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New distributional data and an updated and commented list of Czech and Slovak Sarcophagidae (Diptera)

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Summary. Based on a revision of large recent collections housed by Czech University of Life Sciences Prague, Masaryk University, Brno, and in the private collection of Yu. Verves (Kyiv, Ukraine), new distributional data and an updated and commented list of Czech and Slovak Sarcophagidae are presented. The following six species are firstly recorded from the Czech Republic: *Macronychia* (*s. str.*) *substriginervis* Verves & Khrokalo, 2006, *Paragusia multipunctata* (Rondani, 1859), *Oebalia praeclusa* (Pandellé, 1895), *Nyctia lugubris* (Macquart, 1843), *Blaesoxipha dupuisi* Léonide & Léonide, 1973, and *B. grylloctona* Loew, 1861. As a result, 143 species of the family Sarcophagidae are currently known from the Czech Republic (109 from Bohemia and 129 from Moravia), and 131 species are known from Slovakia.

Résumé. Nouvelles données de répartition et liste mise à jour et commentée des Sarcophagidae de République tchèque et de Slovaquie (Diptera). En se basant sur la révision de matériel récemment collecté, conservé dans les collections de l'Université tchèque des Sciences de la vie à Prague, de l'Université Masaryk à Brno et de la collection privée de Yu. Verves (Kiev, Ukraine), de nouvelles données de répartition et une liste mise à jour et commentée des Sarcophagidae de République tchèque et de Slovaquie sont présentées. Les six espèces suivantes sont signalées pour la première fois de République tchèque : *Macronychia* (*s. str.*) *substriginervis* Verves & Khrokalo, 2006, *Paragusia multipunctata* (Rondani, 1859), *Oebalia praeclusa* (Pandellé, 1895), *Nyctia lugubris* (Macquart, 1843), *Blaesoxipha dupuisi* Léonide & Léonide, 1973, et *B. grylloctona* Loew, 1861. Ainsi, 143 espèces de la famille des Sarcophagidae sont actuellement connues en République tchèque (109 de Bohême et 129 de Moravie), et 131 en Slovaquie.

Keywords: Calypttrata; faunistics; new records; Czech Republic; Slovakia

Sarcophagidae is a family of small to large flies ranging from 2 mm to 22 mm in total length. The larvae of many Paramacronychiinae and Sarcophaginae species are necrophagous and prefer small animal carrion (both invertebrate and vertebrate); rarely do they develop in feces. The larvae of many species, even if in the first stage, are predators of larvae of other Diptera (*Ravinia* spp., *Rosellea* spp., etc.) as well as other organisms (bacteria etc.). The larvae of so called "cadaver-predators" can be predators of lepidopteran pupae, facultative parasitoids of beetles and other insects, or necrophagous (e.g. *Liopygia* spp., *Liosarcophaga* spp., *Kramerea schuetzei* (Kramer, 1909), *Parasarcophaga* spp., *Robineauella* spp.). The larvae of several Sarcophaginae [e.g. *Liopygia uliginosa* (Kramer, 1908)] and Paramacronychiinae [*Agria affinis* (Fallén, 1817), *A. mamillata* (Pandellé, 1896), *Angiometopa* spp.] are obligatory predators of lepidopteran and sawfly pupae. Larvae of *Sarcophaga* spp. are obligate parasites of earthworms and soil-inhabiting noctuid caterpillars. Many species are known as parasites or species-specific necrophages of terrestrial

snails (*Nyctia* spp., *Discachaeta* spp., *Heteronychia* spp., *Johnsonia* spp., *Krameromyia* spp.). The parasitic larvae of Protodexiini have orthopteran and coleopteran hosts. The larvae of *Brachicoma* spp. are predators of larvae and pupae of bumblebees. Some species are known as predators of the eggs of lizards (*Pandelleana* spp.) and egg sacks of spiders (*Sarina* spp.). The larvae of most Macronychiinae and Miltogramminae are inquilines (kleptoparasites) of solitary wasps and bees, and rarely (several Phyllotelini) of termite nests. The larvae of *Senotainia tricuspis* (Meigen, 1838) are parasitoids of adult honeybees (the fly female infects flying bees only). Some Miltogramminae species are known as predators of the eggs of marine turtles (*Phylloteles* spp.) or are necrophagous (*Mesomelena mesomelaena* Loew, 1848, *Phylloteles pictipennis* Loew, 1844). Larvae of many species facultatively produce wounds or occasional intestinal myiasis in various vertebrates including humans. The larvae of *Wohlfahrtia meigeni* (Schiner, 186) and *W. vigil* Walker, 1849 are obligate parasites of vertebrates, causing cutaneous myiasis in amphibians, reptiles, etc., whereas larvae of *W. magnifica* (Schiner, 1862) only

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attack warm-blooded hosts. For more details about the biology of flesh flies, consult Pape (1998), Pape et al. (2012), Rohdendorf (1937, 1967), Verves (1983), and Verves & Khrokalo (2006, 2009)

Adult sarcophagid flies are distributed in various ecosystems, but the majority prefer humid warm forests, bushes, meadows, or xerophytic sandy areas. Adults with schizobiontic or predacious larvae feed on the liquids of decaying animal matter, sweat and saliva of animals and humans, fallen fruit, honeydew and more rarely nectar and pollen of flowers. Adult flies with parasitic and kleptoparasitic larvae prefer nectar and honeydew. Only four species are eusynanthropic worldwide [*Bercaea africa* (Wiedemann, 1824), *Liopygia argyrostoma* (Robineau-Desvoidy, 1830), *L. crassipalpis* (Macquart, 1839), *L. ruficornis* (Fabricius, 1794)] and about 100 are known as hemisynanthropic (e.g. other *Bercaea* spp., *Helicophagella* spp., other *Liopygia* spp., *Liosarcophaga* spp., *Parasarcophaga* spp., *Ravinia* spp.). Adults of synanthropic species are known as mechanical vectors of different intestinal diseases, poliomyelitis, leprosy, tuberculosis, mycosis, etc. For more information about the behavior of adult flesh flies, consult Rohdendorf (1937, 1967), Verves (1983), or Verves & Khrokalo (2006, 2009).

Altogether 407 genera and 2859 species in the subfamilies Macronychiinae (one genus, 21 species), Miltogramminae (57 genera, 656 species), Eumacronychiinae (seven genera, 43 species), Paramacronychiinae (19 genera, 81 species) and Sarcophaginae (323 genera, 2058 species) have been described from all continents, with the exception of the Arctic and Antarctic regions (Verves 1986b, Yu. Verves personal archive, updated to December 2017).

The last checklist of Czech and Slovak Sarcophagidae (Kejval & Pape 2009) listed 128 species from the Czech Republic (91 from Bohemia, 123 from Moravia) and 128 species from Slovakia. Additional records were published by Verves et al. (2015, 2016). Six additional species are firstly recorded from the Czech Republic herein. Because of these novelties and changes in taxonomy of several species, 143 species of the family Sarcophagidae are currently known from the Czech Republic (109 from Bohemia and 129 from Moravia), and 131 species are known from Slovakia.

Material and methods

This article is the result of a revision of recently collected material housed in the collections of the Czech University of Life Sciences, Prague and Masaryk University, Brno, and in the private collection of Yu. Verves (Kyiv, Ukraine). Abbreviations: CZ = Czech Republic (B = Bohemia, M = Moravia), SK = Slovakia.

Results

New records

Species in this section are listed alphabetically.

***Blaesoxipha dupuisi* Léonide & Léonide, 1973.** Material examined: Bohemia: Temelín, nuclear power station, wetland, 510 m, MT, 49°10'54" N, 14°23'10" E, 1.VII–13.IX.2007 (J. Farkač leg.), 3 males. This species is distributed throughout the Palaearctic Region, ranging from Algeria and France to Japan. These are the first records from the Czech Republic.

***Blaesoxipha grylloctona* Loew, 1861.** Material examined: Bohemia: Temelín, nuclear power station, wetland, 510 m, 49°10'54" N, 14°23'10" E, 21.V–24.VI.2007 (J. Farkač leg.), 2 males, 1 female. This species is distributed in the Palaearctic Region from the Azores to the Far East, southwards to Saudi Arabia. These are the first records from the Czech Republic.

***Macronychia* (s. str.) *substriginervis* Verves & Khrokalo, 2006.** Material examined: Moravia: Hrubý Jeseník, Velká Kotlina, deciduous scrub, 1300 m, MT, 50°03'23" N, 17°14'18" E, 7.VII–23.VIII. 2004 (J. Ševčík leg.), 1 male. This species is known up to present from France (pers. comm. of Yu. Verves with R. Richet), Czech Republic (first recorded here), Russia (Krasnoyarskiy Krai), Turkmenistan, Ukraine, and Uzbekistan (Verves & Khrokalo 2006). This is the first record from the Czech Republic.

***Metopia argentata* Macquart, 1850.** Material examined: Bohemia: Šumava-Spálenec, damp meadow, 800 m, 48°56' N, 13°57' E, 15.VIII.1994 (M. Barták leg.), 1 female. The record from Bohemia is based on a record of *M. roseri* by Povolný (1997). We do not believe it was misinterpreted as *M. italiana* Pape, 1985 (as suggested by Kejval & Pape 2009) because the latter is distinctly different. This species is distributed in the Palaearctic Region from France to Japan (Honshu), southwards to Tibet, and also in some parts of the Oriental Region (Jammu and Kashmir, Sulawesi, Taiwan, Thailand).

***Nyctia lugubris* (Macquart, 1843).** Material examined: Moravia: Třinec-Jahodná, on flowers, 400 m, 49°46' N, 18°43' E, 1.VIII.1994 (M. Barták leg.), 1 male; Třinec-Sosna, edge of wood, YPTW, 350 m, 49°46' N, 18°44' E, 24–27.VII.1996 (M. Barták leg.), 1 female. This species was separated from *N. halterata* by Pape (1996); thus, its distributional area is only unsatisfactorily known, ranging from Mediterranean countries: Italy (Sicily only), Malta, France (Provence and Richelieu), Portugal, Spain, Canary Islands, Algeria (*terra typica*), Tunisia, Cyprus, Israel, Turkey, to Czech Republic (first records).

***Oebalia praeclusa* (Pandellé, 1895).** Material examined: Bohemia: Šumava-Plechý, on *Glyceria maxima*, 1050 m, 48°46' N, 13°53' E, 22.VII.1992 (M. Barták leg.), 2 males, 8 females; Únětice, on flowers, 250 m,

50°09' N, 14°20' E, 28.V.1993 (M. Barták leg.), 1 male; Moravia: Lanžhot – Soutok, floodplain meadows, 21.VII.1994 (R. Rozkošný & J. Vaňhara leg.), 1 female. This species is distributed in the Palaearctic Region from Denmark and Sweden to Far East. These are the first records from the Czech Republic.

***Paragusia multipunctata* (Rondani, 1859).** Material examined: Bohemia: Temelín, nuclear power station, wetland, 510 m, PT, 49°10'54" N, 14°23'10" E, V.2007 (J. Farkač leg.), 11 males, 32 females. This species is widely distributed in the Palaearctic Region from the Canary Islands to China, as well as in the Afrotropical Region down to South Africa and in the Oriental Region (Thailand, Vietnam). These are the first records from the Czech Republic.

***Sarcophaga schusteri* Lehrer, 1959.** Material examined: Moravia: Beskydy Mts, Lysá hora, hilltop, MT, 1323 m, 49°32'46" N, 18°26'53" E, 29.VII–31.VIII.2007 (M. Barták leg.), 1 male; Horní Lomná, on flowers, 600 m, 49°32' N, 18°37' E, 6.VIII.1994 (M. Barták leg.), 1 male. This species has been confused with *S. subvicina* Rohdendorf, 1937; by Verves (1986a, p. 189) and Pape (1996, p. 390). Its validity as a separate species was established by Lehrer (2006b). This species is known from Austria, Bulgaria, France, Hungary, Sicily, Romania, Slovakia, Ukraine, and Czech Republic. Čepelák (1983) reported this species (as “*S. susteri* Lehrer, 1959”) from the Jizerské hory Mts (Bohemia). These are the first records from Moravia.

***Sarcophaga vulgaris* Rohdendorf, 1937.** Material examined: Bohemia: Lnáře – 5 km N, flowering Daucaceae, 400 m, 49°29' N, 13°47' E, 19.VIII.1989 (M. Barták leg.), 1 male; Mnichovice, nr brook, YPWT, 350 m, 49°56' N, 14°42' E, 20–21.VII.1996 (M. Barták leg.), 1 male. The validity of this species was discussed by Lehrer (2006a, 2006b). Its geographical distribution is known very fragmentarily and covers Azerbaijan, Georgia, Czech Republic, Russia (European part, North Caucasus), West Siberia, Syria, and Ukraine. The species was first reported from the Czech Republic by Verves et al. (2016) from the Krkonoše Mts. These are the second records from the Czech Republic and Bohemia.

An updated checklist of Czech and Slovakian Sarcophagidae

This checklist is arranged according to the tradition of Czech and Slovak checklists of Diptera: Ježek (ed.) (1987), Chvála (ed.) (1997), Jedlička et al. (eds) (2006, 2009). All additions to the latest checklist (Kejval & Pape 2009) are marked with “*” (data from Verves et al. 2015, 2016) or “***” (new data in this paper).

Subfamilies, genera, subgenera and species are listed and ordered according to the catalogue of Verves (1986a),

taking subsequent additions into account (Povolný & Verves 1997; Verves 2001a, 2001b; Verves & Khrokalo 2006; 2009, 2014a, 2014b; Verves et al. 2015, 2017; Xue et al. 2011, 2015). We are aware of conflicts between this conception and recent molecular studies (e.g. Piwczynski et al. 2017), so we used a more traditional approach.

MACRONYCHINAE

- Macronychia* (*Moschusa*) *agrestis* (Fallén, 1810) CZ (BM) SK
Macronychia (*Moschusa*) *alpestris* Rondani, 1865 CZ (BM) SK
 = *Macronychia dumosa*: Jacentkovský (1941); Verves (1982, 1986a).
Macronychia (*Moschusa*) *griseola* (Fallén, 1820) CZ (M) SK
Macronychia (*Moschusa*) *polyodon* (Meigen, 1824) CZ (BM) SK
Macronychia (*s. str.*) *dolini* Verves & Khrokalo, 2006 CZ (BM)
 = *Macronychia kanoi*: Pape (1996, part); Verves (1982, part; 1986a, part; 2000).
Macronychia (*s. str.*) *lemariei* Jacentkovský, 1941 CZ (M) SK
Macronychia (*s. str.*) *striginervis* (Zetterstedt, 1838) CZ (BM) SK
Macronychia (*s. str.*) *substriginervis* Verves & Khrokalo, 2006 CZ (M**)

MILTOGRAMMINAE

- Amobia oculata* (Zetterstedt, 1844) CZ (BM) SK
 = *Amobia distorta*: Čepelák & Slamečková (1986); Verves (1986a).
 = *Pachyophthalmus distortus*: Jacentkovský (1941).
 = *Pachyophthalmus dyki* Jacentkovský, 1939: Jacentkovský (1941).
Amobia pelopei (Rondani, 1859) CZ (M)
Amobia signata (Meigen, 1824) CZ (BM) SK
Apodacra dispar Villeneuve, 1916 CZ (M)
Apodacra pulchra Egger, 1861 CZ (B) SK
Miltogramma brevipila Villeneuve, 1911 CZ (M) SK
Miltogramma germari Meigen, 1824 CZ (BM) SK
Miltogramma murina Meigen, 1824 CZ (BM) SK
Miltogramma oestracea (Fallén, 1820) CZ (BM) SK
Miltogramma punctata Meigen, 1824 CZ (BM) SK
Miltogramma testaceifrons (von Roser, 1840) CZ (BM) SK
Miltogramma villeneuvei Verves, 1982 CZ (BM) SK
Miltogrammidium rutilans (Meigen, 1824) CZ (B) SK
Miltogrammidium taeniatum (Meigen, 1824) CZ (B) SK
Protomiltogramma fasciata (Meigen, 1824) CZ (M) SK
Pterella grisea (Meigen, 1824) CZ (BM) SK
Pterella melanura (Meigen, 1824) CZ (M) SK
Pterella penicillaris (Rondani, 1865) CZ (BM)
Senotainia (*Arrenopus*) *albifrons* (Rondani, 1859) CZ (BM) SK
Senotainia (*Arrenopus*) *puncticornis* (Zetterstedt, 1859) CZ (BM) SK
Senotainia (*s. str.*) *conica* (Fallén, 1810) CZ (BM) SK
Senotainia (*s. str.*) *tricuspis* (Meigen, 1838) CZ (M) SK
Metopia argentata Macquart, 1850 CZ (B) SK
 = *Metopia roseri*: Povolný (1997).
 = *Metopia stackelbergi*: Čepelák & Slamečková (1986); Verves (1986a).
Metopia argyrocephala (Meigen, 1824) CZ (BM) SK
 = *Metopia leucocephala*: Jacentkovský (1941).
Metopia campestris (Fallén, 1810) CZ (BM) SK
Metopia grandii Venturi, 1953 CZ (BM)

Metopia italiana Pape, 1985 CZ (BM)
Metopia staegerii Rondani, 1859 CZ (BM) SK
 = *Metopia argentata*: Verves (1986a).
 = *Metopia rondaniana*: Čepelák & Slamečková (1986);
 Verves (1986a).
Phrosinella (s. str.) *nasuta* (Meigen, 1824) CZ (BM) SK
Sphenometopa (*Euaraba*) *fastuosa* (Meigen, 1824) CZ (BM) SK
Hilarella hilarella (Zetterstedt, 1844) CZ (BM) SK
Hilarella stictica (Meigen, 1830) CZ (BM) SK
 = *Hilarella dira*: Jacentkovský (1941).
 = *Hilarella syphonina*: Jacentkovský (1941).
Paragusia multipunctata (Rondani, 1859) CZ (B**)
Taxigramma heteroneura (Meigen, 1830) CZ (BM) SK
Oebalia cylindrica (Fallén, 1810) CZ (BM)
Oebalia praeclusa (Pandellé, 1895) CZ (B**M**)
Ptychoneura minuta (Fallén, 1810) CZ (BM) SK
Mesomelena mesomelaena (Loew, 1848) CZ (M) SK
Metopodia pilicornis (Pandellé, 1895) CZ (M)
 = *Metopodia grisea*: Jacentkovský (1941); Kejval &
 Pape (2009); Pape & Barták (2006); Povolný (1997).
Phylloteles pictipennis (Loew, 1844) CZ (BM) SK

PARAMACRONYCHINAE

Nyctia halterata (Panzer, 1798) CZ (BM) SK
Nyctia lugubris (Macquart, 1843) CZ (M**)
Agria affinis (Fallén, 1817) CZ (BM) SK
 = *Agria punctata*: Povolný (1997).
Agria mamillata (Pandellé, 1896) CZ (BM) SK
Agria monachae (Kramer, 1908) CZ (M) SK
Angiometopa falleni Pape, 1986 CZ (B) SK
 = *Angiometopa ruralis*: Čepelák & Slamečková
 (1986); Verves (1986a).
Brachicoma devia (Fallén, 1820) CZ (BM) SK
Brachicoma papei Verves, 1990 CZ (BM)
Paramacronychia flavipalpis (Girschner, 1881) CZ (BM) SK
Sarcophila latifrons (Fallén, 1817) CZ (BM) SK
Wohlfahrtia magnifica (Schiner, 1862) SK
Wohlfahrtia meigeni (Schiner, 1862) CZ (BM) SK

SARCOPHAGINAE

Blaesoxipha cochlearis (Pandellé, 1896) CZ (BM) SK
Blaesoxipha dupuisi Léonide & Léonide, 1973 CZ (B**)
Blaesoxipha grylloctona Loew, 1861 CZ (B**)
Blaesoxipha laticornis (Meigen, 1826) CZ (BM) SK
 = *Blaesoxipha gladiator*: Čepelák & Slamečková
 (1986); Jacentkovský (1941); Verves (1986a).
 = *Blaesoxipha plumicornis*: Kejval & Pape (2009);
 Pape & Barták (2006); Povolný (1997).
Blaesoxipha occatrix (Pandellé, 1896) CZ (M) SK
 = *Blaesoxipha rohdendorfi* Jacentkovský, 1940:
 Jacentkovský (1941).
Blaesoxipha redempta (Pandellé, 1896) CZ (M) SK
 = *Gesneriodes lineata*: Jacentkovský (1941).
 = *Blaesoxipha campestris*: Čepelák & Slamečková
 (1986); Verves (1986a).
 = *Blaesoxipha lapidosa*: Kejval & Pape (2009); Pape
 (1996); Pape & Barták (2006); Povolný (1997).
Blaesoxipha unguolata (Pandellé, 1896) CZ (BM)
Servaisia (s. str.) *erythrura* (Meigen, 1826) CZ (BM) SK
Servaisia (s. str.) *rossica* (Villeneuve, 1912) CZ (M) SK
Tephromyia grisea (Meigen, 1826) CZ (BM) SK
Ravinia pernix (Harris, 1780) CZ (BM) SK

= *Ravinia striata*: Čepelák & Slamečková (1986);
 Jacentkovský (1941).
Sarcotachinella sinuata (Meigen, 1826) CZ (BM) SK
Helicophagella (*Parabellieria*) *macrura* (Rohdendorf, 1937) SK
Helicophagella (*Parabellieria*) *melanura* (Meigen, 1826) CZ
 (BM) SK
Helicophagella (s. str.) *agnata* (Rondani, 1860) CZ (BM) SK
Helicophagella (s. str.) *cepelaki* (Lehrer, 1975) CZ (B) SK
 = *Bellieria novercoides*: Čepelák & Slamečková
 (1986); Povolný & Slamečková (1969, 1977)).
 = *Sarcophaga* (*Helicophagella*) *okaliana*: Kejval &
 Pape (2009); Pape & Barták (2006).
Helicophagella (s. str.) *crassimargo* (Pandellé, 1896) CZ
 (BM) SK
Helicophagella (s. str.) *novella* (Baranov, 1929) SK
 = *Sarcophaga* (*Helicophagella*) *verstraeteni*: Pape
 (1996); Povolný & Hula (2004).
Helicophagella (s. str.) *noverca* (Rondani, 1860) CZ (BM) SK
Helicophagella (s. str.) *novercoides* (Boettcher, 1913) CZ (B*)
Helicophagella (s. str.) *rosellei* (Boettcher, 1912) CZ (BM) SK
Discachaeta arcipes (Pandellé, 1896) CZ (BM) SK
Discachaeta cucullans (Pandellé, 1896) CZ (M) SK
Discachaeta pumila (Meigen, 1826) CZ (BM) SK
Heteronychia (*Boettcherella*) *mutila* (Villeneuve, 1912) SK
Heteronychia (*Ctenodasypygia*) *minima* (Rondani, 1862) CZ
 (M) SK
Heteronychia (s. str.) *belanovskyi* Verves, 1973 CZ (M) SK
 = *Heteronychia* (s. str.) *ancilla*: Čepelák & Slamečková
 (1986); Povolný (1997); Verves (1986a, part).
 = *Sarcophaga* (*Heteronychia*) *ancilla*: Kejval & Pape
 (2009); Pape (1996, part); Pape & Barták (2006).
Heteronychia (s. str.) *benaci* (Boettcher, 1913) CZ (BM) SK
 = *Heteronychia* (s. str.) *bezziana*: Čepelák &
 Slamečková (1986); Povolný (1997).
 = *Sarcophaga* (*Heteronychia*) *bezziana*: Pape (1996).
Heteronychia (s. str.) *bulgarica* (Enderlein, 1936) CZ (BM) SK
 = *Pierretia boettcheriana*: Jacentkovský (1941).
 = *Heteronychia* (*Spatulapica*) *boettcheriana*: Čepelák
 & Slamečková (1986); Verves (1986a).
Heteronychia (s. str.) *chaetoneura* Brauer & Bergenstamm, 1889
 CZ (B) SK
 = *Pierretia dissimilis*: Jacentkovský (1941, part).
 = *Heteronychia* (s. str.) *dissimilis*: Čepelák &
 Slamečková (1986, part); Povolný (1997, part);
 Verves (1986a, part).
 = *Sarcophaga* (*Heteronychia*) *dissimilis*: Pape (1996,
 part).
Heteronychia (s. str.) *depressifrons* (Zetterstedt, 1845) CZ
 (BM) SK
 = *Pierretia obscurata*: Jacentkovský (1941).
 = *Heteronychia* (*Spatulapica*) *obscurata*: Čepelák &
 Slamečková (1986); Verves (1986a).
Heteronychia (s. str.) *dissimilis* (Meigen, 1826) CZ (BM) SK
Heteronychia (s. str.) *haemorrhoea* (Meigen, 1826) CZ (BM) SK
Heteronychia (s. str.) *haemorrhoides* (Boettcher, 1913) CZ
 (BM) SK
Heteronychia (s. str.) *infixa* (Boettcher, 1913) CZ (M)
Heteronychia (s. str.) *lacrymans* (Villeneuve, 1912) CZ (M) SK
 = *Heteronychia* (s. str.) *cepelaki*: Čepelák &
 Slamečková (1986); Kejval & Pape (2009); Pape
 (1996); Pape & Barták (2006); Povolný (1997);
 Verves (1996a).
Heteronychia (s. str.) *pauciseta* (Pandellé, 1896) SK
Heteronychia (s. str.) *porrecta* (Boettcher, 1913) CZ (M) SK
Heteronychia (s. str.) *proxima* (Rondani, 1860) CZ (B M), SL

- = *Heteronychia (Eupierretia) lednicensis*: Povolný & Verves (1986).
- Heteronychia (s. str.) rohdendorfi* (Povolný & Slamečková, 1959) CZ (BM) SK
= *Sarcophaga (Heteronychia) borodorf* Pape, 1996.
= *Spatulapica lederbergi* Lehrer, 1995.
- Heteronychia (s. str.) rohdendorfiana* Mihályi, 1975 CZ (B*M) SK
= *Sarcophaga (Heteronychia) nigricaudata*: Pape (1996).
= *Sarcophaga (Heteronychia) dissimilis*: Kejval & Pape (2009, part); Pape & Barták (2006, part); Whitmore (2011, part).
- Heteronychia (s. str.) rondaniana* (Rohdendorf, 1937) CZ (M) SK
= *Pierretia arvorum*: Jacentkovský (1941).
= *Heteronychia (s. str.) depressifrons*: Čepelák & Slamečková (1986); Verves (1986a).
- Heteronychia (s. str.) schineri* (Bezzi, 1891) CZ (BM) SK
- Heteronychia (s. str.) slovacica* (Povolný & Slamečková, 1967) CZ (BM) SK
- Heteronychia (s. str.) vagans* (Meigen, 1826) CZ (BM) SK
= *Pierretia frenata*: Jacentkovský (1941).
- Heteronychia (s. str.) vicina* (Macquart, 1835) CZ (M) SK
- Heteronychia (Pandelleola) filia* (Rondani, 1860) CZ (BM) SK
- Karovia hirticrus* (Pandellé, 1896) CZ (BM) SK
- Asceloctella (Mimarhopocnemis) granulata* (Kramer, 1908) CZ (M) SK
- Bellieriomima subulata* (Pandellé, 1896) CZ (BM) SK
= *Thyrsocnema laciniata*: Jacentkovský (1941).
- Krameromyia anaces* (Walker, 1849) CZ (M) SK
= *Kramerella setipennis*: Jacentkovský (1941).
- Myorhina (Mehria) nemoralis* (Kramer, 1908) CZ (BM) SK
- Myorhina (s. str.) lunigera* (Boettcher, 1914) CZ (M) SK
- Myorhina (s. str.) nigriventris* (Meigen, 1826) CZ (BM) SK
- Myorhina (s. str.) pandifera* (Blackith & Pape, 1999) CZ (M) SK
= *Sarcophaga (Myorhina) discifera*: Pape (1996); Pape & Barták (2006); Povolný (1997).
= *Pierretia (s. str.) discifera*: Čepelák & Slamečková (1986); Verves (1986a).
- Myorhina (s. str.) socrus* (Rondani, 1860) CZ (BM) SK
= *Pierretia (s. str.) rostrata*: Čepelák & Slamečková (1986); Verves (1986a).
- Myorhina (s. str.) soror* (Rondani, 1860) CZ (M) SK
= *Sarcophaga discifera* Pandellé, 1896.
- Myorhina (s. str.) villeneuvei* (Boettcher, 1912) CZ (BM) SK
- Pandelleana protuberans* (Pandellé, 1896) CZ (BM) SK
- Sarina sexpunctata* (Fabricius, 1805) CZ (BM) SK
= *Thyrsocnema clathrata*: Jacentkovský (1941).
= *Pierretia (Mehria) clathrata*: Verves (1986a).
= *Pierretia clathrata*: Čepelák & Slamečková (1986).
- Thyrsocnema incisilobata* (Pandellé, 1896) CZ (BM) SK
- Bercaea africa* (Wiedemann, 1824) CZ (BM) SK
= *Coprosarcophaga haemorrhoidalis*: Jacentkovský (1941).
= *Bercaea cruentata*: Čepelák & Slamečková (1986); Povolný (1997); Verves (1986a).
- Liopygia (Jantia) crassipalpis* (Macquart, 1839) CZ (M) SK
= *Parasarcophaga securifera*: Jacentkovský (1941).
- Liopygia (Thomsonaea) argyrostoma* (Robineau-Desvoidy, 1830) CZ (BM) SK
= *Parasarcophaga barbata*: Jacentkovský (1941).
- Liopygia (Varirosellea) uliginosa* (Kramer, 1908) CZ (BM) SK
- Liosarcophaga (Curranea) tibialis* (Macquart, 1851) CZ (M)
- Liosarcophaga (s. str.) emdeni* (Rohdendorf, 1969) CZ (BM) SK
= *Parasarcophaga teretirostris*: Jacentkovský (1941).
- Liosarcophaga (s. str.) harpax* (Pandellé, 1896) CZ (BM) SK
- Liosarcophaga (s. str.) jacobsoni* (Rohdendorf, 1937) SK
- Liosarcophaga (s. str.) parkeri* (Rohdendorf, 1937) CZ (M) SK
= *Parasarcophaga aegyptica*: Čepelák & Slamečková (1986); Kejval & Pape (2009); Pape & Barták (2006); Povolný (1997).
- Liosarcophaga (s. str.) portschinskyi* (Rohdendorf, 1937) CZ (M) SK
- Liosarcophaga (s. str.) tuberosa* (Pandellé, 1896) CZ (BM) SK
- Liosarcophaga (Pandelleisca) similis* (Meade, 1876) CZ (BM) SK
- Parasarcophaga (s. str.) albiceps* (Meigen, 1826) CZ (BM) SK
- Robineauella (Digitiventra) pseudoscoparia* (Kramer, 1911) CZ (BM) SK
- Robineauella (s. str.) caerulescens* (Zetterstedt, 1838) CZ (BM) SK
= *Robineauella (s. str.) scoparia*: Čepelák & Slamečková (1986); Verves (1986a).
- Stackelbergeola mehadiensis* (Boettcher, 1912) CZ (M)
- Sarcophaga bachmayeri* Lehrer, 1978 SK
- Sarcophaga baraschi* Lehrer, 1977 SK
= *Sarcophaga ukrainica*: Kejval & Pape (2009, part); Pape & Barták (2006, part); Povolný & Verves (1987, 1997).
- Sarcophaga carnaria* (Linnaeus, 1758) CZ (BM) SK
= *Sarcophaga schulzi*: Čepelák & Slamečková (1986); Jacentkovský (1941); Verves (1986a).
= *Sarcophaga vulgaris*: Jacentkovský (1941).
- Sarcophaga congesta* Lehrer, 1967 CZ (M) SK
= *Sarcophaga moldavica*: Čepelák & Slamečková (1986); Jacentkovský (1941); Kejval & Pape (2009); Pape & Barták (2006); Verves (1986a).
- Sarcophaga disputata* Lehrer, 1967 SK
= *Sarcophaga subvicina schulzi*: Gregor & Povolný (1961).
- Sarcophaga lehmanni* Müller, 1922 CZ (BM) SK
= *Sarcophaga lasiostyla*: Povolný (1997)
- Sarcophaga moravica* Povolný, 1986 CZ (M)
- Sarcophaga mouchajosefi* Lehrer, 1978 CZ (M)
= *Sarcophaga novaki*: Povolný & Verves (1987).
= *Sarcophaga zumptiana*: Povolný & Verves (1987, part).
- Sarcophaga palavae* Povolný, 1993 CZ (M)
- Sarcophaga romanica* Lehrer, 1967 SK
- Sarcophaga schusteri* Lehrer, 1959 CZ (BM**) SK
- Sarcophaga serbica* Baranov, 1930 SK
- Sarcophaga subvicina* Rohdendorf, 1937 CZ (BM) SK
= *Sarcophaga vicina*: Jacentkovský (1941).
- Sarcophaga ukrainica* Rohdendorf, 1937 SK
- Sarcophaga variegata* (Scopoli, 1763) CZ (BM) SK
= *Sarcophaga carnaria*: Čepelák & Slamečková (1986); Jacentkovský (1941).
- Sarcophaga vulgaris* Rohdendorf, 1937 CZ (B*)
= *Sarcophaga schulzi*: Jacentkovský (1941, part); Verves (1986a, part).
= *Sarcophaga carnaria*: Pape (1996, part).
- Sarcophaga zumptiana* Lehrer, 1959 CZ (M) SK
- Kramerea schuetzei* (Kramer, 1909) CZ (BM) SK
- Rosellea aratrix* (Pandellé, 1896) CZ (BM) SK

Discussion

Faunistic investigations of Sarcophagidae in the Czech Republic were summarized by Povolný & Verves (1997), Pape & Barták (2006), and Kejval & Pape (2009). In spite of this, we found relatively numerous new faunistic records. This is possibly due (in part) to the different collecting methods used. Nearly all previous authors used direct collecting methods, but most of our specimens were sampled by means of mass trapping methods, such as yellow and white pan traps and Malaise traps. Another reason may be the much more extensive materials, where vouchers of individual morphospecies (mostly based on genitalia examination) were selected from thousands of specimens.

Differences with the total number of species known from neighboring countries reflects different degrees of faunistic research rather than real differences in their species composition. The largest number of species is known from Ukraine (179 species – Verves & Khrokalo 2014a, 2014b), whereas the number of sarcophagid species known from Germany (155 species – Rudzinski 1999, with some corrections by Yu. Verves) and Hungary (154 – Papp 2001, with some corrections by Yu. Verves) probably approaches numbers close to real fauna of the Czech and Slovak republics. Lower numbers of species are known from Poland (127 species – Draber-Moňko 2007) and Austria (107 species – Verves 1986a).

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