reiter lgt., P. Kment det. (NMPC).

Remarks. Euro-Siberian species distributed from Sweden and France to East Siberia and Mongolia (PÉRICART 2001, AUKEMA *et al.* 2013). It dwells on aeolian sands, sterile soils and sunlit rocks with sparse vegetation, lichens and plant litter, feeding on the seeds of various plants (STEHLÍK & VAVŘÍNOVÁ 1996, 1997b; PÉRICART 1999b, WACHMANN *et al.* 2007). Its distribution in Moravia is limited to the warmest southern parts of the territory (STEHLÍK & VAVŘÍNOVÁ 1997b, KMENT *et al.* 2003). However, in Bohemia the species was previously known from only a single locality, Kleneč NNM (5651) in the Labe (= Elbe) lowlands. In the Czech Republic the species is classified as “near-threatened” (KMENT & VILÍMOVÁ 2006). Here we confirm its occurrence in Kleneč and provide an additional record for southern Bohemia.

COREIDAE

Coriomeris scabricornis scabricornis (Panzer, 1805)

Material examined. Bohemia bor.: Kleneč, Kleneč NNM (5651), 11.vii.2008, 1 ♂, K. Hradil lgt. et det. (KHMC). **Bohemia centr.:** Stará Boleslav (5854), former military training area on sands, 17.ix.1995, 3 ♂♂ 4 ♀♀, P. Kapitola lgt., K. Hradil det. (KHMC). **Moravia mer.:** Mutěnice env. (70–7168), 9.viii.1975, 1 m, J. Adámek lgt., Z. Jindra det. (ZJPC); Bzenec, Vojenské cvičiště NM (48°57'30"N 17°17'25"E, 7069), pitfall trap, 12.vi.2009, 1 ♂, 11.vii.2009, 1 ♂, P. Chlapek & O. Čížek lgt., K. Hradil det. (KHMC); Rohatec – Kolonie (7169), 7.vi.1985, 1 ♀, Z. Jindra lgt. et det. (ZJPC); Lednice env. (71–7266), 3.v.1975, 1 ♀, Z. Jindra lgt. et det. (ZJPC). **Slovakia occ.:** Mikulášov near Lakšárska Nová Ves, 9.vii.1991, 2 ♂♂, P. Kapitola lgt., K. Hradil det. (KHMC). **Slovakia or.:** Hrhov env. (7390), 25.vi.1976, 1 ♂, R. Pucholt lgt. (ZJPC).

Remarks. Holopalaeartic species distributed from Sweden and Portugal to Korea and Japan, absent from North Africa (DOLLING 2006, AUKEMA *et al.* 2013). It lives on Fabaceae (e.g. *Trifolium* and *Medicago*), Lamiaceae (*Thymus*, *Ajuga*) and Asteraceae (*Artemisia*, *Helichrysum*) (STEHLÍK 1988, WACHMANN *et al.* 2007), mainly on aeolian sands in Moravia, but has also been found in xerothermic habitats on rocky substrates,

largely restricted to the Pannonicum (STEHLÍK 1988). *Coriomeris scabricornis* used to be quite a common species in suitable localities in southern Moravia until the 1970s, but disappeared in the 1980s and has not been found in Moravia since 1986 (STEHLÍK 1988). Some recent records for Bohemia were published by RUS (2005) and KMENT & BAŇAŘ (2012). There is only a single recent record from Lower Austria as well (RABITSCH 2002, 2007). The species was rediscovered in Moravia only recently, in 2009 on aeolian sands in Bzenec (this paper) and in 2010 on natural vegetation in the Kamenárka limestone quarry near Štramberk (6474) in north-eastern Moravia (LIS 2012). In the Czech Republic the species is classified as “critically endangered” (KMENT & VILÍMOVÁ 2006).

ALYDIDAE

Camptopus lateralis (Germar, 1817)

(Fig. 29)

Material examined. Moravia mer.: Poštorná, environs of Boří les railway station (48°44'09.98"N 16°52'10.63"E, 7267), sweeping of xerothermic ruderal vegetation on slopes around sludge bed, 18.viii.2013, 2 ♀♀, P. Kment lgt. et det. (MMBC, NMPC).

Remarks. A West-Palaeartic species, distributed from France, Portugal, Morocco and Macaronesia in the west to Northwest China, Afghanistan, Pakistan and India in the east (DOLLING 2006, AUKEMA *et al.* 2013). In central Europe the species is known from Switzerland, Liechtenstein, Austria, Slovakia, and Hungary, with old and dubious records from Belgium and Germany (HOFFMANN & MELBER 2003, DOLLING 2006, AUKEMA *et al.* 2013). In the Mediterranean area it is quite a euryecious species, recorded from plants of various families, although it shows a certain preference for Fabaceae (MOULET 1995). In central Europe the species is bound to xerothermic habitats with scattered groups of vegetation – sands, salt meadows, and especially slopes of readily-warmed rocks (limestone, andesite, basalt) covered with steppe vegetation. It has been recorded on various plants, although predominantly on Fabaceae (*Lotus*, *Coronilla*, *Medicago*, *Trifolium*, *Onobrychis*, etc.) (STEHLÍK & VAVŘINOVÁ 1995, RABITSCH 2007, WACHMANN *et al.* 2007). It overwinters in the adult stage, with only one generation per year in central Europe, while more generations are produced in more southern regions of its range (MOULET 1995, STEHLÍK & VAVŘINOVÁ 1995, RABITSCH 2007). In Austria the species is known from Burgenland and Lower Austria, although it was considered extinct in Lower Austria by RABITSCH (2007), but a single specimen was re-discovered in 2012 (W. Rabitsch, pers. comm.). In Slovakia, *C. lateralis* is known from a number of localities in the south-west of the country and there is a solitary record from the south-east (STEHLÍK & VAVŘINOVÁ 1995, ŠTEPANOVIČOVÁ 2001, ŠTEPANOVIČOVÁ & BIANCHI 2003, RUS 2005). The westernmost Slovak localities are Devínská Kobyla Hill in Bratislava (7867–68) (BALTHASAR 1942), about 61 km south of Břeclav and Kňazí vrch Hill (7373) in the Tematínské kopce hills (ŠTEPANOVIČOVÁ 2001), situated 77 km east of Břeclav. The species was listed for Moravia by HOBERLANDT (1977a) in error (see STEHLÍK 1988). *Camptopus lateralis* may also be considered among the species recently and naturally expanding their distribution ranges in central Europe due to changes in climatic conditions that favour them (see e.g. RABITSCH 2008). New species for the Czech Republic.

PENTATOMIDAE

Aelia rostrata Boheman, 1852

Material examined. Moravia mer.: Klentnice, Tabulová hora NNR (7165), W slope, 18.v.2004, 1 ♂, O. Balvín lgt. et det., P. Kment revid. (OBPC); Sedlec, Skalky u Sedlece NM (48°46'28.30"N 16°40'21.59"E, 7266), steppe, 1.v.2013, 1 ♂ 1 ♀, M. Horsák, P. Kment & Biotým lgt. (MHBC, NMPC); Poštorná, environs of Boří les railway station (N 48°44'09.98" E 16°52'10.63", 7267), sweeping of xerothermic ruderal vegetation on slopes around sludge bed, 18.viii.2013, 1 ♂, P. Kment lgt. et det. (NMPC). **Slovakia mer.:** Nitra, Lupka NR (7674d), 11.iv.2008, 1 ♂, J. Cunev lgt., P. Kment det. (JCNS); Nitra, Kalvária hill (7774a), 20.ix.2010, 1 ♀, J. Cunev lgt., P. Kment det. (JCNS); Nesvady, Liščíe diery NR (8074d), 30.viii.2008, 1 ♀, J. Cunev lgt., P. Kment det. (JCNS); Martovce env. (8174a), 23.viii.2010, 1 ♀, J. Cunev lgt., P. Kment det. (JCNS); Kováčov (8178), 16.v.1953, 1 ♀, J. Štaif lgt., Z. Jindra det. (ZJPC); Salka, Sovie Vinohrady (8178), steppe, sweeping, 10.ix.2001, 1 ♂, M. Mantič lgt., P. Kment det. (MMHC); Čenkov, Čenkovská step NNR (47°46'07.6"N 18°31'12.0"E, 8277), *Stipa* steppe on sands, 13.v.2011, 6 ♂♂, P. Kment lgt. et det. (MHBC, NMPC); Mužla env., Jurský Chlm (8277), steppe, sweeping, 10.ix.2000, 1 ♀, M. Mantič lgt., P. Kment det. (MMHC). **Slovakia or.:** Ladmovce (7596), 7.v.2000, 1 ♂ 1 ♀, V. Zeman lgt., P. Kment det. (VZPC).

Remarks. A widely distributed West-Palaearctic species with the centre of its distribution in the Mediterranean, but reaching as far as Denmark, Sweden, and Byelorussia in the north (RIDER 2006, AUKEMA *et al.* 2013). It prefers xerothermic grasslands, feeding on Poaceae (STEHLÍK 1985, DERJANSCHI & PÉRICART 2006, WACHMANN *et al.* 2008). A remarkable decline in the distribution of *A. rostrata* was observed in Germany and Austria since the middle of 20th century, with the species becoming extinct in Germany and recent records from just eastern Austria (GÜNTHER *et al.* 1998, RABITSCH 2007, WACHMANN *et al.* 2008). The same phenomenon occurred in the Czech Republic, well documented by STEHLÍK (1985) in Moravia, where the species was still widespread but quite rare in the 1940–1950s, but had not been previously found since 1963. This led to the species' being considered "regionally extinct" in the Czech Republic (KMENT & VILÍMOVÁ 2006). In Slovakia, it became very rare in the 1970–1980s, although it seems to have maintained a continuous presence there, with an increasing number of records since 1990 (ŠTEPANOVIČOVÁ 1977, 1991; STEHLÍK & VAVŘÍNOVÁ 1993). Here we provide the first recent records of the species for the Czech Republic after an interval of 41 years.

Eurydema fieberi Fieber, 1837

(Fig. 30)

Material examined. Bohemia bor.: Ústí nad Labem – Brná, Sluneční stráň NM (5350), rocky steppe, 22.vi.2011, 2 ♂♂, J. Moravec lgt., P. Kment det. (NMPC); Lovosice, Lovoš NNR (5450), rocky steppe under the top, 22.iv.2011, 1 spec., photographed by J. Vitek, P. Kment det. **Bohemia centr.:** Vrané nad Vltavou, Zvolská homole NR (6052), 28.iii.1998, 1 ♂, M. Řezáč lgt., P. Kment det. (VMPC). **Moravia mer.:** Mohelno, Mohelenská hadcová step NPR (49°06'31.53"N 16°11'12.99"E, 6863), on and under *Alyssum montanum*, 11.v.2013, 11 spec. observed, M. Horsák, P. Kment & Biotým lgt. (1 ♂ in MHBC, 2 ♂♂ 1 ♀ in MVBC, 2 ♂♂ in NMPC); Klentnice, Růžový vrch NNR (7165), 12.vii.2010, 1 ♂, K. Hradil lgt. et det. (KHMC). **Slovakia mer.:** Tribeč Mts., Šitáre env., Žibrica (7674–75), 1.viii.1982, 1 ♂, J. Cunev lgt., P. Kment det. (JCNS); Plášťovce (7879), 30.v.1990, 1 ♂, P. Kapitola lgt., K. Hradil det. (KHMC).

Remarks. Holomediterranean–Central Asiatic species distributed from Portugal and Morocco to the Northwest Territory of China, Afghanistan, and India (RIDER 2006, AUKEMA *et al.* 2013). *Eurydema fieberi* lives on plants of the family Brassicaceae, e.g. *Erysimum* spp., *Biscutella laevigata*, *Leucosinapis* (= *Sinapis*) *alba*, *Isatis tinctoria*,

Erophila (= *Draba*) *verna*, *Aurinia* (= *Alyssum*) *saxatilis*, *Cardaria draba*, *Sisymbrium* spp., *Lepidium* spp., *Thlaspi* spp., and *Barbarea vulgaris* subsp. *arcuata* (STEHLÍK 1986, STEHLÍK & VAVŘINOVÁ 1994, DERJANSCHI & PÉRICART 2006, WACHMANN *et al.* 2008). Here we report it for the first time on *Alyssum montanum*. KMENT & VILÍMOVÁ (2006) considered the species “regionally extinct” in the Czech Republic, based on STEHLÍK (1986). However, it was subsequently demonstrated that the species survives in the České Středohoří Mts. and the River Vltava valley in the environs of Prague in Bohemia (KMENT & JINDRA 2008). Despite an intensive sampling effort, the species has not been recorded in Moravia since 1952 (records from Pavlovské vrchy Hills), in the Mohelno locality even since 1942 (STEHLÍK 1986). Here we provide a recent Moravian record after an interval of 61 years.

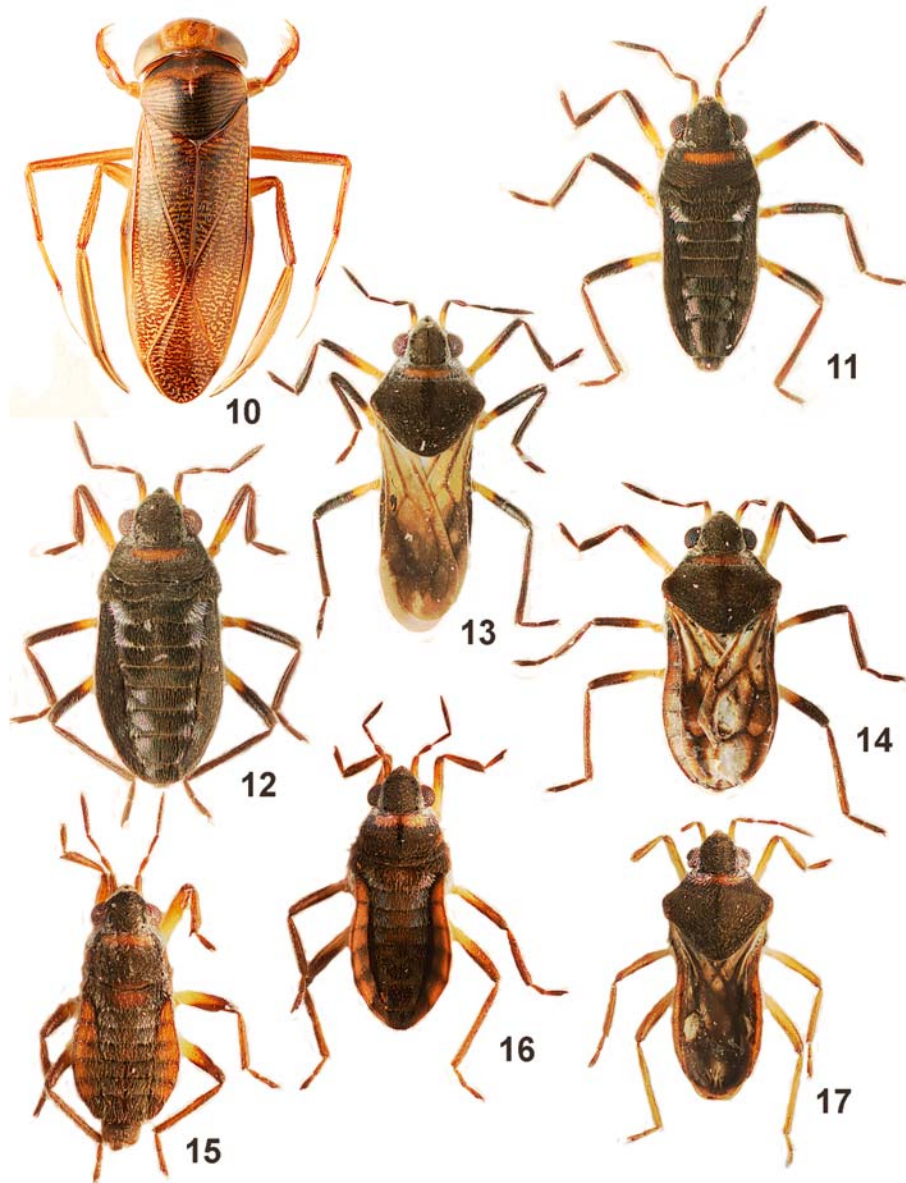
Errata to previous paper

KMENT & BAŇAŘ (2012): The following changes are required:

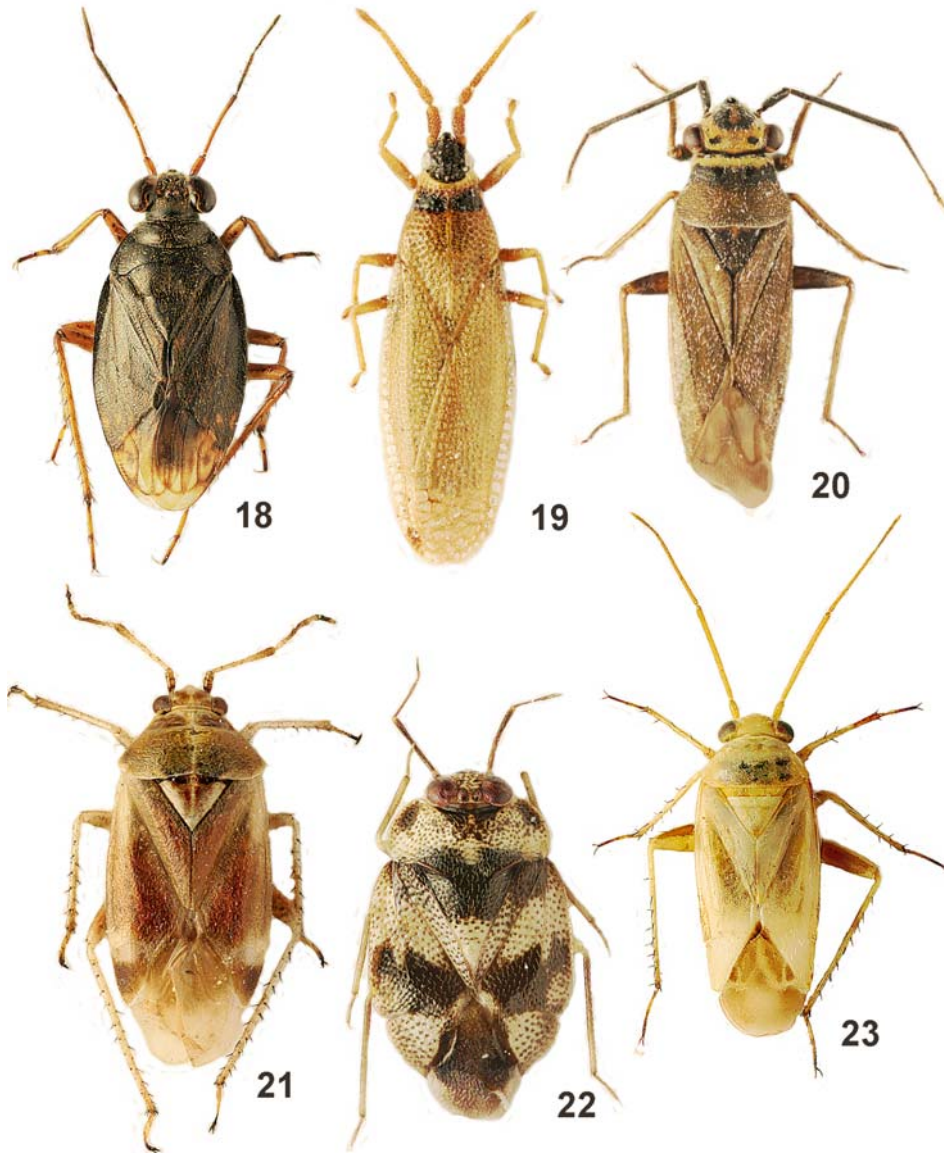
- p. 519. *Cimex pipistrelli* Jenyns, 1839. Add a published record from Luhačovice (6872) for *Myotis myotis* (BARTONIČKA 2010). Overlooked.
- p. 522. *Aneurus (Aneurus) laevis* (Fabricius, 1775). The record from Starý Hrozenkov, Skalka quarry, is based on a misidentification of *Aneurus (Aneurodes) avenius* (Dufour, 1833). There is no record of *A. laevis* in the Bílé Karpaty Protected Landscape Area; the number of species occurring in the Bílé Karpaty PLA is therefore reduced to 500.

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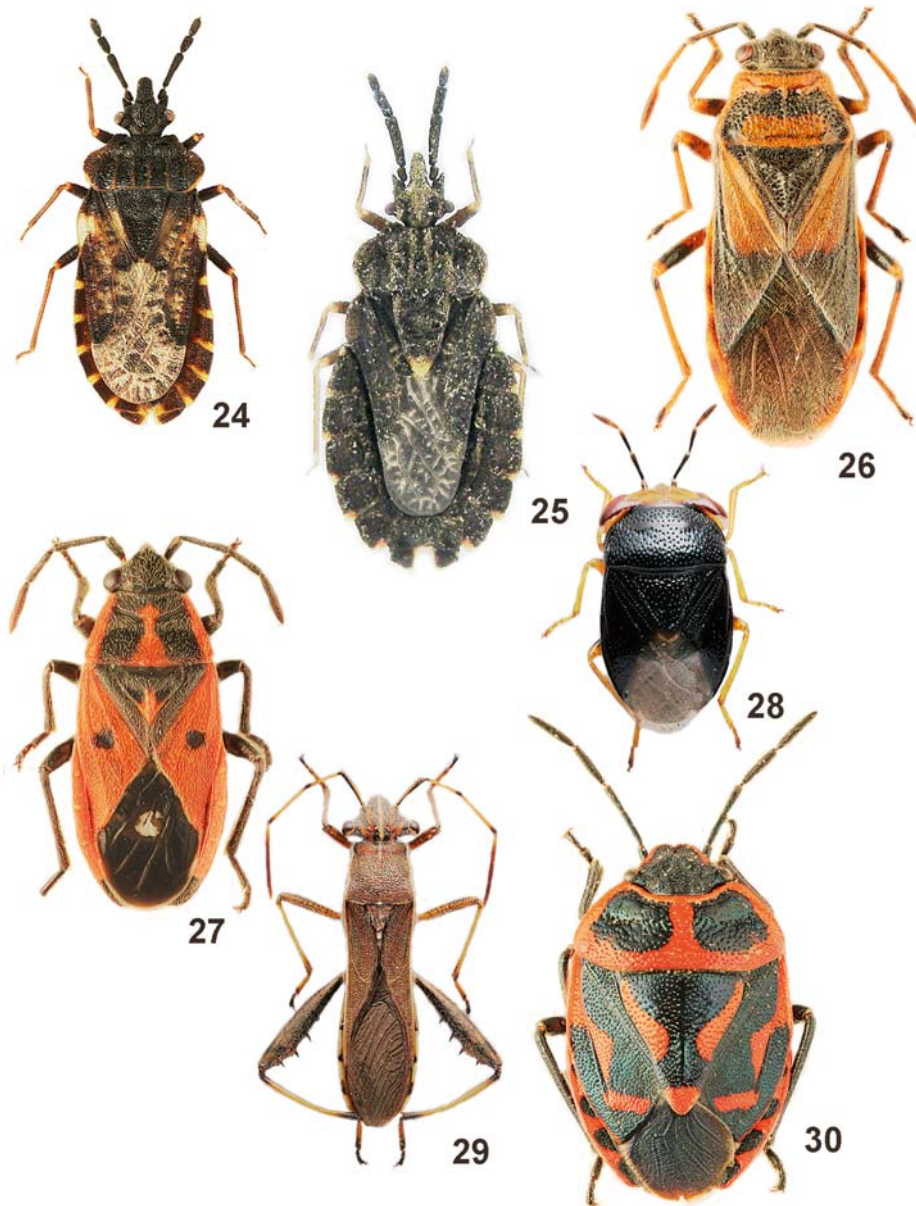
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Figs 10–17. Habitus of some Heteroptera recorded in the Czech Republic and Slovakia. 10 – *Arctocoris germari germari* (Fieber, 1848), ♂, Přebuz (MMLC) (8.7 mm); 11 – *Microvelia buenoi* Drake, 1920, ♂ (apterous), Hrabanovská černava NNR (2.0 mm); 12 – *M. buenoi*, ♀ (apterous), Kokořínský důl NR (1.7 mm); 13 – *M. buenoi*, ♂ (macropterous), Hrabanovská černava NNR (2.1 mm); 14 – *M. buenoi*, ♀ (macropterous), Hrabanovská černava NNR (1.9 mm); 15 – *M. pygmaea* (Dufour, 1833), ♂ (apterous), Most při Bratislavě (MSHC); 16 – *M. pygmaea*, ♀ (apterous), Ivaň, Nové Mlýny (NMPC); 17 – *M. pygmaea*, ♀ (macropterous), Travní Dvůr SAC (MSHC). (Photo: P. Kment.)



Figs 18–23. Habitus of some Heteroptera recorded in the Czech Republic and Slovakia. 18 – *Salda henschi* (Reuter, 1891), ♂, Rejvíz (NMPC) (4.7 mm); 19 – *Agramma atricapillum* (Spinola, 1837), ♀, Čiližské mokrade (NMPC) (2.8 mm); 20 – *Hyoidea noticeps* Reuter, 1876, ♂, Čenkov (NMPC) (3.8 mm); 21 – *Harpocera hellenica* Reuter, 1876, ♀, Mohelno (NMPC) (4.4 mm); 22 – *Isometopus mirificus* Mulsant et Rey, 1879, ♀, Tvrdonice (NMPC) (2.3 mm); 23 – *Tuponia macedonica* Wagner, 1957, ♂, Břeží (KHMC) (3.3 mm). (Photo: P. Kment.)



Figs 24–30. Habitus of some Heteroptera recorded in the Czech Republic and Slovakia. 24 – *Aradus bimaculatus* Reuter, 1872, ♀, Hajnačka (OKVC) (5.0 mm); 25 – *Aradus crenaticollis* R. Sahlberg, 1848, ♀, Milovice (VHNC) (8.2 mm); 26 – *Arocatus melanocephalus* (Fabricius, 1798), ♂, Velký Lel (NMPC) (6.9 mm); 27 – *Melanocoryphus tristrami* (Douglas et Scott, 1868), ♀, Čenkov (NMPC) (5.6 mm); 28 – *Geocoris erythrocephalus* (Lepeletier et Serville, 1825), ♂, Poštorná (NMPC) (3.3 mm); 29 – *Camptopus lateralis* (Germar, 1817), ♀, Poštorná (NMPC) (12.7 mm); 30 – *Eurydema fieberi* Fieber, 1837, ♂, Mohelno (NMPC) (7.0 mm). (Photo: 24, 26–30 P. Kment; 25 V. Hanzlík.)

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