

Catalogue of type specimens of ants (Hymenoptera: Formicidae) deposited in Czech museums*

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Abstract. Type specimens of ants (Hymenoptera: Formicidae) deposited in natural history museum collections in the Czech Republic are catalogued. Altogether, we list types of 19 extant taxa housed in the Department of Entomology, National Museum, Prague; the Department of Entomology, Moravian Museum, Brno; the Department of Natural History, Museum of the Highlands, Jihlava; and the Department of Natural History, Silesian Museum, Opava.

Key words. Hymenoptera, Aculeata, Formicidae, collection, nomenclature, types

Introduction

Type specimens are fundamental for zoological nomenclature as the bearers of scientific names of nominal species-group taxa. Therefore, they should be safely preserved, listed and made accessible for study (ICZN 1999: Recommendation 72F). Due to a long tradition of zoological research in the country dating back to the 18th century (BEZDĚK 2011), natural history museums in today's Czech Republic harbour type material for many animal taxa which have been partly catalogued for some groups and institutions (e.g., WEBB et al. 1990; RŮŽIČKA et al. 2005; WILSON & MALENOVSKÝ 2007; MLÍKOVSKÝ et al. 2011; DOLEJŠ 2012, 2015; MACHÁČKOVÁ & FIKÁČEK 2014; TKOČ et al. 2014; BATELKA & HÁJEK 2015; KMENT et al. 2015; MALENOVSKÝ et al. 2016).

In this paper we provide a catalogue of all type specimens of extant ants (Hymenoptera: Formicidae) known to us to be preserved in the Czech Republic, namely in the Departments

* Catalogue of type specimens in NMPC, part 15

of Entomology of the National Museum, Prague, and of the Moravian Museum, Brno, at the Departments of Natural History of the Museum of the Highlands, Jihlava, and of the Silesian Museum, Opava. The history of myrmecological collections of these museums was reviewed by BEZDĚČKA & BEZDĚČKOVÁ (2011).

Most of the ant taxa of which the type material is listed here were described by Czech entomologists, namely Štěpán Soudek, Josef Kratochvíl, Vladimír Šilhavý, Josef Sadil, and Karel Samšiňák, from Central Europe (Czech Republic and Slovakia) and the Balkans.

Štěpán Soudek (1889–1936) was a professor of entomology at the University of Agriculture in Brno. He intensively worked on the ant fauna of former Czechoslovakia and published a number of scientific papers (e.g., SOUDEK 1923, 1925a,b), including also the first key for identification of the Czech and Slovak ants (SOUDEK 1922).

Josef Kratochvíl (1909–1992) was a professor of zoology at the University of Agriculture in Brno and the founder and director of the Institute of Vertebrate Biology of the Czechoslovak Academy of Sciences. His scientific activities covered a wide range of topics, from arachnology and entomology to vertebrate biology. He significantly contributed to the knowledge of the ant fauna of the Mohelenská Serpentine Steppe National Nature Reserve in Mohelno, one of the best known myrmecological localities in the Czech Republic (KRATOCHVÍL 1944).

Vladimír Šilhavý (1913–1984) was a physician by profession. Despite not being a professional zoologist, he produced a number of reputable papers on ants and harvestmen (Opiliones). He was the first to conduct a systematic survey of the ant fauna in Mohelno (ŠILHAVÝ 1938).

Josef Sadil (1919–1971) was a professional astronomer, but he was also known as a highly qualified myrmecologist. He focused mainly on the ant fauna of former Czechoslovakia, on which he published a series of papers (e.g., SADIL 1939, 1952, 1954; NOVÁK & SADIL 1941).

Karel Samšiňák (1923–2008) was a parasitologist, a long-time employee of the Institute of Entomology of the Czechoslovak Academy of Sciences. He published, among others, a number of myrmecological works, focused on myrmecophily (e.g., SAMŠIŇÁK 1943), taxonomy (e.g., SAMŠIŇÁK 1951, 1956, 1957a, 1964), and the ant fauna of former Czechoslovakia (e.g., SAMŠIŇÁK 1957b).

Some of these authors described also a few additional ant taxa from the territory of the today's Czech Republic, for which we have been unable to find any type material in museum collections (see BEZDĚČKA & BEZDĚČKOVÁ 2011 for details).

The collections of the Moravian Museum, Brno, and of the National Museum in Prague also contain ant material from Czech expeditions to Afghanistan and Iraq in 1950s and 1960s which was identified by Bohdan Pisanski (1928–1992), a Polish myrmecologist and professor of entomology based at the Institute of Zoology of the Polish Academy of Sciences in Warsaw (PISARSKI 1960, 1970). The collection of the Moravian Museum was further enriched with several paratypes from Jordan donated by Christian Dietrich (DIETRICH 2004).

Altogether, we list type specimens of 19 extant taxa including name-bearing types (holotypes, lectotypes, or syntypes) of 15 taxa.

Material and methods

The classification and nomenclature used in this paper generally follows BOLTON (2016); RADCHENKO & ELMES (2010) is followed for the genus *Myrmica* Latreille, 1804. The taxa are arranged alphabetically. Each entry includes the name of the taxon in its original combination, a reference to the original description (including the original spelling of the taxon name, name of the author, year and page of the description), a list of type specimens available with label data cited in verbatim (our comments are given in square brackets), and current taxonomic status of the name. Any additional problems and inconsistencies are mentioned under Remarks.

Abbreviations and symbols: ♂ – male, ♀ – alate female, d♀ – dealate female, ♂ – worker (in transcription of handwritten entries on original labels ‘[worker symbol]’ is used because of various graphic forms of this symbol used by different authors); hw – preceding data are handwritten, tw – preceding data are typewritten, p – preceding data are printed; IN – inventory number. Further, we used the following symbols: ‘/’ to indicate separate lines within each label, ‘-/-’ to indicate reverse side of the same label, and ‘//’ to indicate separate labels. The following collection acronyms are used:

MHJC	Museum of the Highlands, Jihlava, Czech Republic (K. Bezděčková, P. Bezděčka);
MMBC	Moravian Museum, Brno, Czech Republic (I. Malenovský);
NMPC	National Museum, Prague, Czech Republic (J. Macek);
SMOC	Silesian Museum, Opava, Czech Republic (J. Roháček).

The type specimens from coll. Šilhavý deposited in MHJC have been untypically stored being glued on small rectangular card insect labels, themselves being attached to larger card labels (ca. 40 × 16 mm) and enclosed in glass vials (50 mm length, 20 mm diameter, with plastic cap). Some of them had been damaged by mould before their housing in MHJC. All these specimens have been kept on original labels and treated against mould progression after their incorporation into MHJC collections.

Catalogue

Subfamily Dolichoderinae

Bothriomyrmex meridionalis gibbus Soudek, 1925

Bothriomyrmex meridionalis gibbus Soudek, 1925a: 216, Figs 1–10 (original description).

A lectotype and three paralectotypes are deposited in MMBC (all dry-mounted, glued on rectangular card labels):

LECTOTYPE (♂): ‘Typus [p, dark red label] // Transcriptio [p, underlined] / Moravia centr. / Moravský kras 15. iv. / Suchý žleb 1923 / Št. Soudek leg. [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p, underlined] / Bothriomyrmex [worker symbol] / meridionalis / gibbus ssp. n. / Št. Soudek det. [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1190 / Ent. [hw] / Mor. museum, Brno [p] // Lectotype / Bothriomyrmex / gibbus Soudek, / 1924 / Dubovikoff des. [hw, red label]’.

PARALECTOTYPE (1 ♂): ‘Macocha / 1923 Dr. Soudek [hw] // Bothr. merid. / gibbus. [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p, underlined] / Moravia centr. / Moravský kras 15. iv. / Suchý žleb 1923 / Št. Soudek leg. [hw] // Transcriptio [p, underlined] / Bothriomyrmex / meridionalis [worker symbol] /

gibbus ssp. n. / Št. Soudek det. [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1187 / Ent. [hw] / Mor. museum, Brno [p] // Paralectotype / Bothriomyrmex / gibbus Soudek, / 1924 / Dubovikoff des. [hw, red label]’.

PARALECTOTYPE (1 ♀): ‘Type [p, dark red label framed black] // Transcriptio [p, underlined] / Moravia centr. / Moravský kras / Suchý žleb 1923 / Št. Soudek leg. [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p, underlined] / Bothriomyrmex [worker symbol] / meridionalis / gibbus ssp. n. / Št. Soudek det. [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1189 / Ent. [hw] / Mor. museum, Brno [p] // Paralectotype / Bothriomyrmex / gibbus Soudek / Dubovikoff des. [hw, red label]’.

PARALECTOTYPE (1 ♀): ‘Transcriptio [p, underlined] / Moravia centr. / Moravský kras / Suchý žleb 1923 / Št. Soudek leg. [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p, underlined] / Bothriomyrmex [worker symbol] / meridionalis / gibbus ssp. n. / Št. Soudek det. [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1191 / Ent. [hw] / Mor. museum, Brno [p] // Paralectotype / Bothriomyrmex / gibbus Soudek / Dubovikoff des. [hw, red label]’.

Current status. Junior subjective synonym of *Bothriomyrmex corsicus* Santschi, 1923 according to SEIFERT (2012), see also BOLTON (2016).

Remarks. The lectotype was designated by DUBOVIKOV (2002: 922).

Subfamily Formicinae

Camponotus husseini Dietrich, 2004

Camponotus husseini Dietrich, 2004: 328, Figs 8, 10, Tab. 2–3 (original description).

Three paratypes are deposited in MMBC (all dry-mounted, glued on point card labels):

PARATYPES (3 ♀♀, on one pin): ‘Jordanien, JOR / Wadi Araba, 36 km N Aqaba / 1996-10-26 / leg. C. O. Dietrich [p] // *Camponotus / husseini* / Dietrich, 2004 / det. C.O. Dietrich // Invent. č. [p] / 6653–6655 [hw] / Ent. / Mor. museum, Brno [p] // Paratypen [p, red label]’.

Current status. Valid as *Camponotus husseini* Dietrich, 2004 (BOLTON 2016).

Paratrechina sindbadi Pisarski, 1960

Paratrechina sindbadi Pisarski, 1960: 349, Figs 1–3, 11–13 (original description).

Four syntypes are deposited in NMPC (all dry-mounted, glued on point card labels):

SYNTYPE (1 a ♀): ‘Baghdad Iraq / Dr. Kálalová [p] // *Paratrechina / sindbadi* / n. sp. / B. Pisarski [hw] // Allotypus [hw, red label] // Mus. Nat. Pragae / Inv. [p] 3312 [hw] // Syntypus / (Bezděčková et al. 2017) [p, red label]’.

SYNTYPE (1 ♂): ‘Baghdad Iraq / Dr. Kálalová [p] // prep. 242 [hw] // *Paratrechina / sindbadi* / n. sp. / B. Pisarski [hw] // Paratypus [hw, red label] // Mus. Nat. Pragae / Inv. [p] 3313 [hw] // Syntypus / (Bezděčková et al. 2017) [p, red label]’.

SYNTYPE (1 ♂): ‘Baghdad Iraq / Dr. Kálalová [p] // *Paratrechina / sindbadi* / n. sp. / B. Pisarski [hw] // Paratypus [hw, red label] // Mus. Nat. Pragae / Inv. [p] 3314 [hw] // Syntypus / (Bezděčková et al. 2017) [p, red label]’.

SYNTYPE (1 ♂): ‘Baghdad Iraq / Dr. Kálalová [p] // *Paratrechina / sindbadi* / n. sp. / det. B. Pisarski [hw] // Paratypus [hw, red label] // Mus. Nat. Pragae / Inv. [p] 3315 [hw] // Syntypus / (Bezděčková et al. 2017) [p, red label]’.

Current status. Valid as *Nylanderia sindbadi* (Pisarski, 1960) (see BOLTON 2016).

Remarks. In the original description, PISARSKI (1960) listed five males and one female from ‘Bagdad (Irak), leg. Dr. Kálalová’ as the type series and specified that three males and the female of this series were deposited in NMPC, and two males at the Museum and Institute of Zoology of the Polish Academy of Sciences in Warsaw, Poland. As he did not designate

any holotype in his paper, we consider all these specimens syntypes (cf. ICZN 1999: Art. 73.1.3. and 73.2.).

***Polyrhachis palaeartica* Dietrich, 2004**

Polyrhachis palaeartica Dietrich, 2004: 330, Figs 11–12, 14, Tab. 4 (original description).

Three paratypes are deposited in MMBC (all dry-mounted, glued on point card labels):

PARATYPES (3 ♀♀, on one pin): ‘Jordanien, JOR / Totes Meer, 5,4 km N Münd- / ung Wadi Main, 1996-10-29 / leg. C. O. Dietrich [p] // *Polyrhachis / palaeartica* / Dietrich, 2004 / det. C.O. Dietrich // Invent. č. [p] / 6656–6658 [hw] / Ent. / Mor. museum, Brno [p] // Paratypen [p, red label]’.

Current status. Valid as *Polyrhachis palaeartica* Dietrich, 2004 (BOLTON 2016).

Subfamily Myrmicinae

***Monomorium (Parholcomyrmex) nengraharicum* Pisarski, 1970**

Monomorium (Parholcomyrmex) nengraharicum Pisarski, 1970: 309, Figs 1–9 (original description).

Holotype and 17 paratypes are deposited in MMBC (all dry-mounted, glued on rectangular card labels):

HOLOTYPE (♂): ‘O. Afghanistan / Prov. Nengrahar / Povolný & Tenora [p] // (25) 8 km öös. / Jalalabad / 5. 3. 66 620 m [p] // *Monomorium / nengraharicum / sp.n* [hw] / det. B. Pisarski [p] // Holotyp [hw, red label] // Invent. č. [p] / 545/Ent [hw] / Mor. museum, Brno [p] // Holo- / typus [p, red label]’.

PARATYPES (1 ♀ 12 ♀♀): ‘O. Afghanistan / Prov. Nengrahar / Povolný & Tenora [p] // (25) 8 km öös. / Jalalabad / 5. 3. 66 620 m [p] // *Monomorium / nengraharicum / sp. n.* / det. B. Pisarski [p] // Para- / typus [p, red label] // Invent. č. [p] / 546–558/Ent. [respectively, hw] / Mor. museum, Brno [p]’.

PARATYPES (4 a ♀♀): ‘O. Afghanistan / Prov. Nengrahar / Povolný & Tenora [p] // (15) 10 km öös. / Jalalabad / 19. 2. 66 620 m [p] // *Monomorium / nengraharicum / sp. n.* / det. B. Pisarski [p] // Para- / typus [p, red label] // Invent. č. [p] / 559–562 / Ent. [respectively, hw] / Mor. museum, Brno [p]’.

Current status. Valid as *Trichomyrmex nengraharicum* (Pisarski, 1970) (see BOLTON 2016).

***Myrmetaerus microcellatus* Soudek, 1925**

Myrmetaerus microcellatus Soudek, 1925b: 33, Fig. 4 (original description).

Two syntypes are deposited in NMPC (both dry-mounted, glued on rectangular card labels):

SYNTYPE (1 d♀): ‘Savina / Boka Kotorská // VII. 1923 // *Myrmetaerus / microcellatus* // Publ.: / Entomol. Record / XXXVII. 1925 – Pag. 33 // Typus / ♀ // Lectotypus [p] ♀ / *Myrmetaerus / microcellatus* / Soudek, 1925 / Bouček det. 1963 [hw, red label] // Mus. Nat. Pragae / Inv. [p] 25.479 [hw] // Syntypus / (Bezděčková et al. 2017) [p, red label]’;

SYNTYPE (1 ♀): ‘Savina / Boka Kotorská / , VII. 1923 // *Myrmetaerus / microcellatus* / Sdk. [hw] // Typus [hw] // Publ.: / „Entomol. Record“ / XXXVII. 1925 – Pag. 33. // Mus. Nat. Pragae / Inv. [p] 25.480 [hw] // Syntypus / (Bezděčková et al. 2017) [p, red label]’.

Current status. Junior subjective synonym of *Temnothorax gordiagini* (Ruzsky, 1902) according to BOLTON (2016).

Remarks. One of the above cited specimens was labelled as a “Lectotypus”, but its designation has never been published, so we consider both specimens syntypes.

Myrmica balcanica Sadil, 1952

Myrmica balcanica Sadil, 1952: 253, Figs V, VIII–X (original description, key).

Altogether 13 syntypes are deposited in NMPC (all dry-mounted, glued on rectangular card labels):

SYNTYPES (8 ♀♀, on the same label on one pin): ‘Hradiště / u Litoměřic / 19. 6. 48 / Sadil [hw] // 854 [hw] // M. balcanica [underlined] Sad. / Sadil det. 1951 [hw] // Mus. Nat. Pragae, Inv. [p] / 3043 [hw]’.

SYNTYPES (2 ♀♀ on two labels on one pin) ‘*Myrmica / rugulosa* [hw] // 26. VII. 38 / Petrovo Selo / CHORVATSKO / I. V. Novák [hw] // COTYPE [p, red label] // M. balcanica [underlined] Sad. / Sadil det. 1951 [hw] // Mus. Nat. Pragae, Inv. [p] 3405 [hw] // *Myrmica* [p] / puerilis Stke [hw] / Det. C. A. Collingwood [p]’.

SYNTYPES (2 ♀♀ on the same label): ‘Ljulín pl. / Bulg. VI. 35 / Igt. Dr. Tábořský [p] // COTYPE [p, red label] // M. balcanica [underlined] Sad. / Sadil det. 1951 [hw] // Mus. Nat. Pragae, Inv. [p] 3406 [hw] // Mus. Nat. Pragae, Inv. [p] 3058 [hw] // *Myrmica* [p] / puerilis Stke [hw] / Det. C. A. Collingwood [p]’.

SYNTYPE (1 ♀): ‘Pilís u Slov. Nov. / 27. 7. 36 Mesta / Hoffer [hw] // Det. Dr. Záleský [p] M. scabr: rugulosoid. [hw] // COTYPE [p, red label] // M. balcanica [underlined] Sad. / Sadil det. 1951 [hw] // Mus. Nat. Pragae, Inv. [p] 3409 [hw] // *Myrmica* [p] / puerilis Stke [hw] / Det. C. A. Collingwood [p]’.

Current status. Junior subjective synonym of *Myrmica specioides* Bondroit, 1918 according to RADCHENKO & ELMES (2010).

Remarks. In the original description (SADIL 1952), the date of collection for the series of workers from Hradiště u Litoměřic is reported as 13.vi.1948. We think this is an error caused by a wrong transcription of the label data during the original manuscript preparation and consider these specimens syntypes.

Myrmica balcanica var. *scabrinodoides* Sadil, 1952

Myrmica balcanica var. *scabrinodoides* Sadil, 1952: 255, Figs V, VIII, IX, XI (original description).

Two paralectotypes are deposited in NMPC (both dry mounted, glued on rectangular card labels):

PARALECTOTYPE (1 ♀): ‘*Myrmica / wesmaeli* / Bondr. [hw] // V. 1938 / Bohnice / PRAHA / I. J. Sadil [hw] // M. b. var / scabrinodoides / Sadil (det 1951) [hw] // Mus. Nat. Pragae, Inv. [p] 3060 [hw] // Paralectotypus / (Bezděčková et al. 2017) [p, red label]’.

PARALECTOTYPE (1 ♀): ‘Ing. J. Palásek / Kylešovice, Sil. / ČSR 4.9.1937 [p] // COTYPE [p, red label] // M. balcanica / scabrinodoides / Sadil (det. 1951) // Mus. Nat. Pragae, Inv. [p] 3062 [hw] // *Myrmica* [p] / puerilis Stke [hw] //, Det. C. A. Collingwood [p] // M. rugulosa / dt. Radchenko iii - 2001 // Paralectotypus / (Bezděčková et al. 2017) [p, red label]’.

Current status. Junior subjective synonym of *Myrmica specioides* Bondroit, 1918 according to RADCHENKO & ELMES (2010).

Remarks. The lectotype (♀ from Praha-Hlubočepy) was designated by RADCHENKO & ELMES (2010: 286); it is deposited (together with 2 ♀♀ and 2 ♂♂ paralectotypes from the same site) in the Institute of Zoology, Polish Academy of Sciences, Warsaw, Poland. One of the paralectotypes in NMPC (the specimen from Kylešovice) is not conspecific with the lectotype and belongs, in fact, to *M. rugulosa* Nylander, 1849 (RADCHENKO & ELMES 2010).

Myrmica moravica Soudek, 1922

Myrmica moravica Soudek, 1922: 39, 45, Figs 18, 21 (original description, key)

Altogether eight syntypes are deposited in MMBC (all dry-mounted, glued on rectangular card labels):

SYNTYPES (3 ♀♀): ‘Moravia [p] // Typus [p, dark red label] // Transcriptio [p, underlined] / Moravia mer. / Pavlovské kopce / Kotelná 3. IV. 1921 / Št. Soudek leg. [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p, underlined] / Myrmica [worker symbol] / moravica sp. n. / Št. Soudek det. [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1180–1182 [respectively] / Ent. [hw] / Mor. museum, Brno [p]’.

SYNTYPE (1 ♀): ‘Pavlovské kopce / 1921 Dr. Soudek [p, violet ink] // Type [p, dark red label, framed] // Transcriptio [p, underlined] / Moravia mer. / Pavlovské kopce / Kotelná 3. IV. 1921 / Št. Soudek leg. [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p, underlined] / Myrmica [worker symbol] / moravica sp. n. / Št. Soudek det. [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1183 / Ent. [hw] / Mor. museum, Brno [p]’.

SYNTYPES (3 ♀♀): ‘Transcriptio [p, underlined] / Moravia mer. / Pavlovské kopce / Kotelná 3. IV. 1921 / Št. Soudek leg. [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p, underlined] / Myrmica [worker symbol] / moravica sp. n. / Št. Soudek det. [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1184–1186 [respectively] / Ent. [hw] / Mor. museum, Brno [p]’.

SYNTYPE (1 ♀): ‘Moravia [p] // Typus [p, dark red label] // Transcriptio [p, underlined] / Moravia mer. / Pavlovské kopce / Kotelná 3. IV. 1921 / Št. Soudek leg. [hw] // ex coll. expositio [hw] // Collectio / Moravské museum, / Brno [p] // Transcriptio [p, underlined] / Myrmica [worker symbol] / moravica sp. n. / Št. Soudek det. [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1188 / Ent. [hw] / Mor. museum, Brno [p]’.

Three syntypes are deposited in MHJC (all dry-mounted, damaged by mould):

SYNTYPES (3 ♀♀ each glued on a small rectangular label and all together on one larger card label, ca. 40 × 16 mm): ‘Myrmica / deplanata / moravica Soudek [hw] // Myrmica / deplanata [worker symbol] / moravica Soudek / Pavlovské kopce, leg. Soudek / paratypy / 07085 [hw] // Syntypus / (Bezděčková et al. 2017) [p, red label]’ [IN: E26-T2–E26-T4].

Current status. Junior subjective synonym of *Myrmica deplanata* Emery, 1921 according to RADCHENKO & ELMES (2010).

Remarks. The description was originally prepared for publication in the journal *Acta Musei Moraviensis*, volume 20, which should have been published in 1922. However, this volume was released later, together with the subsequent one in a form of a double volume in 1923. The description in the monograph by SOUDEK (1922) has therefore priority, although it was provided only in Czech and was less detailed than in the paper published later in the journal (SOUDEK 1923).

Neither SOUDEK (1922), nor SOUDEK (1923) specified the number of the type specimens and no specimen was designated as a holotype. Specimens preserved in MMBC are labelled as syntypes, three specimens from collection of V. Šilhavý stored nowadays in MHJC were labelled as paratypes. We consider all these specimens as syntypes. This is consistent with RADCHENKO & ELMES (2010) who treated additional specimens from the type series deposited in the collections of the Museo Civico di Storia Naturale “Giacomo Doria”, Genoa, Italy also as syntypes.

Myrmica rubra var. *mutata* Sadil, 1952

Myrmica rubra var. *mutata* Sadil, 1952: 242, Fig. I (original description).

The holotype is deposited in NMPC (dry-mounted, glued on a rectangular card label):

HOLOTYPE (♂): ‘KOTELNÉ JÁMY / 15.–16. VI. Boh. / Dr. Obenberger [p] // Holotype [tw, red frame submarginally] / M. r. var. *mutata* [underlined] Sadil ’51 // Mus. Nat. Pragae, Inv. [p] 3403 [hw]’.

Current status. Junior subjective synonym of *Myrmica ruginodis* Nylander, 1846 according to RADCHENKO & ELMES (2010).

Remarks. As clearly follows from the text of the original description, this taxon was described based on a single specimen: “Form ascertained by me unfortunately only in one specimen

(worker) in the material of ants deposited in the collections of the National Museum in Prague, labelled Kotelné Jámy, Krkonoše 15-6-1926 Bohemia, Dr. Obenberger. I am well aware that to establish a new form on the basis of the deviating characters of one ♀ is a very problematical thing, especially in such a variable genus as the genus *Myrmica* Latr.” (SADIL 1952).

Myrmica scabrinodis var. *scabrinodosabuleti* Sadil, 1952

Myrmica scabrinodis var. *scabrinodo-sabuleti* [sic!] Sadil, 1952: 253, Figs IV, VIII (original description).

Altogether six syntypes are deposited in NMPC (all dry-mounted, glued on rectangular card labels):

SYNTYPE (1 ♀): ‘*Myrmica* / *scabrinodis* [hw] // 24. VIII. 39 / Borotín / BOHEMIA m. / I. V. Novak [hw] // 226 // Mus. Nat. Pragae Inv. [p] / 3404 [hw] // M. s. var. *scabrinodo-* [underlined] / *sabuleti* [underlined] Sadil (det. 1951) [hw]’.

SYNTYPES (5 ♀♀ and one detached head, glued on one label with transversal red line and number 3483, hw): ‘Mor. Nová Říše u / Telče, 5.–6. 7. 1938/ Záleský lg. [hw] // Det. Dr. Záleský [p] M. scabr. [worker symbol] / scabr. [hw] // M. sc. var. *scabrinodo-* [underlined] / *sabuleti* [underlined] Sadil (det. 1951) [hw] // Mus. Nat. Pragae, Inv. [p] / 3038 [hw]’.

Current status. Junior subjective synonym of *Myrmica scabrinodis* Nylander, 1846 according to RADCHENKO & ELMES (2010).

Remarks. The specimen data cited in the original description slightly differ in collecting dates from the labels of specimens preserved in NMPC: SADIL (1952) gives 28-8-1939 as the collecting date for the material from Borotín and 6-7-1938 for the material from Nová Říše near Telč.

Myrmica slovacica Sadil, 1952

Myrmica slovacica Sadil, 1952: 259, Figs VI, VIII–XI (original description, key).

Altogether 11 syntypes are deposited in NMPC (all dry-mounted, glued on rectangular card labels):

SYNTYPES (4 ♀♀ glued on two labels (3 + 1) on one pin): ‘Chorovce / 1.6.48 / Slovakia / Novák [hw] // M. slovacica / Sadil (det. 1951) [hw] // Mus. Nat. Pragae Inv [p] / 3066 [hw]’.

SYNTYPES (7 ♀♀ glued on one label with transversal yellow line and number 3108, hw): ‘Slov. Dol. Almás / 1938, Záleský lg. [p] // Det. Dr. Záleský [p] / M. scabr. [worker symbol] / scabrin. [hw] // M. slovacica / Sadil (det. 1951) [hw] // Mus. Nat. Pragae Inv [p] / 3068 [hw]’.

Current status. Junior subjective synonym of *Myrmica curvithorax* Bondroit, 1920 (see RADCHENKO & ELMES 2010, SEIFERT 2011, BOLTON 2016). Because of the widespread use of *M. slovacica* and doubts about the origin of the holotype specimen of *M. curvithorax*, RADCHENKO & ELMES (2010: 281–282) stated that they would apply to the International Commission on Zoological Nomenclature with the proposition to suppress the name *M. curvithorax* and consider *M. slovacica* the valid name (based on Articles 23.9.1.1, 23.9.1.2 and 23.9.2 of ICZN 1999). However, this application has not been done yet.

Oligomyrmex afghanus Pisarski, 1970

Oligomyrmex afghanus Pisarski, 1970: 311, Figs 10–23 (original description).

Holotype and 55 paratypes are deposited in MMBC (all dry-mounted, glued on point and rectangular card labels):

HOLOTYPE (♀, on card point label): ‘O. Afghanistan / Prov. Nengrahar / Povolný & Tenora [p] // (26) 12–20 km öös. / Jalalabad / 7. 3. 66 600 m [p] // Oligomyrmex / afghanus Pisarski / det. B. Pisarski [p] // Invent. č. [p] / 563 / Ent [hw] / Mor. museum, Brno [p] // Holo- / typ [p, red label]’.

PARATYPES (52 ♂♂ 3 ♀♀): ‘O. Afghanistan / Prov. Nengrahar / Povolný & Tenora [p] // (26) 12–20 km öös. / Jalalabad / 7. 3. 66 600 m [p] // Oligomyrmex / afghanus Pisarski / det. B. Pisarski [p] // Para- / typ [p, red label] // Invent. č. [p] / 564–566/Ent [respectively, hw] / Mor. museum, Brno [p]’.

Current status. Valid as *Carebara afghana* (Pisarski, 1970) (see BOLTON 2016).

Remarks. According to the original description, the holotype and 54 paratypes should have been deposited in MMBC (with the rest of the type series, 27 paratypes, to be deposited in the Institute of Zoology, Polish Academy of Sciences, Warsaw). Fifty-five paratype specimens are actually present in MMBC.

Sifolinia pechi Samšiňák, 1956

Sifolinia pechi Samšiňák, 1956: 144 (original description).

The holotype is deposited in SMOC (dry-mounted on two rectangular card labels):

HOLOTYPE (d♀, left antenna mounted on a separate label): ‘Sifolinia / sp.? [hw] // Boh.-Děčín / lgt. Samšiňák [p] -/ Janov / 20. 8. 55 [hw] // Holotypus / *Sifolinia pechi* / Samšiňák, 1956 (Bezděčková et al. 2017) [p, red label] [hw]’ [IN T1096].

Current status. Junior subjective synonym of *Myrmica karavajevi* (Arnol’di, 1930) according to RADCHENKO & ELMES (2010).

Remarks. The specimen was not originally labelled as a type in the collection, but from the original description it is clear that *S. pechi* was described based on a single dealate female found by Samšiňák at the locality and date which perfectly match the data on the specimen’s label. We thus consider it to represent the holotype.

A detailed taxonomic description of *S. pechi* was provided by SAMŠIŇÁK (1957a), however, its shorter version published earlier (SAMŠIŇÁK 1956) has priority for nomenclature.

Solenopsis jalalabadica Pisarski, 1970

Solenopsis jalalabadica Pisarski, 1970: 314, Figs 24–40 (original description).

The holotype and 104 paratypes are deposited in MMBC (all dry-mounted, glued on point and rectangular card labels):

HOLOTYPE (♀, on point card label): ‘O. Afghanistan / Prov. Nengrahar / lgt. D. Povolný [p] // Jalalabad / I.–III. 1965 [p] // Solenopsis / jalalabadica / Pisarski / det. B. Pisarski [p] // Invent. č. [p] / 587 / Ent [hw] / Mor. museum, Brno [p] // Holo- / typus [p, red label]’.

PARATYPES (29 ♂♂ 17 ♀♀): ‘O. Afghanistan / Prov. Nengrahar / lgt. D. Povolný [p] // Jalalabad / I.–III. 1965 [p] // Solenopsis / jalalabadica / Pisarski / det. B. Pisarski [p] // Para- / typus [p, red label] // Invent. č. [p] / 588–593, 600–609 / Ent. [respectively, hw] / Mor. museum, Brno [p, the last label with inv. no. missing in 30 specimens]’.

PARATYPES (58 a♀♀): ‘O. Afghanistan / Prov. Nengrahar / Povolný & Tenora [p] // (16) 10 km öös. / Jalalabad / 21. 2. 66 620 m [p] // Solenopsis / jalalabadica / Pisarski / det. B. Pisarski [p] // Para- / typus [p, red label] // Invent. č. [p] / 610–619/Ent. [respectively, hw] / Mor. museum, Brno [p, the last label with inv. no. missing in 48 specimens]’.

Current status. Valid as *Solenopsis jalalabadica* Pisarski, 1970 (BOLTON 2016).

Remarks. According to the original description, the holotype and 105 paratypes should have been deposited in MMBC and 41 paratypes in the Institute of Zoology of the Polish Academy

of Sciences in Warsaw. Additional 47 ♀♀ in MMBC are labelled as paratypes but were not explicitly listed in the original description. These specimens were collected at the same site and on the same date as the female paratypes listed above:

(47 ♀♀): ‘O. Afghanistan / Prov. Nengrahar / Povolný & Tenora [p] // (16) 10 km öös. / Jalalabad / 21. 2. 66 620 m [p] // Para- / typus [p, red label] // Solenopsis [worker symbol] / jalalabadica sp. n. / Pisarski / B. Pisarski det. 1969 [hw] // Invent. č. [p] / 594–599/Ent. [respectively, hw] / Mor. museum, Brno [p, the last label with inv. no. missing in 41 specimens]’.

Strongylognathus kratochvili Šilhavý, 1937

Strongylognathus kratochvili [sic!] Šilhavý, 1937: 5, Figs 1–6 (original description).

Holotype and four paratypes are deposited in MHJC (all dry-mounted, glued on rectangular card labels).

HOLOTYPE (♂, enclosed in a small glass vial (35 × 8 mm) stored inside a larger glass vial (50 × 20 mm) marked lengthwise by red tape): ‘Strongylognathus kratochvili Šilh. / Holotypus [worker symbol] – Mohelno [hw] // Strongylognathus / kratochvili Šilhavý [hw] / Holotypus [worker symbol] / 11141 [hw] -/- ČSSR / Mohelno – hadcová step / 21. III. 1936 / V. Šilhavý leg. et det. [hw]’ [IN: E26-T5].

PARATYPES (1 a ♀ 1 d ♀, each glued on a small rectangular label and all together on one larger card label ca. 40 × 16 mm): ‘Strongylognathus / Kratochvili Šilh. / Typ ♀ [hw] -/- 0339 [hw] // Strongylognathus ♀ / Kratochvili Šilh. / Mohelno 31. 3. 1936 [hw]’, [IN: E26-T6, E26-T7].

PARATYPES (2 ♀♀, each glued on a small rectangular label and all together on one larger card label ca. 40 × 16 mm): ‘Strongylognathus / Kratochvili Šilh. / Paratypy [hw]’, [IN: E26-T8, E26-T9].

Current status. Valid as *Strongylognathus kratochvili* Šilhavý, 1937 (BOLTON 2016).

Remarks. In the Czech part of the original description, ŠILHAVÝ (1937: 7) stated that he collected a few specimens of workers of *S. kratochvili* on 31 March 1936. However, in the French summary (p. 10), he indicated 21 March 1936 as the collecting date which also corresponds to the date on the label of the holotype. The female paratypes were collected, according to the original description (p. 7), in June 1936, which differs from 31. 3. 1936 on their label. These discrepancies probably arose as a result of mistake during labelling of the female paratypes.

One additional worker labelled as a paratype is stored in MHJC which is not considered to be a part of the type series due to year of the collection being after the description of the species (1945).

Tetramorium argentirubrum Dietrich, 2004

Tetramorium argentirubrum Dietrich, 2004: 322, Fig. 3 (original description).

Three paratypes are deposited in MMBC (all dry-mounted on point card labels):

PARATYPES (3 ♀♀, on one pin): ‘Jordanien, JOR / Shaumari Wildlife Reserve / 1996-3-21 / leg. C. O. Dietrich [p] // *Tetramorium / argentirubrum* / Dietrich, 2004 / det. C.O. Dietrich // Invent. č. [p] / 6650–6652 [hw] / Ent. / Mor. museum, Brno [p] // Paratypen [p, red label]’.

Current status. Valid as *Tetramorium argentirubrum* Dietrich, 2004 (BOLTON 2016).

***Tetramorium ferox silhavyi* Kratochvíl, 1941**

Tetramorium (Lobomyrmex) ferox šilhavýi [sic!] Kratochvíl, 1941 in NOVÁK & SADIL (1941): 84, Fig. X (original description, key).

Five syntypes are deposited in MHJC (all dry-mounted):

SYNTYPES (3 ♂♂ 1 ♀ each glued on a small rectangular label and all together on one larger card label ca. 40 × 16 mm): ‘Tetramorium / ferox [sic] / Šilhavýi. Krat. [hw] // Tetramorium ferox [sic] / ♀ šilhavýi Krat. / Mohelno, cotypy, 05062 [hw] // Syntypus / (Bezděčková et al. 2017) [p, red label]’ [IN: E26-T10–E26-T13].

SYNTYPE (1 d♀, only head with one antenna and thorax with one leg glued on a card label ca. 40 × 16 mm): ‘Tetramorium / ferox [sic] / šilhavýi Krat. [hw] // Tetramorium ferox [sic] ♀ / šilhavýi Krat. / Mohelno – paratyp, 05063 [hw] // Syntypus / (Bezděčková et al. 2017) [p, red label]’ [IN: E26-T14].

Current status. Junior subjective synonym of *Tetramorium ferox* Ruzsky, 1903 according to BOLTON (2016).

Remarks. The description was originally prepared by Josef Kratochvíl for publication in the proceedings on the fauna of the Mohelno serpentine steppe, which was, however, released later (KRATOCHVÍL 1944) than the identification key by NOVÁK & SADIL (1941) including a short description based on Kratochvíl’s manuscript and citing Kratochvíl as the author of the new name. Therefore, the text in NOVÁK & SADIL (1941) has priority for nomenclature.

Neither NOVÁK & SADIL (1941) nor KRATOCHVÍL (1944) provided any information on the number of the type specimens or the type locality; they only stated that *T. ferox silhavyi* was known from Moravia, Slovakia and Hungary. Based on the fact that the taxon was listed among new forms of ants discovered in the Mohelno serpentine steppe (KRATOCHVÍL 1944) and based on the locality data of the specimens in MHJC, at least a part of the type series was collected in Mohelno (Czech Republic, Moravia). Four specimens deposited in MHJC were originally labelled as cotypes (“cotypy”) and one specimen as a paratype, but no specimen designated as a holotype is available. Therefore, we consider all these specimens syntypes.

Subfamily Proceratiinae

***Sysphincta fialai* Kratochvíl, 1944**

Sysphincta fialai Kratochvíl, 1944: 54, 86, Figs 1–4 (original description, key).

Altogether 14 syntypes are deposited in MMBC (all dry-mounted, glued on rectangular card labels, 1 a♀ pinned):

SYNTYPE (1 a♀): ‘Br H / 19 9 41 [hw] // Sysphincta / fialai / ♀ det Krat [hw] // Collectio / J. Šnoflák / Moravské museum, Brno [p] // Transcriptio [p] / Brno – Hády / 19. 9. 1941 / J. Šnoflák leg. [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1166 / Ent. [hw] / Mor. museum, Brno [p]’.

SYNTYPE (1 ♀): ‘Kroměříž / O. Fiala [p] // 30/8 36 [hw] / O. Fiala. [p] // Sysphincta / europaea [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p] / Sysphincta [worker symbol] / fialai sp. n. / J. Kratochvíl det. 1944 [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1167 / Ent. [hw] / Mor. museum, Brno [p]’.

SYNTYPE (1 a♀): ‘Transcriptio [p] / Kroměříž / 30. 8. 1936 / O. Fiala [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p] / Sysphincta / europaea / O. Fiala det. // Transcriptio [p] / Sysphincta ♀ / fialai sp. n. / J. Kratochvíl det. 1944 [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1168 / Ent. [hw] / Mor. museum, Brno [p]’.

SYNTYPE (1 ♂): ‘Transcriptio [p] / Kroměříž / 30. 8. 1936 / O. Fiala [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p] / Sysphincta / europaea / O. Fiala det. // Transcriptio [p] / Sysphincta

♂ / fialai sp. n. / J. Kratochvíl det. 1944 [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1169 / Ent. [hw] / Mor. museum, Brno [p]’.

SYNTYPES (2 ♀♀): ‘Kroměříž / O. Fiala [p] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Sysphincta / europ. europ / For. [hw] // Transcriptio [p] / Sysphincta [worker symbol] / fialai sp. n. / J. Kratochvíl det. 1944 [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1170–1171 / Ent. [respectively, hw] / Mor. museum, Brno [p]’.

SYNTYPES (2 ♀♀ 2 ♂♂ 1 a ♀): ‘Transcriptio [p] / Kroměříž / O. Fiala [hw] // Collectio / J. Slaviček / Moravské museum, Brno [p] // Transcriptio [p] / Sysphincta / europaea europaea For. / O. Fiala det. // Transcriptio [p] / Sysphincta [worker symbol or ♂, respectively] / fialai sp. n. / J. Kratochvíl det. 1944 [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1172–1176 / Ent. [respectively, hw] / Mor. museum, Brno [p]’.

SYNTYPES (3 a ♀♀): ‘Transcriptio [p] / Kroměříž / O. Fiala [hw] // Collectio / J. Fiala / Moravské museum, Brno [p] // Transcriptio [p] / Sysphincta / europaea europaea For. / O. Fiala det. // Transcriptio [p] / Sysphincta ♀ / fialai sp. n. / J. Kratochvíl det. 1944 [hw] // Syn- / typus [p, red label] // Invent. č. [p] / 1177–1179 / Ent. [respectively, hw] / Mor. museum, Brno [p]’.

Five syntypes are deposited in MHJC (dry-mounted, damaged by mould):

SYNTYPES (1 ♂ 2 a ♀♀ 1 d ♀ 1 ♀; the male and the worker glued each on a small rectangular label, all females together on one small rectangular label, and all specimens together on one larger card label, ca. 40 × 16 mm): ‘Sysphincta / fialai Krat. / Paratypy [hw] -/ 04045 [hw] // Sysphincta / fialai Krat. / Kroměříž, leg. Fiala / Paratyp [hw] / Kroměříž / O. Fiala [p, on a sticker] // Syntypus / (Bezděčková et al. 2017) [p, red label]’, [IN: E26-T14–E26-T18].

Current status. Junior subjective synonym of *Proceratium melinum* (Roger, 1860) according to BOLTON (2016).

Remarks. As no specimen has been designated as a holotype or a lectotype, we consider all specimens syntypes, although the specimens from coll. V. Šilhavý deposited in MHJC were originally labelled as paratypes.

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