

*nacerda* Norton, 1868; see under **CAMPONOTUS**.

*naefi*. *Formica (Coptoformica) naefi* Kutter, 1957: 4, figs. 1-6 (w.q.m.) SWITZERLAND.

Status as species: Bernard, 1967: 325 (redescription); Kutter, 1968a: 61; Kutter, 1977c: 285; Agosti & Collingwood, 1987b: 285 (in key); Bolton, 1995b: 199; Petrov, 2006: 111 (in key) (error).

Junior synonym of *foreli*: Seifert, 2000a: 543; Radchenko, 2016: 312.

*nahua*. *Formica microgyna* subsp. *rasilis* var. *nahua* Wheeler, W.M. 1913f: 562 (w.q.m.) MEXICO (Hidalgo); unavailable (infrasubspecific) name.

As unavailable (infrasubspecific) name: Wheeler, W.M. 1917a: 542; Emery, 1925b: 256.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 199.

*nana*. *Formica nana* Latreille, 1802c: 263 (w.) FRENCH GUIANA, SURINAME.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 199.

[Note: Latreille, 1802c: 263, Mayr, 1863: 418, Dalla Torre, 1893: 206, and Kempf, 1972a: 260, give *pusilla* as a senior synonym of *nana* Latreille, but both are unidentifiable.]

*nana* Jerdon, 1851; see under **TAPINOMA**.

*nana* Smith, F. 1858; see under **CAMPONOTUS**.

*nastata*, misspelling, see under *hastata*.

*nasuta* Nylander, 1856; see under **PROFORMICA**.

*natalensis* Smith, F. 1858; see under **CAMPONOTUS**.

*nemoralis*. *Formica nemoralis* Dlussky, 1964: 1037, figs. 2(3, 8), 3 (9) (w.m.) RUSSIA.

Status as species: Dlussky & Pisarski, 1971: 197 (redescription); Arnol'di & Dlussky, 1978: 552 (in key).

Junior synonym of *forsslundi*: Dlussky, 1967a: 105; Collingwood, 1971: 167; Bolton, 1995b: 199.

Junior synonym of *exsecta*: Seifert, 2000a: 526; Radchenko, 2016: 309.

*neocinerea*. *Formica cinerea* var. *neocinerea* Wheeler, W.M. 1913f: 399 (in key) (w.q.m.) U.S.A. (Illinois).

[*Formica cinerea* var. *neocinerea* Wheeler, W.M. 1910g: 571. *Nomen nudum*.]

As unavailable (infrasubspecific) name: Wheeler, W.M. 1913f: 524; Cole, 1936a: 38.

Subspecies of *cinerea*: Wheeler, W.M. 1917a: 550; Wheeler, W.M. 1917i: 464; Emery, 1925b: 246; Cole, 1942: 383; Buren, 1944a: 301; Wheeler, G.C. & Wheeler, E.W. 1944: 259; Smith, M.R. 1951a: 861.

Junior synonym of *montana*: Creighton, 1950a: 534; Smith, M.R. 1958c: 154; Francoeur, 1973: 67; Smith, D.R. 1979: 1454; Bolton, 1995b: 199; Coovert, 2005: 142.

*neoclara*. *Formica fusca* var. *neoclara* Emery, 1893i: 661 (w.) U.S.A. (Colorado).

Wheeler, W.M. 1913f: 509 (q.m.); Wheeler, G.C. & Wheeler, J. 1953c: 165 (l.).

Combination in *F. (Serviformica)*: Emery, 1925b: 248.

As unavailable (infrasubspecific) name: Wheeler, W.M. 1913f: 509; Emery, 1925b: 248.

**Subspecies of fusca**: Viereck, 1903: 72; Wheeler, W.M. 1906b: 20; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 398 (in key); Wheeler, W.M. 1917a: 548; Essig, 1926: 866; Cole, 1942: 383; Buren, 1944a: 301; Wheeler, G.C. & Wheeler, E.W. 1944: 261; Smith, M.R. 1951a: 864.

**Status as species**: Creighton, 1950a: 535; Smith, M.R. 1958c: 157; Beck, *et al.* 1967: 70; Smith, M.R. 1967: 371; Francoeur, 1973: 84 (redescription); Francoeur, 1975: 260; Hunt & Snelling, 1975: 23; Wheeler, G.C. & Wheeler, J. 1977b: 13 (in key); Yensen, *et al.* 1977: 185; Francoeur & Snelling, 1979: 4; Smith, D.R. 1979: 1454; Allred, 1982: 469;

Wheeler, G.C. & Wheeler, J. 1986g: 90; Mackay, Lowrie, *et al.* 1988: 115; Bolton, 1995b: 199; Mackay & Mackay, 2002: 352; Ward, 2005: 63.

**Senior synonym of *pruinosa*:** Francoeur, 1973: 84; Smith, D.R. 1979: 1454; Bolton, 1995b: 199.

Material of the unavailable name *lutescens* referred here by Creighton, 1950a: 535; Smith, M.R. 1958c: 157; Francoeur, 1973: 84; Smith, D.R. 1979: 1454; Bolton, 1995b: 199.

***neogagates*.** *Formica fusca* var. *neogagates* Viereck, 1903: 74.

[First available use of *Formica fusca* subsp. *subpolita* var. *neogagates* Emery, 1893i: 661 (w.q.m.) U.S.A. (Pennsylvania, New York, Dakota, Utah, Louisiana, Maryland); unavailable (infrasubspecific) name.]

[Note: type-locality Pennsylvania by designation of Wheeler, W.M. 1913f: 536.]

Wheeler, G.C. & Wheeler, J. 1953c: 158 (l.).

Combination in *Formica (Proformica)*: Wheeler, W.M. 1913f: 536;

combination in *Proformica*: Kuznetsov-Ugamsky, 1928a: 8.

As unavailable (infrasubspecific) name: Wheeler, W.M. 1900c: 47; Wheeler, W.M. 1902f: 19 (in text); Wheeler, W.M. in Viereck, 1903: 73; Forel, 1904a: 153; Wheeler, W.M. 1904e: 306; Ruzsky, 1905b: 380 (in text); Wheeler, W.M. 1905f: 401; Wheeler, W.M. 1906b: 21.

**Subspecies of *subpolita*:** Wheeler, W.M. 1908f: 625; Wheeler, W.M. 1910g: 571.

**Status as species:** Wheeler, W.M. 1913f: 536 (redescription); Wheeler, W.M. 1917a: 554; Wheeler, W.M. 1917i: 465; Emery, 1925b: 243; Cole, 1936a: 38; Cole, 1937b: 138; Wing, 1939: 164; Wesson, L.G. & Wesson, R.G. 1940: 102; Cole, 1942: 384; Wheeler, G.C. & Wheeler, E.W. 1944: 268; Buren, 1944a: 308; Creighton, 1950a: 459; Smith, M.R. 1951a: 858; Cole, 1954c: 163; Smith, M.R. 1958c: 153; Cole, 1966: 22 (in key); Smith, M.R. 1967: 369; Francoeur, 1975: 258; Hunt & Snelling, 1975: 23; Francoeur, 1977b: 208; Yensen, *et al.* 1977: 185; Francoeur & Snelling, 1979: 4; Smith, D.R. 1979: 1450; Allred, 1982: 470; Wheeler, G.C. & Wheeler, J. 1986g: 78; DuBois & LaBerge, 1988: 147; Mackay, Lowrie, *et al.* 1988: 115; Wheeler, G.C., *et al.* 1994: 306; Bolton, 1995b: 199; Mackay & Mackay, 2002: 354; Coovert, 2005: 134; Ward, 2005: 63; Ellison, *et al.* 2012: 163.

***neorufibarbis*.** *Formica fusca* var. *neorufibarbis* Emery, 1893i: 660 (w.) U.S.A. (South Dakota, Colorado).

[Note: type-locality South Dakota by designation of Creighton, 1950a: 536.]

Forel, 1902i: 699 (q.); Wheeler, W.M. 1917a: 547 (m.); Wheeler, G.C. & Wheeler, J. 1953c: 165 (l.).

Combination in *F. (Serviformica)*: Emery, 1925b: 248.

As unavailable (infrasubspecific) name: Forel, 1899c: 128; Wheeler, W.M. 1913f: 507; Emery, 1925b: 248; Menozzi, 1932b: 312.

**Subspecies of *fusca*:** Forel, 1902i: 699; Forel, 1904a: 153; Wheeler, W.M. 1906d: 344; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 399 (in key); Wheeler, W.M. 1917a: 546; Wheeler, W.M. 1917e: 20; Essig, 1926: 867; Cole, 1936a: 38; Cole, 1937b: 138; Cole, 1942: 382; Wheeler, G.C. & Wheeler, E.W. 1944: 261; Smith, M.R. 1951a: 864.

**Status as species:** Pergande, 1900: 519; Creighton, 1950a: 536; Cole, 1954c: 167; Smith, M.R. 1958c: 157; Cole, 1966: 23 (in key); Smith, M.R. 1967: 372; Francoeur, 1973: 215 (redescription); Francoeur, 1975: 262; Hunt & Snelling, 1975: 23; Francoeur, 1977b: 208; Wheeler, G.C. & Wheeler, J. 1977b: 15 (in key); Yensen, *et al.* 1977: 185; Wheeler,

G.C. & Wheeler, J. 1978: 395; Francoeur & Snelling, 1979: 6; Smith, D.R. 1979: 1454; Allred, 1982: 470; Wheeler, G.C. & Wheeler, J. 1986g: 90; Mackay, Lowrie, *et al.* 1988: 115; Blacker, 1992: 11; Wheeler, G.C., *et al.* 1994: 306; Bolton, 1995b: 199; Mackay & Mackay, 2002: 355; Coovert, 2005: 143; Ward, 2005: 63; Ellison, *et al.* 2012: 164.

**Senior synonym of *algida*:** Francoeur, 1973: 215; Smith, D.R. 1979: 1454; Bolton, 1995b: 199.

**Senior synonym of *gelida*:** Francoeur, 1973: 215; Smith, D.R. 1979: 1454; Bolton, 1995b: 199.

***nepticula*.** *Formica nepticula* Wheeler, W.M. 1905c: 270 (w.q.m.) U.S.A. (Connecticut, Illinois).

**Status as species:** Wheeler, W.M. 1906b: 17; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 475 (redescription); Wheeler, W.M. 1916m: 597; Emery, 1925b: 256; Buren, 1944a: 306; Creighton, 1950a: 505; Smith, M.R. 1951a: 866; Francoeur, 1977b: 208; Smith, D.R. 1979: 1463; Wheeler, G.C., *et al.* 1994: 306; Bolton, 1995b: 199; Coovert, 2005: 153; Ellison, *et al.* 2012: 165.

**\**neutra*.** \**Formica redtenbacheri* subsp. *neutra* Heer, 1849: 130, pl. 10, fig. 2c (q.) CROATIA (Miocene).

[Also described as new by Heer, 1850: 130.]

Combination in *Lasius*: Bolton, 1995b: 224;

combination in *Formica*: Dlussky & Putyatina, 2014: 254.

[Note: \**redtenbacheri* referred to *Lasius* by Mayr, 1867b: 54; hence its subspecies \**neutra* followed (Bolton, 1995b: 224). Later, \**redtenbacheri* recombined in *Formica*.]

**Subspecies of \**redtenbacheri*:** Dalla Torre, 1893: 191; Bolton, 1995b: 224.

**Subspecies of \**ungeri*:** Dlussky & Putyatina, 2014: 254.

[Note: by implication as \**redtenbacheri* returned to *Formica* as a junior synonym of \**ungeri*].

***nevadensis*.** *Formica microgyna* var. *nevadensis* Wheeler, W.M. 1904f: 373 (q.) U.S.A. (Nevada).

Cole, 1956f: 256 (w.).

**Status as species:** Wheeler, W.M. 1905c: 272; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 470 (redescription); Wheeler, W.M. 1917a: 544; Emery, 1925b: 256; Creighton, 1950a: 505; Smith, M.R. 1951a: 867; Cole, 1956f: 257; Smith, M.R. 1958c: 157; Wheeler, G.C. & Wheeler, J. 1978: 394; Smith, D.R. 1979: 1463; Wheeler, G.C. & Wheeler, J. 1986g: 82; Bolton, 1995b: 199; Ward, 2005: 63.

***nicaeensis*.** *Formica nicaeensis* Leach, 1825: 291 (w.q.m.) FRANCE.

Junior synonym of *rufibarbis*: Roger, 1863b: 13; Forel, 1874: 98 (in list); Emery & Forel, 1879: 451; Dalla Torre, 1893: 202 (footnote); Bolton, 1995b: 199; Radchenko, 2016: 306.

***nidificans*,** misspelling, see under *indificans*.

***nidulans*** Smith, F. 1860; see under **CAMPONOTUS**.

***nigerrima*** Christ, 1791; see under **LASIUS**.

***nigerrima*** Nylander, 1856; see under **TAPINOMA**.

***nigra*** Linnaeus, 1758; see under **LASIUS**.

***nigra*.** *Formica nigra* Forskål, 1775: xxiii (no sex/caste indicated, no locality indicated).

[Unresolved junior primary homonym of *Formica nigra* Linnaeus, 1758: 580.]

Unidentifiable to genus; *incertae sedis* in *Formica*.

[Note: Emery, 1892b: 160, suggested this may be a *Camponotus* species, perhaps *aethiops*.]

**\**nigra*.** \**Formica nigra* Presl, 1822: 196, (no sex/caste indicated) BALTIC AMBER (Eocene).

[Unresolved junior primary homonym of *Formica nigra* Linnaeus, 1758: 580 (Bolton, 1995b: 199).]

Status as species: Scudder, 1891: 704; Dalla Torre, 1893: 202; Bolton, 1995b: 199.

Unidentifiable taxon; *incertae sedis* in Formicidae: Handlirsch, 1907: 882.

Unidentifiable to genus; *incertae sedis* in *Formica*.

*nigrata* Nylander, 1849; see under **CAMPONOTUS**.

*nigricans*. *Formica pratensis* var. *nigricans* Bondroit, 1912: 352.

[First available use of *Formica rufa* subsp. *pratensis* var. *nigricans* Emery, 1909b: 187 (w.) SPAIN; unavailable (infrasubspecific) name.]

As unavailable (infrasubspecific) name: Wheeler, W.M. 1913f: 391 (in key), 429; Forel, 1915d: 57 (in key); Emery, 1916b: 256; Soudek, 1922: 80; Emery, 1925b: 255; Krausse, 1926b: 115; Krausse, 1926d: 264; Stärcke, 1926: 149 (in key); Santschi, 1932c: 72.

Subspecies of *pratensis*: Bondroit, 1918: 59; Lomnicki, 1925a: 23 (in key); Gösswald, 1932: 147; Novák & Sadil, 1941: 105 (in key); van Boven, 1947: 189.

Status as species: Yarrow, 1955a: 9; Betrem, 1960b: 77 (in key); Betrem, 1962: 38; Dlussky, 1962: 183; Baroni Urbani, 1964c: 169; Dlussky, 1965a: 28; Kutter, 1965: 140; Bernard, 1967: 314 (redescription); Collingwood & Yarrow, 1969: 93; Baroni Urbani, 1971c: 220; Collingwood, 1971: 169; Paraschivescu, 1972: 534; Collingwood, 1978: 93 (in key); Collingwood, 1979: 153; Agosti & Collingwood, 1987a: 59; Agosti & Collingwood, 1987b: 286 (in key); Poldi, *et al.* 1995: 8; Gallé, *et al.* 1998: 218 (error); Csösz, & Markó, 2005: 232 (error); Karaman, G.S. & Karaman, 2005: 60 (error); Petrov, 2006: 113 (in key) (error).

Synonym of *pratensis*: Bernard, 1967: 314.

[Note: Bernard, 1967: 314, gives *nigricans* as senior synonym, but *pratensis* has priority.]

Junior synonym of *pratensis*: Dlussky, 1967a: 84; Dlussky & Pisarski, 1971: 177; Paraschivescu, 1972: 527; Pisarski, 1975: 46; Tarbinsky, 1976: 194; Kutter, 1977c: 272; Collingwood, 1979: 152; Seifert, 1992a: 225; Bolton, 1995b: 199; Czechowski, *et al.* 2002: 77; Werner & Wiezik, 2007: 144; Casevitz-Weulersse & Galkowsky, 2009: 482; Czechowski, *et al.* 2012: 202; Radchenko, 2016: 291.

*nigriceps* Smith, F. 1858; see under **CAMPONOTUS**.

*nigriventris* Guérin-Méneville, 1831; see under **LEPTOMYRMEX**.

*nigriventris* Spinola, 1851; see under **LASIPHANES**.

*nigroaenea* Smith, F. 1858; see under **CAMPONOTUS**.

***nigropratensis***. *Formica nigropratensis* Betrem, 1962: 38 (w.) (no state data, “Europe”).

**Status as species:** Bolton, 1995b: 199; Borowiec, L. 2014: 76.

**Senior synonym of *incisa*** Gösswald: Betrem, 1962: 38; Bolton, 1995b: 199.

Material of the unavailable name *foreli* referred here by Betrem, 1962: 38.

*nipponensis*. *Formica fusca* var. *nipponensis* Forel, 1900e: 270 (w.) JAPAN.

Forel, 1901h: 66 (q.).

Subspecies of *fusca*: Forel, 1901h: 66; Wheeler, W.M. 1906c: 323; Forel, 1907e: 19; Ruzsky, 1925b: 44.

Junior synonym of *japonica*: Emery, 1909b: 197; Yano, 1910: 422; Yano, 1911: 111 (in text); Wheeler, W.M. 1913f: 499; Emery, 1925b: 248; Karavaiev, 1927b: 111; Kuznetsov-Ugamsky, 1928b: 6; Kuznetsov-Ugamsky, 1929a: 19; Ruzsky, 1936: 92; Chapman & Capco, 1951: 199; Dlussky, 1967a: 78; Onoyama, 1980: 200; Bolton, 1995b: 199; Zhou, 2001b: 175; Imai, *et al.* 2003: 57.

***nitida***. *Formica nitida* Razoumowsky, 1789: 427 (no sex/caste indicated) SWITZERLAND.

Status as species: Dalla Torre, 1893: 202.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 198.

*nitida* Smith, F. 1859; see under **COLOBOPSIS**.

*nitida* Lowne, 1865; see under **CAMPONOTUS**.

*nitida* Norton, 1868; see under **CAMPONOTUS**.

*nitidior* Forel, 1904; see under **ALLOFORMICA**.

*nitidissima* André, 1896; see under **PROLASIUS**.

*nitidiventris*. *Formica pallidefulva* subsp. *nitidiventris* Emery, 1893i: 656, pl. 22, figs. 13, 19  
(w.q.m.) U.S.A. (District of Columbia, Pennsylvania, New York, New Jersey, Virginia)

Wheeler, G.C. & Wheeler, J. 1953c: 159 (l.).

Combination in *F. (Neoformica)*: Wheeler, W.M. 1913f: 555.

Subspecies of *pallidefulva*: Wheeler, W.M. 1900c: 47; Wheeler, W.M. 1904e: 306;  
Wheeler, W.M. 1904f: 370 (in key); Wheeler, W.M. 1905f: 400; Wheeler, W.M. 1906b:  
18; Wheeler, W.M. 1910g: 570; Santschi, 1911d: 7; Wheeler, W.M. 1913f: 555  
(redescription); Wheeler, W.M. 1916m: 598; Wheeler, W.M. 1917a: 555; Wheeler, W.M.  
1917i: 465; Emery, 1925b: 245; Smith, M.R. 1928c: 278; Menozzi, 1932b: 312; Dennis,  
1938: 299; Wesson, L.G. & Wesson, R.G. 1940: 102; Buren, 1944a: 310; Creighton,  
1950a: 550; Smith, M.R. 1951a: 859; Cole, 1954c: 167; Smith, M.R. 1958c: 153; Smith,  
M.R. 1967: 370; Yensen, *et al.* 1977: 185; Smith, D.R. 1979: 1451; DuBois & LaBerge,  
1988: 148; Wheeler, G.C., *et al.* 1994: 306.

Status as species: Francoeur, 1977b: 208; Bolton, 1995b: 199; Mackay & Mackay, 2002:  
356; Coovert, 2005: 136.

Junior synonym of *pallidefulva*: Trager, MacGown & Trager, 2007: 624.

*nodosa* Latreille, 1802; see under **GNAMPTOGENYS**.

*nodus* Brullé, 1833; see under **CATAGLYPHIS**.

*nortonii*. *Formica nortonii* Buckley, 1866: 153 (w.q.) U.S.A. (Connecticut).

Status as species: Cresson, 1887: 256; Dalla Torre, 1893: 202.

Unidentifiable taxon; *incertae sedis* in Formicinae: Smith, M.R. 1958c: 161; Smith, D.R.  
1979: 1467;

unidentifiable taxon; *incertae sedis* in *Formica*: Wheeler, W.M. 1902f: 19; Smith, M.R.  
1951a: 873; Bolton, 1995b: 199;

*novaanglae*. *Formica novaanglae* Buckley, 1866: 153 (w.q.) U.S.A. (Maine).

Status as species: Cresson, 1887: 256; Dalla Torre, 1893: 202.

Unidentifiable taxon; *incertae sedis* in Formicinae: Smith, M.R. 1958c: 161; Smith, D.R.  
1979: 1467;

unidentifiable taxon; *incertae sedis* in *Formica*: Wheeler, W.M. 1902f: 19; Smith, M.R.  
1951a: 873; Bolton, 1995b: 199;

*novaki*. *Formica cinerea* var. *novaki* Kratochvíl, in Novák & Sadil, 1941: 106 (diagnosis in key)  
(w.q.) CZECH REPUBLIC.

Subspecies of *cinerea*: Bolton, 1995b: 200.

Junior synonym of *cinerea*: Seifert, 2002b: 251; Radchenko, 2016: 300.

*noveboracensis* Fitch, 1854; see under **CAMPONOTUS**.

*nuda* Bondroit, 1918 [*Formicina*]; see under **LASIUS**.

*nuda*. *Formica pratensis* subsp. *nuda* Ruzsky, 1926: 110 (w.) RUSSIA.

Subspecies of *pratensis*: Bolton, 1995b: 200.

*nuda*. *Formica (Formica) rufa* var. *nuda* Karavaiev, 1930b: 148 (w.) SWEDEN (Gotland I., Oland I.).

[Unresolved junior primary homonym of *Formica pratensis* subsp. *nuda* Ruzsky, 1926: 110 (Bolton, 1995b: 200).]

Subspecies of *rufa*: Karavaiev, 1931e: 216; Holgersen, 1943b: 176 (in key); Holgersen, 1944: 189; Ruzsky, 1946: 69; Röszler, 1950: 213.

Junior synonym of *rufa*: Karavaiev, 1936: 240; Gösswald, 1941: 73; Yarrow, 1955a: 4.

Junior synonym of *polyctena*: Stärcke, 1947: 145 (in text); Dlussky, 1967a: 93; Dlussky & Pisarski, 1971: 187; Bolton, 1995b: 200; Radchenko, 2016: 286.

*nylanderi*. *Formica rufa* var. *nylanderi* Bondroit, 1920a: 145 (q.) FRANCE.

[Also described as new by Bondroit, 1920b: 300.]

Subspecies of *rufa*: Emery, 1925b: 253.

Junior synonym of *lugubris*: Yarrow, 1955a: 5; Dlussky, 1967a: 91; Bernard, 1967: 318; Dlussky & Pisarski, 1971: 180; Bolton, 1995b: 200; Seifert, 1996: 200; Casevitz-Weulersse & Galkowsky, 2009: 482; Radchenko, 2016: 287.

*obcordata*. *Formica obcordata* Schilling, 1830: 55, no caste given, no locality given. *Nomen nudum*.

\**obesa* Heer, 1849; see under **OECOPHYLLA**.

\**oblita*. \**Formica oblita* Heer, 1867: 13, pl. 1, fig. 12 (q.) CROATIA (Miocene).

Status as species: Mayr, 1867b: 56; Scudder, 1891: 704; Dalla Torre, 1893: 202; Handlirsch, 1907: 864; Bolton, 1995b: 200.

Junior synonym of \**ungeri*: Dlussky & Putyatina, 2014: 256.

\**obliterata* Heer, 1849; see under **LASIUS**.

*oblonga* Smith, F. 1858; see under **CAMPONOTUS**.

\***obscura**. \**Formica obscura* Heer, 1849: 119, pl. 9, fig. 2 (q.) CROATIA (Miocene).

[Also described as new by Heer, 1850: 119.]

Combination in *Lasius*: Mayr, 1867b: 52;

combination in *Formica*: Dlussky & Putyatina, 2014: 259.

**Status as species**: Giebel, 1856: 165; Mayr, 1867b: 52; Scudder, 1891: 705, 714; Dalla Torre, 1893: 190; Handlirsch, 1907: 862; Bolton, 1995b: 225; Dlussky & Putyatina, 2014: 259 (redescription).

*obscura* Smith, F. 1858; see under **DOLICHODERUS**.

*obscurans* Walker, 1859; see under **BRACHYPONERA**.

*obscurata*. *Formica rufa* var. *obscurata* Santschi, 1925g: 351 (w.m.) FRANCE.

Subspecies of *rufa*: Bolton, 1995b: 200.

Junior synonym of *rufa*: Casevitz-Weulersse & Galkowsky, 2009: 482.

**obscuripes**. *Formica rufa* r. *obscuripes* Forel, 1886b: xxxix (w.) U.S.A. (Wyoming).

[Misspelled as *obscurpes* by Forel, 1914c: 619.]

Emery, 1893i: 650 (q.m.); Wheeler, G.C. & Wheeler, J. 1953c: 165 (l.); Hung, 1969: 456 (k.).

As unavailable (infrasubspecific) name: Emery, 1893i: 650.

**Subspecies of rufa**: Mayr, 1886d: 426; Cresson, 1887: 256; Dalla Torre, 1893: 202, 206 (footnote); Forel, 1899c: 128; Forel, 1904a: 152; Forel, 1904d: 175; Wheeler, W.M. 1910g: 570; Santschi, 1911d: 7; Wheeler, W.M. 1913f: 433 (redescription); Emery, 1925b: 254; Essig, 1926: 867; Smith, M.R. 1928c: 279; Menozzi, 1932b: 312; Cole,

1936a: 37; Cole, 1937b: 137; Wheeler, G.C. & Wheeler, E.W. 1944: 263; Buren, 1944a: 301; Smith, M.R. 1951a: 869.

**Status as species:** Santschi, 1911d: 7; Wheeler, W.M. 1913f: 433 (redescription); Wheeler, W.M. 1917a: 535; Weber, 1935: 165; Creighton, 1940a: 1, 7 (in key); Cole, 1942: 380; Creighton, 1950a: 492; Cole, 1954c: 165; Smith, M.R. 1958c: 157; Cole, 1966: 23 (in key); Beck, *et al.* 1967: 70; Smith, M.R. 1967: 372; Francoeur, 1977b: 208; Yensen, *et al.* 1977: 185; Wheeler, G.C. & Wheeler, J. 1978: 394; Smith, D.R. 1979: 1460; Allred, 1982: 471; Wheeler, G.C. & Wheeler, J. 1986g: 83; DuBois & LaBerge, 1988: 147; Mackay, Lowrie, *et al.* 1988: 115; Blacker, 1992: 11; Wheeler, G.C., *et al.* 1994: 306; Bolton, 1995b: 200; Mackay & Mackay, 2002: 357; Coovert, 2005: 150; Ward, 2005: 63.

**Senior synonym of aggerans:** Forel, 1914c: 619; Emery, 1925b: 254; Creighton, 1940a: 1; Buren, 1944a: 301; Creighton, 1950a: 492; Smith, D.R. 1979: 1460; Bolton, 1995b: 200; Coovert, 2005: 150.

**Senior synonym of melanotica:** Creighton, 1950a: 492; Smith, M.R. 1958c: 157; Smith, D.R. 1979: 1460; Bolton, 1995b: 200; Coovert, 2005: 150.

Material of the unavailable name *ruginosa* Emery, 1893i referred here by Creighton, 1940a: 1; Creighton, 1950a: 492; Smith, M.R. 1951a: 869; Smith, D.R. 1979: 1460; Bolton, 1995b: 200.

***obscuriventris.*** *Formica truncicola* var. *obscuriventris* Mayr, 1870b: 951 (w.) U.S.A. (Connecticut).

Wheeler, W.M. 1913f: 446 (q.m.).

**Subspecies of rufa:** Mayr, 1886d: 426; Cresson, 1887: 256; Emery, 1893i: 649; Viereck, 1903: 72; Wheeler, W.M. 1905f: 399; Wheeler, W.M. 1906b: 16; Wheeler, W.M. 1908f: 623; Wheeler, W.M. 1908g: 408; Wheeler, W.M. 1910g: 570; Emery, 1925b: 254; Creighton, 1940a: 1, 8 (in key); Buren, 1944a: 302; Smith, M.R. 1951a: 870.

**Subspecies of truncicola:** Dalla Torre, 1893: 214; Wheeler, W.M. 1913c: 116; Wheeler, W.M. 1913f: 445 (redescription); Wheeler, W.M. 1916m: 597; Wheeler, W.M. 1917a: 540; Wheeler, W.M. 1917i: 464; Wing, 1939: 165; Wesson, L.G. & Wesson, R.G. 1940: 101.

**Status as species:** Creighton, 1950a: 493; Smith, M.R. 1958c: 158; Smith, M.R. 1967: 372; Francoeur, 1977b: 208; Wheeler, G.C. & Wheeler, J. 1978: 394; Smith, D.R. 1979: 1460; Allred, 1982: 472; Wheeler, G.C. & Wheeler, J. 1986g: 84; DuBois & LaBerge, 1988: 148; Wheeler, G.C., *et al.* 1994: 306; Bolton, 1995b: 200; Mackay & Mackay, 2002: 358; Coovert, 2005: 150; Ellison, *et al.* 2012: 166; Shattuck & Cover, 2016: 16.

**Senior synonym of clivia:** Shattuck & Cover, 2016: 16.

**Senior synonym of dryas:** Wheeler, W.M. 1913f: 446; Emery, 1925b: 254; Creighton, 1950a: 493; Smith, M.R. 1951a: 870; Smith, D.R. 1979: 1460; Bolton, 1995b: 200.

**Senior synonym of gymnomma:** Creighton, 1950a: 493; Smith, M.R. 1958c: 158; Smith, D.R. 1979: 1460; Bolton, 1995b: 200.

***obsidiana.*** *Formica (Serviformica) obsidiana* Emery, 1923: 61 (q.) (no state data).

[Note: type-locality Taiwan (= Formosa), after Emery, 1925b: 249.]

**Status as species:** Emery, 1925b: 249; Wheeler, W.M. 1929g: 64; Chapman & Capco, 1951: 198; Bolton, 1995b: 200; Lin & Wu, 2003: 61; Terayama, 2009: 221.

***obsoleta.*** *Formica obsoleta* Linnaeus, 1758: 580 (w.) (no state data, "Habitat in Europae").

[Note: type-locality uncertain ("Habitat passim"), after Linnaeus, 1761: 427.]

Latreille, 1798: 38 (w.q.m.); Zetterstedt, 1838: 449 (q.).

Status as species: Linnaeus, 1761: 427; Linnaeus, 1767: 962; Fabricius, 1775: 392; Fabricius, 1782: 490; Fabricius, 1787: 308; Gmelin, 1790: 2799; Christ, 1791: 509; Olivier, 1792: 494; Fabricius, 1793: 355; Latreille, 1798: 38; Latreille, 1802c: 291; Fabricius, 1804: 402; Billberg, 1820: 104; Zetterstedt, 1838: 449; Dalla Torre, 1893: 202.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 200.

*obsoleta* Christ, 1791; see under **CAMPONOTUS**.

\****obtecta***. \**Formica obtecta* Heer, 1849: 123, pl. 9, fig. 7 (q.) CROATIA (Miocene).

[Also described as new by Heer, 1850: 123.]

Status as species: Giebel, 1856: 166; Scudder, 1891: 705; Dalla Torre, 1893: 203; Handlirsch, 1907: 865; Bolton, 1995b: 200.

*Incerae sedis* in Formicidae: Dlussky & Putyatina, 2014: 275.

*obtusa* Smith, F. 1858; see under **CAMPONOTUS**.

***obtusopilosa***. *Formica sanguinea* subsp. *obtusopilosa* Emery, 1893i: 648 (w.) U.S.A. (New Mexico).

Combination in *F. (Formica)*: Wheeler, W.M. 1913f: 414;

combination in *F. (Raptiformica)*: Emery, 1925b: 259.

**Subspecies of *sanguinea***: Wheeler, W.M. 1901c: 713; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 414 (redescription); Wheeler, W.M. 1917a: 534.

**Status as species**: Emery, 1925b: 259; Cole, 1942: 377; Creighton, 1950a: 465; Smith, M.R. 1951a: 867; Cole, 1954c: 163; Wilson & Brown, 1955: 128; Cole, 1966: 22 (in key); Smith, M.R. 1967: 369; Yensen, *et al.* 1977: 185; Smith, D.R. 1979: 1450; Allred, 1982: 472; Snelling, R.R. & Buren, 1985: 72 (in key); Wheeler, G.C. & Wheeler, J. 1986g: 93; Mackay, Lowrie, *et al.* 1988: 115; Bolton, 1995b: 200; Mackay & Mackay, 2002: 359.

**Senior synonym of *alticola***: Wilson & Brown, 1955: 128; Smith, D.R. 1979: 1450; Bolton, 1995b: 200.

**Senior synonym of *munda***: Emery, 1925b: 259; Creighton, 1950a: 465; Smith, M.R. 1951a: 867; Smith, D.R. 1979: 1450; Bolton, 1995b: 200.

\****obvoluta***. \**Formica obvoluta* Heer, 1849: 141, pl. 10, fig. 9 (m.) CROATIA (Miocene).

[Also described as new by Heer, 1850: 141.]

Status as species: Giebel, 1856: 172; Heer, 1867: 16; Mayr, 1867b: 56; Scudder, 1891: 705; Dalla Torre, 1893: 203; Handlirsch, 1907: 864; Bolton, 1995b: 200.

*Incerae sedis* in Formicidae: Dlussky & Putyatina, 2014: 275.

***occidentalis***. *Formica occidentalis* Buckley, 1866: 157 (w.q.m.) U.S.A. (New York, Connecticut).

Combination in *Lasius*?: Emery, 1895c: 337; Wheeler, W.M. 1902f: 20.

Status as species: Cresson, 1887: 256; Dalla Torre, 1893: 203; Emery, 1925b: 238.

Unidentifiable taxon; *incertae sedis* in Formicinae: Smith, M.R. 1951a: 875; Smith, D.R. 1979: 1467;

unidentifiable taxon; *incertae sedis* in *Formica*: Bolton, 1995b: 200.

***occidentalis***. *Formica fusca* var. *occidentalis* Wheeler, W.M. 1908g: 409 (w.) U.S.A. *Nomen nudum*.

[*Formica rufibarbis* var. *occidentalis* Wheeler, W.M. 1910g: 570. *Nomen nudum*.]

[*Formica rufibarbis* var. *occidua* Wheeler, W.M. 1912c: 90; unnecessary replacement name. *Nomen nudum*.]

*occidua*. *Formica rufibarbis* var. *occidua* Wheeler, W.M. 1913f: 517 (w.q.) U.S.A. (California, Washington).

[*F. rufibarbis* var. *occidua* Wheeler, W.M. 1912c: 90. *Nomen nudum*.]

Subspecies of *rufibarbis*: Wheeler, W.M. 1917a: 550; Emery, 1925b: 250; Essig, 1926: 867; Creighton, 1950a: 539; Smith, M.R. 1951a: 871; Smith, M.R. 1958c: 159.

Status as species: Francoeur, 1973: 254 (redescription); Francoeur, 1975: 263; Hunt & Snelling, 1975: 23; Wheeler, G.C. & Wheeler, J. 1977b: 16 (in key); Francoeur & Snelling, 1979: 6.

Synonym of *moki*: Francoeur, 1973: 254.

[Note: Francoeur gives *occidua* as senior synonym, but *moki* has priority (Smith, D.R. 1979: 1453).]

Junior synonym of *moki*: Smith, D.R. 1979: 1453; Bolton, 1995b: 200.

**occulta**. *Formica occulta* Francoeur, 1973: 94, figs. 132-147 (w.q.m.) U.S.A. (Colorado, Arizona, New Mexico, Oregon, Utah, Wyoming).

Status as species: Francoeur, 1975: 260; Hunt & Snelling, 1975: 23; Wheeler, G.C. & Wheeler, J. 1977b: 13 (in key); Yensen, *et al.* 1977: 185; Smith, D.R. 1979: 1454; Allred, 1982: 473; Wheeler, G.C. & Wheeler, J. 1986g: 88 (in key); Mackay, Lowrie, *et al.* 1988: 116; Bolton, 1995b: 200; Mackay & Mackay, 2002: 360.

\**occultata* Heer, 1849; see under **LASIUS**.

\**ocella* Heer, 1849; see under \***EMPLASTUS**.

*ochracea*. *Formica (Serviformica) cinerea* Karavaiev, 1937: 177 (w.) UKRAINE.

Junior synonym of *imitans*: Dlussky, 1967a: 65; Bolton, 1995b: 200.

*Incertae sedis* in *cinerea* group: Seifert, 2002b: 267.

Junior synonym of *cinerea*: Radchenko, 2016: 300.

*octospinosa* Reich, 1793; see under **ACROMYRMEX**.

\**oculata*. \**Formica oculata* Heer, 1849: 143, pl. 10, fig. 9 (m.) CROATIA (Miocene).

[Also described as new by Heer, 1850: 143.]

Status as species: Giebel, 1856: 172; Heer, 1867: 17; Mayr, 1867b: 56; Scudder, 1891: 706; Dalla Torre, 1893: 203; Handlirsch, 1907: 865; Théobald, 1937b: 318; Burnham, 1979: 115; Bolton, 1995b: 200.

*Incertae sedis* in Formicidae: Dlussky & Putyatina, 2014: 275.

*oculata* Smith, F. 1859; see under **OPISTHOPSIS**.

*oculatissima* Forel, 1886; see under **PROFORMICA**.

**omnivora**. *Formica omnivora* Linnaeus, 1758: 581 (w.) (no state data, “Habitat in America meridionali”).

[Note (i): Linnaeus adds that the ants were eating and tearing all foodstuffs to pieces, “*consumens & dilacerans omnia cibaria*”.]

[Note (ii): type-locality Suriname (“Habitat Surinami”), after Fabricius, 1782: 491, Fabricius, 1793: 357.]

Combination in *Leptothorax*: Motschoulsky, 1866: 183;

combination in *Monomorium*: Emery, in Dalla Torre, 1893: 68; Forel, 1895b: 124; Wheeler, W.M. 1908b: 160;

combination in *Eciton*: see note (i), below.

Status as species: Linnaeus, 1767: 964; De Geer, 1773: 612; Fabricius, 1782: 491; Retzius, 1783: 76; Fabricius, 1787: 309; Gmelin, 1790: 2801; Christ, 1791: 515; Olivier, 1792: 496; Fabricius, 1793: 357; Latreille, 1802c: 286; Fabricius, 1804: 406; Pohl & Kollar, 1832: 16; Motschoulsky, 1866: 183.

Unidentifiable taxon, *incertae sedis* in *Monomorium*: Wheeler, W.M. 1908b: 160;

*incertae sedis* in Myrmicinae: Kempf, 1972a: 260;

unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 200.

[Note (i): *Formica omnivora* Linnaeus, 1758, *sensu* Pohl & Kollar, 1832: 16, fig. 11, is a *Labidus* species, hence its combination in *Eciton* by Mayr, 1886b: 118 (in key); Emery, 1888c: 353, Emery, 1890b: 38, Dalla Torre, 1893: 5, Emery, 1894c: 179, von Jhering, 1894: 381, Emery, 1894k: 45, Emery, 1895c: 258, Forel, 1895b: 120, Emery, 1896b: 1. These are not applicable to Linnaeus's original concept of the species. Instead they refer to *omnivora* Linnaeus, *sensu* Olivier, 1792: 496, *sensu* Pohl & Kollar, 1832: 16, etc., as discussed in Emery, 1896g: 36, Emery, 1896h: 625 (footnote).]

Note (ii): Retzius, 1783: 76, and Fabricius, 1804: 406, give *omnivora* as a senior synonym of *pusilla*, but both are unidentifiable. Dalla Torre, 1893: 68, Forel, 1895b: 124, and Wheeler, W.M. 1908b: 160, give *omnivora* a combination in *Monomorium* but there is no evidence that this is correct.]

*opaca* Nylander, 1856; see under **CAMPONOTUS**

**opaciventris**. *Formica exsectoides* var. *opaciventris* Emery, 1893i: 653 (w.m.) U.S.A. (Colorado).

Gregg, R.E. 1952b: 14 (q.).

**Subspecies of exsectoides**: Wheeler, W.M. 1900c: 47; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 484 (redescription); Wheeler, W.M. 1917a: 544; Emery, 1925b: 258; Smith, M.R. 1951a: 863.

**Status as species**: Creighton, 1950a: 514; Gregg, R.E. 1952b: 14; Cole, 1954c: 166; Smith, M.R. 1958c: 158; Smith, M.R. 1967: 372; Yensen, *et al.* 1977: 185; Smith, D.R. 1979: 1456; Allred, 1982: 473; Bolton, 1995b: 200; Mackay & Mackay, 2002: 362.

*opacus*. *Formica opacus* Kupyanskaya, 1980: 106, figs. 21-25 (w.q.m.) RUSSIA.

[Junior primary homonym of *Formica opaca* Nylander, 1856b: 55.]

Status as species: Kupyanskaya, 1990: 199.

**Replacement name**: *Formica kupyanskayae* Bolton, 1995b: 197.

\**ophthalmica* Heer, 1849; see under **LASIUS**.

**orangea**. *Formica orangea* Seifert & Schultz, 2009: 266, fig. 6 (w.) KYRGYZSTAN, AFGHANISTAN, IRAN, KAZAKHSTAN, MONGOLIA, UZBEKISTAN.

**Status as species**: Borowiec, L. 2014: 76.

\***orbata**. \**Formica orbata* Heer, 1849: 141, pl. 11, fig. 8 (m.) GERMANY (Miocene).

[Also described as new by Heer, 1850: 141.]

*incertae sedis* in *Formica*: Handlirsch, 1907: 866.

Status as species: Giebel, 1856: 171; Scudder, 1891: 706; Dalla Torre, 1893: 203; Bolton, 1995b: 200.

**oreas**. *Formica oreas* Wheeler, W.M. 1903e: 643, fig. 2 (w.q.m.) U.S.A. (Colorado).

**Status as species**: Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 458 (redescription); Wheeler, W.M. 1917a: 541; Emery, 1925b: 252; Cole, 1942: 379; Creighton, 1950a: 494; Smith, M.R. 1951a: 867; Cole, 1954c: 165; Smith, M.R. 1958c: 158; Smith, M.R. 1967: 372; Yensen, *et al.* 1977: 185; Wheeler, G.C. & Wheeler, J. 1978: 394; Smith, D.R. 1979: 1461; Allred, 1982: 473; Wheeler, G.C. & Wheeler, J. 1986g: 84; Mackay, Lowrie, *et al.* 1988: 110 (in key); Bolton, 1995b: 200; Mackay & Mackay, 2002: 362; Ward, 2005: 63; Shattuck & Cover, 2016: 17.

**Senior synonym of comptula**: Shattuck & Cover, 2016: 17.

**oregonensis**. *Formica oregonensis* Cole, 1938c: 368 (w.) U.S.A. (Oregon).

Combination in *F. (Raptiformica)*: Creighton, 1950a: 465.

Junior synonym of *manni*: Wilson & Brown, 1955: 127.

**Status as species**: Creighton, 1950a: 465; Smith, M.R. 1951a: 867; Cole, 1956d: 212; Smith, M.R. 1967: 372; Smith, D.R. 1979: 1450; Wheeler, G.C. & Wheeler, J. 1986g: 78 (in key); Mackay, Lowrie, *et al.* 1988: 110 (in key); Bolton, 1995b: 200.

*orientalis*. *Formica (Serviformica) fusca* subsp. *orientalis* Ruzsky, 1915a: 427, figs. 5 (w.) CHINA (Tibet).

As unavailable (infrasubspecific) name: Ruzsky, 1916: 10; Ruzsky, 1925b: 44.

Subspecies of *fusca*: Ruzsky, 1936: 92; Ruzsky, 1946: 69.

Subspecies of *picea*: Emery, 1925b: 249; Stärcke, 1935: 267.

Subspecies of *gagates*: Menozzi, 1939a: 322 (in key).

Junior synonym of *candida*: Imai, et al. 2003: 57 (error).

Junior synonym of *picea* Nylander: Dlussky, 1965a: 31; Dlussky, 1967a: 61; Dlussky & Pisarski, 1971: 153; Tarbinsky, 1976: 183; Bolton, 1995b: 200.

*orientalis*. *Formica rufibarbis* var. *orientalis* Wheeler, W.M. 1923b: 4 (w.) CHINA (Shandong).

[Junior primary homonym of *Formica fusca* subsp. *orientalis* Ruzsky, 1915a: 427.]

Replacement name: *Formica (Serviformica) rufibarbis* var. *sinae* Emery, 1925b: 250.

*orites* Santschi, 1928; see under **PROFORMICA**.

\**ovala*. \**Formica ovala* Zhang, J. 1989: 289, figs. 290, 291 (m.) CHINA (Shandong, Miocene).

*ovata*. *Formica ovata* Reich, 1793: 132 (no sex/caste indicated) FRENCH GUIANA.

Status as species: Dalla Torre, 1893: 203.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 200.

[Note: Emery, 1892b: 68, Emery, in Dalla Torre, 1893: 203 (footnote), Emery, 1911d: 71, suggest possible synonymy with *Neoponera commutata* (Roger).]

*ovaticeps* Spinola, 1851; see under **CAMPONOTUS**.

*pachucana*. *Formica pachucana* Francoeur, 1973: 128, figs. 216-219 (w.q.) MEXICO (Hidalgo, Coahuila).

Status as species: Bolton, 1995b: 200.

*pacifica*. *Formica pacifica* Francoeur, 1973: 131, figs. 190-197 (w.q.) U.S.A. (Washington, California, Oregon), CANADA (British Columbia).

Status as species: Wheeler, G.C. & Wheeler, J. 1977b: 15 (in key); Yensen, et al. 1977: 185; Francoeur & Snelling, 1979: 4; Smith, D.R. 1979: 1454; Wheeler, G.C. & Wheeler, J. 1986g: 88 (in key); Blacker, 1992: 11; Bolton, 1995b: 200; Ward, 2005: 63.

\**palaeopolonica*. \**Formica palaeopolonica* Dlussky, 2008a: 54, fig. 4c (w.) BALTIC AMBER (Eocene).

[Misspelled as *paleopolonica* by Dlussky & Rasnitsyn, 2009: 1030.]

Status as species: Dlussky & Rasnitsyn, 2009: 1030; Perkovsky, 2016: 114.

\**paleosibirica*. \**Formica paleosibirica* Dlussky, Rasnitsyn & Perfilieva, 2015: 137, fig. 11 (m.) RUSSIA (Sikhote-Alin, Bol'shaya Svetlovodnaya, Eocene).

*pallens* Le Guillou, 1842; see under **CAMPONOTUS**.

*pallens* Nylander, 1849; see under **CAMPONOTUS**.

*pallescens* Schenck, 1852; see under **LASIUS**.

*pallida* Latreille, 1798; see under **LASIUS**.

*pallida* Smith, F. 1857; see under **CAMPONOTUS**.

*pallida*. *Formicina pallida* Canestrini, 1873: 52. This is an arachnid, not an ant.

*pallidefulva*. *Formica pallidefulva* Latreille, 1802c: 174 (w.) U.S.A. (no state data).

[Misspelled as *pallide-fulva* by many authors.]

Mayr, 1866b: 889 (q.); Emery, 1893i: 657 (m.).

Combination in *F. (Neoformica)*: Wheeler, W.M. 1913a: 82.

Status as species: Smith, F. 1858b: 54; Mayr, 1863: 418; Mayr, 1866b: 889; Mayr, 1886d: 429; Cresson, 1887: 256; Dalla Torre, 1893: 203; Emery, 1893i: 656; Emery, 1895c: 335; Viereck, 1903: 72; Wheeler, W.M. 1904f: 369 (in key); Wheeler, W.M.

1905f: 400; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913c: 116; Wheeler, W.M. 1913f: 548 (redescription); Wheeler, W.M. 1917a: 554; Emery, 1925b: 244; Wheeler, W.M. 1932a: 16; Wesson, L.G. & Wesson, R.G. 1940: 102; Creighton, 1950a: 550; Smith, M.R. 1951a: 859; Smith, M.R. 1958c: 153; Carter, 1962a: 8 (in list); Smith, M.R. 1967: 370; Smith, D.R. 1979: 1451; Allred, 1982: 474; DuBois & LaBerge, 1988: 148; Deyrup, *et al.* 1989: 99; Bolton, 1995b: 200; Mackay & Mackay, 2002: 364; Deyrup, 2003: 45; Coovert, 2005: 137; MacGown & Forster, 2005: 66; Trager, MacGown & Trager, 2007: 624 (redescription); Ellison, *et al.* 2012: 167; Deyrup, 2017: 204.

**Senior synonym of *delicata*:** Trager, MacGown & Trager, 2007: 624.

**Senior synonym of *fuscata*:** Trager, MacGown & Trager, 2007: 624.

**Senior synonym of *nitidiventris*:** Trager, MacGown & Trager, 2007: 624.

**Senior synonym of *schaufussi*:** Trager, MacGown & Trager, 2007: 624.

**Senior synonym of *succinea*:** Creighton, 1950a: 550; Smith, M.R. 1958c: 153; Smith, D.R. 1979: 1451; Bolton, 1995b: 200; Coovert, 2005: 137; Trager, MacGown & Trager, 2007: 624.

***pallidelutea*.** *Formica pallidelutea* Latreille, 1802c: 241 (w.) SENEGAL.

Combination in *Pheidole*: Roger, 1863b: 30; Dalla Torre, 1893: 94; Emery, 1921f: 89; Wheeler, W.M. 1922a: 818.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 200.

***pallidinervis*** Brullé, 1833; see under **CAMPONOTUS**.

***pallidipes***, Dalla Torre, 1893, misspelling, see under *pallipes* Latreille, 1787.

***pallipes*.** *Formica pallipes* Latreille, 1787: 309 (m.) FRENCH GUIANA.

[Misspelled as *pallidipes* by Dalla Torre, 1893: 40.]

Combination in *Lasius*: Fabricius, 1804: 417;

combination in *Ponera*: Latreille, 1818c: 570.

Status as species: Gmelin, 1790: 2798; Olivier, 1792: 495; Fabricius, 1793: 356; Latreille, 1802c: 284; Fabricius, 1804: 417; Smith, F. 1858b: 46; Mayr, 1863: 449; Dalla Torre, 1893: 40; Emery, 1911d: 116.

*Incertae sedis* in Ponerinae: Kempf, 1972a: 260.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 200.

***pallipes*.** *Formica fusca* var. *pallipes* Kuznetsov-Ugamsky, 1926b: 97 (w.) KAZAKHSTAN.

[Unresolved junior primary homonym of *Formica pallipes* Latreille, 1787: 309 (Bolton, 1995b: 200).]

[*Formica fusca* subsp. *fusca* var. *pallipes* Kuznetsov-Ugamsky, 1926b: 94 (in key); unavailable (infrasubspecific) name.]

Junior synonym of *fusca*: Dlussky, 1967a: 58; Tarbinsky, 1976: 180; Bolton, 1995b: 200; Radchenko, 2007: 35; Radchenko, 2016: 294.

***pallitarsis*** Provancher, 1881; see under **LASIUS**.

***pamirica*.** *Formica subpilosa* subsp. *pamirica* Dlussky, 1965a: 30 (w.q.) TADJIKISTAN.

**Subspecies of *subpilosa*:** Dlussky, 1967a: 70; Tarbinsky, 1976: 190 (redescription); Bolton, 1995b: 200.

**Status as species:** Collingwood, 1970: 378; Schultz, R. *et al.* 2006: 205; Seifert & Schultz, 2008: 81 (redescription); Guénard & Dunn, 2012: 32.

***pangens*** Walker, 1859; see under **ANOCHETUS**.

***paralugubris*.** *Formica paralugubris* Seifert, 1996a: 199, figs. 4, 5 (w.q.) SWITZERLAND, FRANCE, ITALY, AUSTRIA.

**Status as species:** Seifert, 2007: 316; Casevitz-Weulersse & Galkowsky, 2009: 482; Borowiec, L. 2014: 76; Lebas, *et al.* 2016: 172; Seifert, 2016a: 14; Seifert, 2018: 327.

*parcipappa*. *Formica parcipappa* Cole, 1947: 616 (w.) U.S.A. (Idaho).

Combination in *F. (Raptiformica)*: Buren, 1968a: 33.

Status as species: Creighton, 1950a: 467; Smith, M.R. 1951a: 867; Wilson & Brown, 1955: 125; Smith, M.R. 1967: 372; Buren, 1968a: 33 (redescription).

Junior synonym of *curiosa*: Snelling, R.R. 1969b: 194; Smith, D.R. 1979: 1464; Bolton, 1995b: 200.

\**parexsecta*. \**Formica parexsecta* Dlussky & Putyatina, 2014: 261, figs. 9H, 17F (q.) CROATIA (Miocene).

\**parschlugiana* Heer, 1849; see under *LASIUS*.

*parva* Buckley, 1866; see under *TAPINOMA*.

\**parvula*. \**Formica parvula* Presl, 1822: 196 (no sex/caste indicated) BALTIC AMBER (Eocene).

Status as species: Scudder, 1891: 706; Dalla Torre, 1893: 204; Bolton, 1995b: 200.

Unidentifiable taxon; *incertae sedis* in Formicidae: Handlirsch, 1907: 881; unidentifiable to genus; *incertae sedis* in *Formica*.

\**parvula*. \**Formica parvula* Dlussky, 1967b: 83, fig. 1 (m.) BALTIC AMBER (Eocene).

[Junior primary homonym of \**Formica parvula* Presl, 1822: 196 (Bolton, 1995b: 200).]

Status as species: Bolton, 1995b: 200.

Junior synonym of \**flori*: Dlussky, 2002a: 292; Dlussky & Perkovsky, 2002: 11; Dlussky, 2008a: 50.

**Replacement name:** \**Formica egecomerta* Özdi̇kmen, 2010c: 988.

[Note: \**egecomerta* proposed subsequent to the synonymy of \**parvula* Dlussky under \**flori* by Dlussky, 2002a: 292; hence \**egecomerta* automatically a junior synonym of \**flori*.]

*pavida* Smith, F. 1860; see under *CAMPONOTUS*.

*pediculus*. *Formica pediculus* Christ, 1791: 518 (w.) GUINEA.

Status as species: Dalla Torre, 1893: 204.

[According to Emery, 1892b: 162, this is a termite, Order ISOPTERA].

*pensylvanica* De Geer, 1773; see under *CAMPONOTUS*.

*perditor* Fabricius, 1804; see under *DOLICHODERUS*.

\**pergandei*. *Formica pergandei* Emery, 1893i: 646, pl. 22, fig. 1 (w.) U.S.A. (District of Columbia).

Combination in *F. (Formica)*: Wheeler, W.M. 1913f: 418;

combination in *F. (Raptiformica)*: Emery, 1925b: 259.

Junior synonym of *subintegra*: Wilson & Brown, 1955: 120; Smith, M.R. 1958c: 160.

**Status as species:** Wasmann, 1894: 164; Wheeler, W.M. 1906b: 15; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 418 (redescription); Emery, 1925b: 259; Creighton, 1950a: 467; Smith, M.R. 1951a: 867; Wilson & Brown, 1955: 128; Buren, 1968a: 28 (redescription); Kutter, 1968b: 207; Francoeur, 1977b: 208; Smith, D.R. 1979: 1464; Allred, 1982: 474; Snelling, R.R. & Buren, 1985: 72 (in key); DuBois & LaBerge, 1988: 148; Mackay, Lowrie, *et al.* 1988: 116; Wheeler, G.C., *et al.* 1994: 307; Bolton, 1995b: 200; Mackay & Mackay, 2002: 364; Coovort, 2005: 157; Ellison, *et al.* 2012: 168.

**Senior synonym of *sublucida*:** Buren, 1968a: 28; Smith, D.R. 1979: 1464; Bolton, 1995b: 201; Coovort, 2005: 157.

*perminuta* Buckley, 1866; see under *NYLANDERIA*.

*perniciosa*. *Formica perniciosa* Christ, 1791: 517 (no sex/caste indicated) GUINEA. *Nomen nudum*.

*perpilosa*. *Formica subpolita* var. *perpilosa* Wheeler, W.M. 1910g: 571.

[First available use of *Formica fusca* subsp. *subpolita* var. *perpilosa* Wheeler, W.M. 1902b: 141 (w.q.m.) U.S.A. (Colorado, Arizona, New Mexico, Texas), MEXICO (Coahuila); unavailable (infrasubspecific) name.]

Combination in *F. (Raptiformica)*: Emery, 1925b: 259.

**Status as species**: Wheeler, W.M. 1913f: 421 (redescription); Wheeler, W.M. 1917a: 534; Emery, 1925b: 259; Cole, 1937b: 137; Cole, 1942: 378; Creighton, 1950a: 467; Smith, M.R. 1951a: 867; Cole, 1954c: 163; Smith, M.R. 1958c: 158; Beck, *et al.* 1967: 70; Smith, M.R. 1967: 370; Francoeur, 1975: 259; Hunt & Snelling, 1975: 23; Francoeur & Snelling, 1979: 4; Smith, D.R. 1979: 1450; Snelling, R.R. & George, 1979: 248; Dlussky, 1981a: 48; Allred, 1982: 474; Wheeler, G.C. & Wheeler, J. 1986g: 79; Mackay, Lowrie, *et al.* 1988: 109 (in key); Bolton, 1995b: 201; Mackay & Mackay, 2002: 365; Ward, 2005: 63.

*persica*. *Formica persica* Seifert & Schultz, 2009: 268, fig. 10 (w.) IRAN.

**Status as species**: Borowiec, L. 2014: 77.

\**phaethusa*. \**Formica phaethusa* Wheeler, W.M. 1915h: 126, fig. 60 (w.) BALTIC AMBER (Eocene).

[Misspelled as *phaetus* by Keilbach, 1982: 281.]

**Status as species**: Dlussky, 1967b: 80; Burnham, 1979: 115; Keilbach, 1982: 281; Bolton, 1995b: 201; Dlussky, 2008a: 52; Dlussky & Rasnitsyn, 2009: 1030; Perkovsky, 2016: 114.

**Senior synonym of \*clymene**: Dlussky, 2008a: 52.

*pharaonis* Linnaeus, 1758; see under **MONOMORIUM**.

*phylophila*. *Formica phylophila* Jerdon, 1851: 125 (w.) INDIA (no state data).

[Duplicated in Jerdon, 1854b: 107.]

Status as species: Smith, F. 1858b: 16; Mayr, 1863: 419; Smith, F. 1871a: 303; Dalla Torre, 1893: 204; Chapman & Capco, 1951: 200; Tiwari, 1999: 82.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 201.

*picea* Leach, 1825; see under **CAMPONOTUS**.

*picea*. *Formica picea* Nylander, 1846a: 917 (w.q.) FINLAND.

[Junior primary homonym of *Formica picea* Leach, 1825: 292.]

[*Formica picea* Nylander as retained homonymous name: Seifert, 2004: 31, 36.]

Forel, 1914b: 1 (m.).

Combination in *F. (Serviformica)*: Ruzsky, 1915b: 12; Emery, 1916b: 254.

Junior synonym of *gagates*: Mayr, 1855: 348; Nylander, 1856b: 65; Smith, F. 1858b: 6; Roger, 1863b: 13; Mayr, 1863: 415; Smith, F. 1858b: 6; André, 1874: 202 (in list); Forel, 1874: 98 (in list); Emery & Forel, 1879: 451; Dalla Torre, 1893: 198; Forel, 1894c: 403; Ruzsky, 1905b: 378.

**Subspecies of fusca**: Emery, 1909b: 195; Bondroit, 1910: 483; Karavaiev, 1912b: 589; Forel, 1913f: 200; Wheeler, W.M. 1913f: 512 (redescription); Ruzsky, 1915a: 424; Ruzsky, 1915b: 12; Ruzsky, 1916: 5; Escherich, 1917: 336 (in key); Ruzsky, 1920: 79; Kiseleva, 1925: 74; Ruzsky, 1925a: 287; Ruzsky, 1925b: 43; Kuznetsov-Ugamsky, 1926b: 97; Kuznetsov-Ugamsky, 1928b: 8; Kuznetsov-Ugamsky, 1929a: 19; Ruzsky, 1936: 92; Azuma, 1955: 80.

**Status as species:** Foerster, 1850a: 30; Schenck, 1852: 126; Dours, 1873: 166; Bondroit, 1912: 352; Forel, 1914b: 1; Forel, 1915d: 62 (in key); Donisthorpe, 1915d: 325; Emery, 1916b: 254; Donisthorpe, 1918a: 9; Bondroit, 1918: 47; Bondroit, 1920a: 144; Bondroit, 1920b: 299; Soudek, 1922: 82; Lomnicki, 1925a: 16 (in key); Menozzi, 1925d: 35; Emery, 1925b: 249; Karavaiev, 1926e: 196; Stärcke, 1926: 147 (in key); Donisthorpe, 1927b: 374; Karavaiev, 1927c: 285 (in key); Karavaiev, 1927d: 346; Lomnicki, 1928: 9; Kuznetsov-Ugamsky, 1929b: 38; Karavaiev, 1929b: 213; Donisthorpe, 1929a: 447; Stitz, 1930: 238; Wheeler, W.M. 1930h: 81; Karavaiev, 1931b: 32; Karavaiev, 1931c: 111; Karavaiev, 1931e: 215; Teranishi, 1932: 52; Arnol'di, 1933b: 604 (in key); Stitz, 1934: 9; Grandi, 1935: 103; Karavaiev, 1936: 231 (redescription); Menozzi, 1939a: 320; Novák & Sadil, 1941: 106 (in key); Eidmann, 1941: 29; Röszler, 1942a: 64; Ruzsky, 1946: 69; van Boven, 1947: 187 (in key); Röszler, 1950: 217; Chapman & Capco, 1951: 198; Dlussky, 1965a: 31; Dlussky, 1967a: 61; Bernard, 1967: 299 (redescription); Kutter, 1968a: 61; Pisarski, 1969a: 233; Pisarski, 1969b: 308; Dlussky & Pisarski, 1970: 87; Dlussky & Pisarski, 1971: 153 (redescription); Banert & Pisarski, 1972: 354; Pisarski, 1975: 42; Tarbinsky, 1976: 183 (redescription); Kutter, 1977c: 250; Arnol'di & Dlussky, 1978: 553 (in key); Kupyanskaya, 1980: 100; Pisarski & Krzysztofiak, 1981: 162; Kupyanskaya, 1986b: 97; Kupyanskaya, 1990: 186; Seifert, 2004: 31, 36 (redescription); Markó, Sipos, *et al.* 2006: 67; Seifert, 2007: 298; Radchenko, 2007: 35; Werner & Wiezik, 2007: 158; Zryannin & Zryannina, 2007: 233; Gratiashvili & Barjadze, 2008: 134; Casevitz-Weulersse & Galkowsky, 2009: 482; Lapeva-Gjonova, *et al.* 2010: 51; Boer, 2010: 30; Legakis, 2011: 36; Borowiec, L. & Salata, 2012: 495; Czechowski, *et al.* 2012: 210; Guénard & Dunn, 2012: 32; Borowiec, L. 2014: 77; Bharti, Guénard, *et al.* 2016: 27; Lebas, *et al.* 2016: 196; Radchenko, 2016: 297; Salata & Borowiec, 2018c: 45; Seifert, 2018: 303.

**Senior synonym of *glabra* White:** Wheeler, W.M. 1913f: 512; Donisthorpe, 1915d: 325; Donisthorpe, 1918a: 9; Emery, 1925b: 249; Donisthorpe, 1927b: 374; Karavaiev, 1936: 231; Dlussky, 1967a: 61; Bolton, 1995b: 201; Radchenko, 2016: 297.

**Senior synonym of *implana*:** Dlussky, 1965a: 31; Dlussky, 1967a: 61; Dlussky & Pisarski, 1971: 153; Tarbinsky, 1976: 183; Bolton, 1995b: 201.

**Senior synonym of *lochmatteri*:** Dlussky, 1965a: 31; Dlussky, 1967a: 61; Dlussky & Pisarski, 1971: 153; Bolton, 1995b: 201.

**Senior synonym of *orientalis*:** Dlussky, 1965a: 31; Dlussky, 1967a: 61; Dlussky & Pisarski, 1971: 153; Tarbinsky, 1976: 183; Bolton, 1995b: 201.

**Senior synonym of *piceogagates*:** Radchenko, 2016: 297.

**Senior synonym of *piceoinplana*:** Dlussky, 1967a: 61; Dlussky & Pisarski, 1971: 153; Bolton, 1995b: 201.

**Senior synonym of *piceoorientalis*:** Dlussky, 1965a: 31; Dlussky, 1967a: 61; Dlussky & Pisarski, 1971: 153.

**Senior synonym of *transcaucasica*:** Emery, 1909b: 195; Wheeler, W.M. 1913f: 512; Donisthorpe, 1915d: 325; Donisthorpe, 1918a: 9; Emery, 1925b: 249; Donisthorpe, 1927b: 374; Karavaiev, 1936: 231; Dlussky, 1965a: 31; Bernard, 1967: 299; Dlussky, 1967a: 61; Kutter, 1968a: 61; Tarbinsky, 1976: 183; Arakelian, 1994: 102; Bolton, 1995b: 201; Czechowski, *et al.* 2012: 210.

Material of the unavailable name *filchneri* referred here by Emery, 1909b: 195; Wheeler, W.M. 1913f: 512; Donisthorpe, 1915d: 325; Forel, 1915d: 62 (in key); Karavaiev, 1936: 231; Bolton, 1995b: 201.

Material of the unavailable name *transcaucasicogagates* referred here by Dlussky, 1965a: 31; Dlussky, 1967a: 61; Dlussky & Pisarski, 1971: 153; Bolton, 1995b: 201.

Current subspecies: nominal plus *formosae*.

*picea* Buckley, 1866; see under *NYLANDERIA*.

*picea*. *Formica lasioides* var. *picea* Emery, 1895c: 335 (w.) CANADA (British Columbia), U.S.A. (South Dakota).

[Junior primary homonym of *Formica picea* Leach, 1825: 292.]

As unavailable (infrasubspecific) name: Wheeler, W.M. 1906b: 21.

Subspecies of *lasioides*: Wheeler, W.M. 1910g: 571.

**Replacement name:** *Formica lasioides* var. *vetula* Wheeler, W.M. 1912c: 90.

*piceogagates*. *Formica (Serviformica) fusca* subsp. *picea* var. *piceogagates* Ruzsky, 1915a: 427 (in text) (w.) CAUCASUS; unavailable (infrasubspecific) name.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 201.

*piceogagates*. *Formica (Serviformica) gagates* var. *piceogagates* Karavaiev, 1926e: 197 (w.q.) ARMENIA, AZERBAIJAN.

Junior synonym of *transkaucasica*: Arakelian, 1994: 102.

Junior synonym of *candida*: Imai, *et al.* 2003: 57.

Junior synonym of *picea*: Radchenko, 2016: 297.

*piceogagatoides*. *Formica (Serviformica) fusca* subsp. *gagatoides* var. *piceogagatoides* Ruzsky, 1915a: 423 (in text); unavailable (infrasubspecific) name.

Declared as unavailable (infrasubspecific) name: here (not previously recorded).

*piceoimplana*. *Formica (Serviformica) picea* var. *piceoimplana* Emery, 1925b: 249.

[First available use of *Formica (Serviformica) fusca* subsp. *picea* var. *piceoimplana* Ruzsky, 1915a: 426 (in text), figs. 3, 4 (w.) CHINA; unavailable (infrasubspecific) name.]

Subspecies of *picea*: Chapman & Capco, 1951: 198.

Junior synonym of *candida*: Imai, *et al.* 2003: 57 (error).

Junior synonym of *picea* Nylander: Dlussky, 1967a: 61; Dlussky & Pisarski, 1971: 153; Bolton, 1995b: 201.

*piceoorientalis*. *Formica gagates* var. *piceoorientalis* Menozzi, 1939a: 322 (in key), 343.

[First available use of *Formica (Serviformica) fusca* subsp. *orientalis* var. *piceoorientalis* Ruzsky, 1915a: 427, fig. 6 (w.) CHINA (Manchuria, Tibet); unavailable (infrasubspecific) name (Bolton, 1995b: 201).]

[Misspelled as *piccoorientalis* by Emery, 1925b: 249.]

As unavailable (infrasubspecific) name: Emery, 1925b: 249.

Junior synonym of *picea* Nylander: Dlussky, 1965a: 31; Dlussky, 1967a: 61; Dlussky & Pisarski, 1971: 153; Bolton, 1995b: 201.

*picipes* Olivier, 1792; see under *CAMPONOTUS*.

*picipes*. *Formica picipes* Reich, 1793: 132 (no sex/caste indicated) FRENCH GUIANA.

[Unresolved junior primary homonym of *Formica picipes* Olivier, 1792: 501 (Bolton, 1995b: 201).]

Status as species: Dalla Torre, 1893: 204.

*Incertae sedis* in Formicinae: Kempf, 1972a: 261.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 201.

*pilicornis* Roger, 1859; see under **CAMPONOTUS**.

*pilicornis*. *Formica pilicornis* Emery, 1893i: 664 (w.q.m.) U.S.A. (California).

[Junior primary homonym of *Formica pilicornis* Roger, 1859: 228.]

Subspecies of *cinerea*: Wheeler, W.M. 1913f: 527 (redescription); Wheeler, W.M. 1917a: 551; Emery, 1925b: 246.

Status as species: Wheeler, W.M. 1910g: 571; Creighton, 1950a: 538; Smith, M.R. 1951a: 868; Gregg, R.E. 1953a: 326; Smith, M.R. 1958c: 158; Francoeur, 1973: 74 (redescription); Francoeur, 1975: 259; Wheeler, G.C. & Wheeler, J. 1977b: 13 (in key); Francoeur & Snelling, 1979: 4; Smith, D.R. 1979: 1455; Snelling, R.R. & George, 1979: 249; Wheeler, G.C. & Wheeler, J. 1986g: 88 (in key).

**Replacement name:** *Formica francoeuri* Bolton, 1995b: 195.

*piligera*. *Formica rufibarbis* var. *piligera* Lomnicki, 1925a: 17 (w.q.) POLAND.

Junior synonym of *rufibarbis*: Donisthorpe, 1927b: 369; Lomnicki, 1928: 9; Dlussky & Pisarski, 1971: 163; Pisarski, 1975: 43; Bolton, 1995b: 201; Czechowski, *et al.* 2002: 84; Czechowski, *et al.* 2012: 215; Radchenko, 2016: 306.

*piliventris* Smith, F. 1858; see under **CAMPONOTUS**.

*pilosa* Olivier, 1792; see under **CAMPONOTUS**.

*pilosa* Smith, F. 1857; see under **COLOBOPSIS**.

*pinetorum*. *Formica microgyna* subsp. *rasilis* var. *pinetorum* Wheeler, W.M. 1917a: 542 (w.) U.S.A. (California); unavailable (infrasubspecific) name.

As unavailable (infrasubspecific) name: Emery, 1925b: 256; Creighton, 1950a: 507; Smith, M.R. 1951a: 866.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 201.

Material referred to *spicata* by Creighton, 1950a: 507; Smith, M.R. 1958c: 155.

Material referred to *densiventris* by ; Smith, D.R. 1979: 1462.

\**pinguicula* Heer, 1849; see under **CAMPONOTUS**.

\**pinguis* Heer, 1849; see under **OECOPHYLLA**.

*piniphila*. *Formica piniphila* Schenck, 1852: 28 (w.q.m.) GERMANY.

As unavailable (infrasubspecific) name: Emery, 1916b: 256; Krausse, 1926b: 115; van Boven, 1947: 189 (in key).

Status as species: Bondroit, 1917a: 174; Bondroit, 1918: 57; Müller, 1923b: 143.

Subspecies of *rufa*: Forel, 1915d: 57 (in key); Emery, 1925b: 253; Lomnicki, 1925a: 23 (in key); Stärcke, 1926: 149 (in key); Stitz, 1939: 338; Consani & Zangheri, 1952: 45.

Junior synonym of *major*: Betrem, 1953: 325.

Junior synonym of *rufa*: Mayr, 1855: 328; Nylander, 1856b: 60; Smith, F. 1858b: 3; Roger, 1863b: 12; Mayr, 1863: 420; Smith, F. 1871b: 1; Dours, 1873: 165; André, 1874: 202 (in list); Forel, 1874: 98 (in list); Emery & Forel, 1879: 450; Dalla Torre, 1893: 208; Wheeler, W.M. 1913f: 425; Donisthorpe, 1915d: 245; Donisthorpe, 1927b: 286; Karavaiev, 1936: 240; Gösswald, 1941: 73; Yarrow, 1955a: 4; Betrem, 1960a: 131 (in text); Betrem, 1960b: 76 (in key); Dlussky, 1967a: 93; Bernard, 1967: 308; Baroni Urbani, 1971c: 222; Dlussky & Pisarski, 1971: 184; Pisarski, 1975: 48; van Boven, 1977: 170; Kutter, 1977c: 273; Bolton, 1995b: 201; Czechowski, *et al.* 2002: 71; Czechowski, *et al.* 2012: 190; Radchenko, 2016: 284.

*pisarskii*. *Formica (Coptoformica) pisarskii* Dlussky, 1964: 1034, fig. 2(2) (w.q.) MONGOLIA, RUSSIA.

**Status as species:** Dlussky, 1965a: 21; Dlussky, 1967a: 106; Pisarski, 1969a: 234; Pisarski, 1969b: 314; Pisarski & Krzysztofiak, 1981: 165; Kupyanskaya, 1990: 204; Radchenko, 1994b: 113 (in key); Bolton, 1995b: 201; Seifert, 2000a: 551 (redescription).

\**pitoni*. \**Formica pitoni* Théobald, in Piton & Théobald, 1935: 82, pl. 5, fig. 11 (q.?) FRANCE (Mio-Pliocene).

**Status as species:** Burnham, 1979: 115; Bolton, 1995b: 201.

*placida* Smith, F. 1858; see under **CAMPONOTUS**.

*planipilis*. *Formica rufa* subsp. *planipilis* Creighton, 1940a: 9, 7 (in key), fig. 1 (w.) U.S.A. (Nevada).

Cole, 1956g: 259 (q.).

**Subspecies of rufa:** Smith, M.R. 1951a: 870.

**Subspecies of integroides:** Creighton, 1950a: 490; Smith, M.R. 1958c: 156; Cole 1966: 23 (in key); Smith, M.R. 1967: 371; Yensen, *et al.* 1977: 185; Smith, D.R. 1979: 1459; Allred, 1982: 467 (in key).

**Status as species:** Cole, 1956g: 259; Wheeler, G.C. & Wheeler, J. 1978: 394; Wheeler, G.C. & Wheeler, J. 1986g: 85; Mackay, Lowrie, *et al.* 1988: 116; Bolton, 1995b: 201; Mackay & Mackay, 2002: 367.

*platynotata* Roger, 1863; see under **CREMATOGASTER**.

*podzolica*. *Formica podzolica* Francoeur, 1973: 162, figs. 272-287 (w.q.m.) CANADA (Québec, Alberta, British Columbia, Prince Edward I., Manitoba, New Brunswick, Nova Scotia, Ontario), U.S.A. (Arizona, California, Colorado, North Dakota, South Dakota, Idaho, Iowa, Maine, Michigan, Minnesota, Montana, Nevada, New Hampshire, New Mexico, Pennsylvania, Utah, Washington, Wisconsin, Wyoming).

Junior synonym of *subsericea*: Wheeler, G.C. & Wheeler, J. 1986g: 92.

**Status as species:** Francoeur, 1975: 261; Hunt & Snelling, 1975: 23; Francoeur, 1977b: 208; Yensen, *et al.* 1977: 185; Francoeur & Snelling, 1979: 4; Smith, D.R. 1979: 1455; Allred, 1982: 474; Mackay, Lowrie, *et al.* 1988: 116; Wheeler, G.C., *et al.* 1994: 307; Bolton, 1995b: 201; Mackay & Mackay, 2002: 367; Coover, 2005: 143; Ward, 2005: 64; Ellison, *et al.* 2012: 169.

*politurata*. *Formica politurata* Buckley, 1866: 160 (w.) U.S.A. (Michigan).

[Misspelled as *politurator* by Cresson, 1887: 256.]

Status as species: Cresson, 1887: 256.

Unidentifiable taxon; *incertae sedis* in Formicinae: Smith, M.R. 1958c: 161; Smith, D.R. 1979: 1467;

unidentifiable taxon; *incertae sedis* in *Formica*: Emery, 1895c: 338; Wheeler, W.M. 1902f: 21; Smith, M.R. 1951a: 873; Bolton, 1995b: 200.

[Note: Wheeler, W.M. 1902f: 21, adds, "The name and description may be safely discarded as worthless."]

*polyctena*. *Formica polyctena* Foerster, 1850a: 15 (w.q.m.) GERMANY.

As unavailable (infrasubspecific) name: Emery, 1916b: 255; Krausse, 1926b: 115.

Junior synonym of *rufa*: Smith, F. 1851: 115; Mayr, 1855: 328; Nylander, 1856b: 60; Smith, F. 1858b: 3; Mayr, 1863: 420; Roger, 1863b: 12; Smith, F. 1871b: 1; Dours, 1873: 165; André, 1874: 202 (in list); Forel, 1874: 98 (in list); Emery & Forel, 1879: 450; Dalla Torre, 1893: 208; Wheeler, W.M. 1913f: 425; Donisthorpe, 1915d: 245; Donisthorpe, 1927b: 286; Karavaiev, 1936: 240; Gösswald, 1941: 73; Yarrow, 1955a: 3.

**Subspecies of rufa:** Forel, 1915d: 58 (in key); Emery, 1925b: 253; Lomnicki, 1925a: 23 (in key); Stärcke, 1926: 150 (in key); Stitz, 1939: 339; Stärcke, 1947: 146 (in text); van Boven, 1947: 189 (in key).

**Status as species:** Schenck, 1852: 25; Bondroit, 1917a: 174; Bondroit, 1918: 57; Müller, 1923b: 144; Betrem, 1926: 212; Betrem, 1953: 324 (in key); Betrem, 1960b: 76 (in key); Dlussky, 1967a: 93; Kutter, 1968a: 61; Pisarski, 1969b: 313; Dlussky & Pisarski, 1970: 89; Baroni Urbani, 1971c: 221; Collingwood, 1971: 168; Dlussky & Pisarski, 1971: 187 (redescription); Banert & Pisarski, 1972: 356; Pisarski, 1975: 49; van Boven, 1977: 169; Kutter, 1977c: 272; Collingwood, 1978: 94 (in key); Arnol'di & Dlussky, 1978: 554 (in key); Collingwood, 1979: 144; Douwes, 1979: 187; Mabelis, 1979: 451; Douwes, 1981: 217; Agosti & Collingwood, 1987a: 59; Agosti & Collingwood, 1987b: 287 (in key); Nilsson & Douwes, 1987: 86; Gösswald, 1989: 18; Wu, J. 1990: 6 (in key); Atanassov & Dlussky, 1992: 279; Radchenko, 1994b: 114 (in key); Douwes, 1995: 98; Bolton, 1995b: 201; Poldi, *et al.* 1995: 8; Wu, J. & Wang, 1995: 145; Czechowski & Douwes, 1996: 125; Espadaler, 1997b: 28; Gallé, *et al.* 1998: 218; Tinaut & Martínez-Ibáñez, 1998: 37 (in key); Czechowski, *et al.* 2002: 73; Karaman, M.G. & Karaman, 2003: 50; Csösz, & Markó, 2005: 231; Karaman, G.S. & Karaman, 2005: 60; Bračko, 2006: 147; Markó, Sipos, *et al.* 2006: 67; Petrov, 2006: 113 (in key); Bračko, 2007: 20; Seifert, 2007: 311; Werner & Wiezik, 2007: 144; Zryanin & Zryanina, 2007: 233; Casevitz-Weulersse & Galkowsky, 2009: 482; Lapeva-Gjonova, *et al.* 2010: 51; Boer, 2010: 27; Csösz, *et al.* 2011: 59; Karaman, M.G. 2011: 81; Borowiec, L. & Salata, 2012: 495; Czechowski, *et al.* 2012: 193; Guénard & Dunn, 2012: 32; Borowiec, L. 2014: 77; Bharti, Guénard, *et al.* 2016: 27; Lebas, *et al.* 2016: 176; Radchenko, 2016: 286; Salata & Borowiec, 2018c: 44; Seifert, 2018: 322.

[Note: Seifert, 2018: 321 reports on *polyctena* × *rufa* hybrids.]

**Senior synonym of major** Nylander: Radchenko, 2007: 37.

[Note: Radchenko, 2007: 37, argues that *major* is best regarded as a *nomen oblitum*; therefore *polyctena* takes priority.]

**Senior synonym of minor:** Betrem, 1960b: 64; Dlussky, 1967a: 93; Dlussky & Pisarski, 1971: 187; Pisarski, 1975: 49; Bolton, 1995b: 201; Czechowski, *et al.* 2002: 73; Karaman, M.G. 2011: 81; Czechowski, *et al.* 2012: 193; Radchenko, 2016: 286.

**Senior synonym of nuda** Karavaiev: Stärcke, 1947: 145 (in text); Dlussky, 1967a: 93; Dlussky & Pisarski, 1971: 187; Bolton, 1995b: 201; Radchenko, 2016: 286.

**postoculata.** *Formica postoculata* Kennedy & Dennis, 1937: 540, figs. 16-18 (w.) U.S.A. (Indiana).

**Status as species:** Creighton, 1950a: 506; Smith, M.R. 1951a: 868; Smith, M.R. 1958c: 158; Smith, M.R. 1967: 372; Smith, D.R. 1979: 1463; Bolton, 1995b: 201; Coovert, 2005: 153.

**pratensis.** *Formica pratensis* Retzius, 1783: 75 (w.) (no state data).

[Note: type-locality Sweden, after Olivier, 1792: 504.]

Forel, 1874: 52 (q.m.).

**Subspecies of rufa:** Forel, 1874: 52 (in key); Emery & Forel, 1879: 450; Forel, 1886f: 138; Lameere, 1892: 63; Forel, 1892i: 307; Emery, in Dalla Torre, 1893: 206 (footnote); Ruzsky, 1896: 68; Saunders, E. 1896: 20; Ruzsky, 1905b: 337; Wheeler, W.M. 1906c: 323; Emery, 1909b: 186; Forel, 1909c: 105; Bondroit, 1910: 483; Yano, 1910: 421; Wheeler, W.M. 1913f: 428 (redescription); Stitz, 1914: 92; Emery, 1914d: 158; Forel, 1915d: 57 (in key); Ruzsky, 1915b: 7; Donisthorpe, 1915d: 267; Emery, 1916b: 256; Ruzsky, 1916: 4; Escherich, 1917: 335 (in key); Nadig, 1918: 341; Kulmatycki, 1922: 82; Soudek, 1922: 80; Finzi, 1923: 4; Kuznetsov-Ugamsky, 1923: 244; Vashkevich, 1924b: 147; Emery, 1925b: 254; Ruzsky, 1925a: 287; Ruzsky, 1925b: 43; Krausse, 1926a: 107;

Krausse, 1926d: 264; Karavaiev, 1926e: 195; Kuznetsov-Ugamsky, 1926b: 96; Santschi, 1926f: 289; Karavaiev, 1927a: 302; Karavaiev, 1927c: 282 (in key); Karavaiev, 1927d: 345; Kuznetsov-Ugamsky, 1928b: 10; Kuznetsov-Ugamsky, 1929a: 20; Karavaiev, 1929b: 217; Kuznetsov-Ugamsky, 1929b: 38; Karavaiev, 1930b: 149; Karavaiev, 1931e: 217; Gösswald, 1932: 32; Teranishi, 1932: 53; Arnol'di, 1933b: 604 (in key); Teranishi, 1934: 38; Grandi, 1935: 104; Karavaiev, 1935b: 109; Zimmermann, 1935: 54; Karavaiev, 1936: 245 (redescription); Ruzsky, 1936: 91; Karavaiev, 1937: 175; Stitz, 1939: 341; Teranishi, 1940: 22; Gösswald, 1941: 81; Holgersen, 1942: 13; Holgersen, 1943b: 176 (in key); Holgersen, 1944: 186; Ceballos, 1956: 320.

**Status as species:** Olivier, 1792: 504; Roger, 1863b: 13, 47; André, 1874: 184 (in key); Mayr, 1877: 6; Emery, 1878b: 48; Mayr, 1880: 26; André, 1882b: 184 (in key); Cresson, 1887: 256; Nasonov, 1889: 17; Dalla Torre, 1893: 204; Ruzsky, 1902a: 232; Ruzsky, 1902d: 10; Ruzsky, 1902e: 15; Ruzsky, 1903c: 205; Ruzsky, 1904b: 5; Forel, 1904b: 385; Forel, 1906c: 189; Wasmann, 1906: 112 (in key); Bondroit, 1912: 352; Donisthorpe, 1915d: 267; Bondroit, 1917a: 174 (in key); Bondroit, 1918: 57; Santschi, 1919e: 246; Müller, 1923b: 142; Lomnicki, 1925a: 16 (in key); Ruzsky, 1926: 110; Betrem, 1926: 213 (in key); Stärcke, 1926: 149 (in key); Donisthorpe, 1927b: 309; Lomnicki, 1928: 8; Soudek, 1931: 16; Novák & Sadil, 1941: 105 (in key); Stärcke, 1942a: 22; Ruzsky, 1946: 69; van Boven, 1947: 188 (in key); Röszler, 1950: 214; Donisthorpe, 1950e: 1064; Yarrow, 1955a: 4; Kutter, 1965: 140; Dlussky, 1967a: 84; Kutter, 1968a: 61; Kutter, 1968b: 206; Pisarski, 1969b: 313; Dlussky & Pisarski, 1970: 89; Baroni Urbani, 1971c: 222; Collingwood, 1971: 169; Dlussky & Pisarski, 1971: 177 (redescription); Banert & Pisarski, 1972: 355; Paraschivescu, 1972: 534; Bolton & Collingwood, 1975: 7 (in key); Pisarski, 1975: 46; Tarbinsky, 1976: 194 (redescription); Kutter, 1977c: 272; Collingwood, 1978: 93 (in key); Arnol'di & Dlussky, 1978: 554 (in key); Collingwood, 1979: 152; Dlussky, 1981a: 17; Agosti & Collingwood, 1987a: 59; Agosti & Collingwood, 1987b: 286 (in key); Nilsson & Douwes, 1987: 84; Gösswald, 1989: 19; Wu, J. 1990: 5 (in key); Atanassov & Dlussky, 1992: 272; Seifert, 1992a: 225; Radchenko, 1994b: 114 (in key); Douwes, 1995: 98; Bolton, 1995b: 201; Poldi, *et al.* 1995: 8; Wu, J. & Wang, 1995: 144; Espadaler, 1997b: 28; Collingwood & Prince, 1998: 26 (in key); Tinaut & Martínez-Ibáñez, 1998: 37 (in key); Collingwood & Heatwole, 2000: 14; Czechowski, *et al.* 2002: 77; Karaman, M.G. & Karaman, 2003: 50; Csösz, & Markó, 2005: 232; Karaman, G.S. & Karaman, 2005: 60; Bračko, 2006: 147; Markó, Sipos, *et al.* 2006: 67; Petrov, 2006: 71, 113 (in key); Schultz, R. *et al.* 2006: 205; Bračko, 2007: 20; Seifert, 2007: 308; Werner & Wiezik, 2007: 159; Zryanin & Zryanina, 2007: 233; Gratiashvili & Barjadze, 2008: 134; Casevitz-Weulersse & Galkowsky, 2009: 482; Lapeva-Gjonova, *et al.* 2010: 52; Boer, 2010: 25; Csösz, *et al.* 2011: 59; Karaman, M.G. 2011: 81; Legakis, 2011: 36; Borowiec, L. & Salata, 2012: 495; Czechowski, *et al.* 2012: 202; Guénard & Dunn, 2012: 32; Kiran & Karaman, 2012: 11; Borowiec, L. 2014: 77 (see note in bibliography); Bračko, *et al.* 2014: 19; Lebas, *et al.* 2016: 174; Radchenko, 2016: 291; Salata & Borowiec, 2018c: 45; Seifert, 2018: 316.

**Senior synonym of *ciliata* Ruzsky:** Dlussky, 1967a: 84; Dlussky & Pisarski, 1971: 177; Tarbinsky, 1976: 194; Seifert, 1992a: 225; Bolton, 1995b: 192; Radchenko, 2016: 291.

**Senior synonym of *cordieri*:** Dlussky, 1967a: 84; Dlussky & Pisarski, 1971: 177; Paraschivescu, 1972: 527; Pisarski, 1975: 46; Kutter, 1977c: 272; Seifert, 1992a: 225;

Bolton, 1995b: 201; Casevitz-Weulersse & Galkowsky, 2009: 482; Radchenko, 2016: 291.

**Senior synonym of *grouvellei*:** Seifert, 1996a: 200; Casevitz-Weulersse & Galkowsky, 2009: 482; Radchenko, 2016: 291.

Synonym of *nigricans*: Bernard, 1967: 314.

[Note: Bernard, 1967: 314, gives *nigricans* as senior synonym, but *pratensis* has priority.]

**Senior synonym of *nigricans*:** Dlussky, 1967a: 84; Dlussky & Pisarski, 1971: 177; Paraschivescu, 1972: 527; Pisarski, 1975: 46; Tarbinsky, 1976: 194; Kutter, 1977c: 272; Collingwood, 1979: 152; Seifert, 1992a: 225; Bolton, 1995b: 201; Czechowski, *et al.* 2002: 77; Werner & Wiezik, 2007: 144; Casevitz-Weulersse & Galkowsky, 2009: 482; Czechowski, *et al.* 2012: 202; Radchenko, 2016: 291.

**Senior synonym of *pratenoides*:** Dlussky, 1967a: 84; Kutter, 1977c: 272; Seifert, 1992a: 225; Bolton, 1995b: 201; Radchenko, 2016: 291.

**Senior synonym of *thijssei*:** Dlussky, 1967a: 84; Kutter, 1977c: 272; Seifert, 1992a: 225; Bolton, 1995b: 201; Radchenko, 2016: 291.

Current subspecies: nominal plus *nuda*, *rufoides*, *staercke*.

*pratenoides*. *Formica trucicola pratensis* Forel, 1874: 16 (in text). *Nomen nudum*.

*pratenoides*. *Formica rufa pratensis* Forel, 1874: 17 (in table). *Nomen nudum*.

*pratenoides*. *Formica minor* subsp. *pratenoides* Gösswald, 1951: 455 (w.q.m.) GERMANY.

Status as species: Gösswald, 1987: 107; Gösswald, 1989: 20.

Junior synonym of *nigricans*: Yarrow, 1955a: 4; Bernard, 1967: 314; Bolton, 1995b: 201 (error).

Junior synonym of *pratensis*: Dlussky, 1967a: 84; Kutter, 1977c: 272; Seifert, 1992a: 225; Bolton, 1995b: 201; Radchenko, 2016: 291.

*pressilabris*. *Formica pressilabris* Nylander, 1846a: 911, pl. 18, fig. 21 (w.q.m.) FINLAND.

Combination in *F. (Adformica)*: Lomnicki, 1925a: 14 (in key);

combination in *F. (Coptoformica)*: Müller, 1923b: 146.

**Subspecies of *exsecta*:** Forel, 1874: 51 (in key); Emery & Forel, 1879: 450; André, 1882b: 179 (in key); Emery, in Dalla Torre, 1893: 195 (footnote); Ruzsky, 1896: 68; Ruzsky, 1904b: 5; Ruzsky, 1905b: 363; Emery, 1909b: 191; Bondroit, 1910: 484; Wheeler, W.M. 1913f: 491 (redescription); Stitz, 1914: 91; Ruzsky, 1915a: 432; Ruzsky, 1915b: 10; Forel, 1915d: 59 (in key); Wolf, 1915: 48 (footnote); Emery, 1916b: 257; Escherich, 1917: 335 (in key); Soudek, 1922: 81; Ruzsky, 1925a: 287; Ruzsky, 1925b: 43; Emery, 1925b: 257; Kuznetsov-Ugamsky, 1926b: 96; Karavaiev, 1926e: 196; Karavaiev, 1927c: 284 (in key); Kuznetsov-Ugamsky, 1928b: 16; Karavaiev, 1929b: 217; Kuznetsov-Ugamsky, 1929a: 23; Kuznetsov-Ugamsky, 1929b: 38; Karavaiev, 1930b: 149; Karavaiev, 1931e: 217; Arnol'di, 1933b: 603 (in key); Karavaiev, 1936: 255 (redescription); Karavaiev, 1937: 175; Stitz, 1939: 312; Novák & Sadil, 1941: 104 (in key); Eidmann, 1941: 31.

**Status as species:** Nylander, 1846b: 1047; Mayr, 1855: 339 (redescription); Nylander, 1856b: 63; Smith, F. 1858b: 5; Mayr, 1861: 46 (in key); Meinert, 1861: 317; Mayr, 1863: 419; Roger, 1863b: 13; Dours, 1873: 165; André, 1874: 182 (in key); Emery, 1878b: 48; André, 1882b: 179; Nasonov, 1889: 16; Dalla Torre, 1893: 205; Ruzsky, 1895: 12; Ruzsky, 1902d: 11; Ruzsky, 1902e: 15; Ruzsky, 1903c: 206; Wasmann, 1906: 112 (in key); Bondroit, 1912: 352; Bondroit, 1918: 64; Müller, 1923b: 146; Lomnicki, 1925a: 14 (in key); Stärcke, 1926: 146 (in key); Ruzsky, 1936: 92; Holgersen, 1940: 185; Holgersen, 1943b: 176 (in key); Holgersen, 1944: 184; Ruzsky, 1946: 69; Forsslund,

1947: 70; Kutter, 1957: 11 (in key); Dlussky, 1964: 1031 (redescription); Dlussky, 1965a: 27 (in key); Bernard, 1967: 324 (redescription); Dlussky, 1967a: 103; Kutter, 1968a: 61; Collingwood, 1971: 167; Dlussky & Pisarski, 1971: 201 (redescription); Pisarski, 1975: 52; van Boven, 1977: 158; Kutter, 1977c: 285; Arnol'di & Dlussky, 1978: 552 (in key); Collingwood, 1978: 93 (in key); Collingwood, 1979: 132; Agosti & Collingwood, 1987a: 59; Agosti & Collingwood, 1987b: 285 (in key); Nilsson & Douwes, 1987: 77; Atanassov & Dlussky, 1992: 285; Arakelian, 1994: 97; Douwes, 1995: 97; Bolton, 1995b: 201; Poldi, *et al.* 1995: 8; Espadaler, 1997b: 28; Gallé, *et al.* 1998: 218; Tinaut & Martínez-Ibáñez, 1998: 36 (in key); Seifert, 2000a: 541 (redescription); Czechowski, *et al.* 2002: 91; Petrov, 2006: 111 (in key); Radchenko, 2007: 36; Bračko, 2007: 20; Seifert, 2007: 327; Werner & Wiezik, 2007: 159; Zryanin & Zryanina, 2007: 234; Casevitz-Weulersse & Galkowsky, 2009: 482; Lapeva-Gjonova, *et al.* 2010: 53; Boer, 2010: 22; Csösz, *et al.* 2011: 59; Czechowski, *et al.* 2012: 231; Borowiec, L. 2014: 78; Lebas, *et al.* 2016: 170; Radchenko, 2016: 311; Seifert, 2018: 339.

**Senior synonym of *rufomaculata*:** Seifert, 2000a: 541; Czechowski, *et al.* 2002: 91; Czechowski, *et al.* 2012: 231; Radchenko, 2016: 311.

\****primitiva*.** \**Formica primitiva* Heer, 1849: 139, pl. 11, fig. 6 (m.) GERMANY (Miocene).

[Also described as new by Heer, 1850: 139.]

*Incertae sedis* in *Formica*: Handlirsch, 1907: 866.

Status as species: Giebel, 1856: 171; Heer, 1867: 16; Scudder, 1891: 707; Dalla Torre, 1893: 205; Bolton, 1995b: 201.

\****primordialis*.** \**Formica primordialis* Heer, 1849: 120, pl. 9, fig. 3 (q.) GERMANY (Miocene).

[Also described as new by Heer, 1850: 120.]

*Incertae sedis* in *Formica*: Handlirsch, 1907: 866.

Status as species: Giebel, 1856: 165; Scudder, 1891: 707; Dalla Torre, 1893: 205; Bolton, 1995b: 201.

\****procera*.** \**Formica procera* Heer, 1849: 111, pl. 8, fig. 5 (q.) GERMANY (Miocene).

[Also described as new by Heer, 1850: 111.]

*Incertae sedis* in *Formica*: Handlirsch, 1907: 866.

Status as species: Giebel, 1856: 162; Heer, 1867: 6; Scudder, 1891: 707; Dalla Torre, 1893: 206; Bolton, 1995b: 201.

*procidua* Erichson, 1842; see under ***ANONYCHOMYRMA***.

***prociliata*.** *Formica prociliata* Kennedy & Dennis, 1937: 531, figs. 1-9 (w.q.m.) U.S.A. (Ohio).

**Status as species:** Buren, 1944a: 303; Creighton, 1950a: 495; Smith, M.R. 1951a: 868; Kutter, 1968b: 207; Smith, D.R. 1979: 1461; Wheeler, G.C., *et al.* 1994: 307; Bolton, 1995b: 201; Coover, 2005: 151.

\**proformicoides* Dlussky, 1967; see under \****PROTOFORMICA***.

***propatula*.** *Formica propatula* Francoeur, 1973: 101, figs. 150-165 (w.q.m.) MEXICO (Hidalgo, Mexico).

**Status as species:** Bolton, 1995b: 201.

***propinqua*.** *Formica rufa* subsp. *propinqua* Creighton, 1940a: 1, 7 (in key), fig. 1.

[First available use of *Formica truncicola* subsp. *integroides* var. *propinqua* Wheeler, W.M. 1917a: 538 (w.) U.S.A. (California); unavailable (infrasubspecific) name.]

Cole, 1956g: 257 (q.m.).

As unavailable (infrasubspecific) name: Emery, 1925b: 254.

**Subspecies of *rufa*:** Smith, M.R. 1951a: 870.

**Subspecies of *integroides*:** Creighton, 1950a: 490; Cole, 1956g: 257; Smith, M.R. 1958c: 156; Smith, M.R. 1967: 371; Smith, D.R. 1979: 1459; Allred, 1982: 467 (in key).

**Status as species:** Wheeler, G.C. & Wheeler, J. 1978: 394; Wheeler, G.C. & Wheeler, J. 1986g: 85; Mackay, Lowrie, *et al.* 1988: 112 (in key); Bolton, 1995b: 202; Mackay & Mackay, 2002: 369; Ward, 2005: 64.

*pruinosa*. *Formica fusca* subsp. *pruinosa* Wheeler, W.M. 1917a: 548 (w.q.m.) CANADA (British Columbia, Alberta), U.S.A. (Montana).

Subspecies of *fusca*: Emery, 1925b: 248; Smith, M.R. 1951a: 863.

Status as species: Creighton, 1950a: 538; Smith, M.R. 1958c: 158; Beck, *et al.* 1967: 70; Smith, M.R. 1967: 372.

Junior synonym of *neoclara*: Francoeur, 1973: 84; Smith, D.R. 1979: 1454; Bolton, 1995b: 202.

***puberula*.** *Formica sanguinea* subsp. *puberula* Emery, 1893i: 648 (w.) U.S.A. (South Dakota).

Wheeler, W.M. 1913f: 413 (q.m.).

Combination in *F. (Formica)*: Wheeler, W.M. 1913f: 413;

combination in *F. (Raptiformica)*: Emery, 1925b: 260.

**Subspecies of *sanguinea*:** Wheeler, W.M. 1901c: 713; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 413 (redescription); Wheeler, W.M. 1917a: 534; Emery, 1925b: 260; Creighton, 1934: 197; Cole, 1936a: 37; Cole, 1937b: 137; Cole, 1942: 378; Smith, M.R. 1951a: 871.

Junior synonym of *subintegra*: Wilson & Brown, 1955: 120.

**Status as species:** Creighton, 1950a: 468; Cole, 1954c: 163; Smith, M.R. 1958c: 158; Smith, M.R. 1967: 372; Buren, 1968a: 30 (redescription); Snelling, R.R. 1969b: 196; Yensen, *et al.* 1977: 185; Wheeler, G.C. & Wheeler, J. 1978: 396; Smith, D.R. 1979: 1465; Allred, 1982: 475; Snelling, R.R. & Buren, 1985: 72 (in key); Wheeler, G.C. & Wheeler, J. 1986g: 94; Mackay, Lowrie, *et al.* 1988: 113 (in key); Bolton, 1995b: 202; Mackay & Mackay, 2002: 369; Ward, 2005: 64.

*pubescens* Fabricius, 1775; see under **CAMPONOTUS**.

*pubescens* Brullé, 1840; see under **CAMPONOTUS**.

**\**pulchella*.** \**Formica pulchella* Heer, 1849: 142, pl. 11, fig. 9 (m.) GERMANY (Miocene).

[Also described as new by Heer, 1850: 142.]

*Incertae sedis* in *Formica*: Handlirsch, 1907: 866.

Status as species: Giebel, 1856: 172; Heer, 1867: 17; Scudder, 1891: 708; Dalla Torre, 1893: 206; Bolton, 1995b: 202.

***pulla*.** *Formica pulla* Francoeur, 1973: 80, figs. 107-113 (w.q.) MEXICO (Veracruz, Guanajuato).

**Status as species:** Bolton, 1995b: 202.

***pullula*.** *Formica microgyna* subsp. *rasilis* var. *pullula* Wheeler, W.M. 1913f: 562 (w.q.) U.S.A. (Montana); unavailable (infrasubspecific) name.

As unavailable (infrasubspecific) name: Wheeler, W.M. 1917a: 542; Emery, 1925b: 256; Creighton, 1950a: 509; Smith, M.R. 1951a: 866.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 202.

Material referred to *whymperi* by Creighton, 1950a: 509.

\**pumila* Heer, 1849; see under **LASIUS**.

*purpurea* Smith, F. 1858; see under **IRIDOMYRMEX**.

*purpurescens* Lowne, 1865; see under **ANONYCHOMYRMA**.

**pusilla**. *Formica pusilla* De Geer, 1773: 612, pl. 31, figs. 23, 24 (w.) SURINAME.

Status as species: Retzius, 1783: 76; Olivier, 1792: 503; Dalla Torre, 1893: 206.

*Incertae sedis* in Myrmicinae: Kempf, 1972a: 260.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 202.

[Note: Latreille, 1802c: 263, and also Kempf, 1972a: 260, give *pusilla* as a senior synonym of *nana* Latreille, but the latter is also unidentifiable. Similarly, Fabricius, 1782: 491, Retzius, 1783: 76, and Fabricius, 1804: 406, give *pusilla* as a junior synonym of *omnivora*, another unidentifiable name. It is apparent from De Geer's pl. 31, fig. 24, that the species is a myrmicine ant.]

**pygmaea** Latreille, 1798; see under **PLAGIOLEPIS**.

**pyrenaea**. *Formica pyrenaea* Bondroit, 1918: 52 (w.) FRANCE.

As unavailable (infrasubspecific) name: Emery, 1925b: 247; Santschi, 1932c: 73.

**Subspecies of fusca**: Santschi, 1921b: 436; Schmitz, 1950: 13; Consani & Zangheri, 1952: 45.

Junior synonym of *subrufa*: Bernard, 1967: 301.

**Status as species**: Collingwood & Yarrow, 1969: 88; Baroni Urbani, 1971c: 239; Collingwood, 1978: 94 (in key); Bolton, 1995b: 202; Poldi, *et al.* 1995: 8; Casevitz-Weulersse & Galkowsky, 2009: 482; Borowiec, L. 2014: 78.

**pyrrhocephala** Motschoulsky, 1863; see under **CAMPONOTUS**.

\***quadrata**. \**Formica quadrata* Holl, 1829: 140 (no sex/caste indicated) BALTIC AMBER (Eocene).

Status as species: Scudder, 1891: 708; Dalla Torre, 1893: 206; Bolton, 1995b: 202.

*Incertae sedis* in Formicidae: Handlirsch, 1907: 882.

**quadriiceps** Smith, F. 1859; see under **COLOBOPSIS**.

**quadridens** De Geer, 1773; see under **CEPHALOTES**.

**quadridens** Fabricius, 1793; see under **ECTATOMMA**.

**quadridenticulata** Roger, 1862; see under **DOLICHODERUS**.

**quadrinotata**. *Formica quadrinotata* Losana, 1834: 320, pl. 36, fig. 4 (w.) ITALY.

Combination in *Ponera*: Mayr, 1855: 389 (footnote); Smith, F. 1858b: 83.

Status as species: Mayr, 1855: 389 (footnote); Smith, F. 1858b: 83; Roger, 1860: 287; Mayr, 1861: 55 (in key); Dours, 1873: 167; André, 1874: 187 (in key); Emery & Forel, 1879: 456; André, 1882c: 239 (footnote); Dalla Torre, 1893: 41.

Unidentifiable to genus; *incertae sedis* in Ponerinae: Emery, 1911d: 116.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 202.

[Note: Mayr, 1855: 389 (footnote), Roger, 1860: 287, Mayr, 1861: 55, and André, 1874: 187, all suggest a combination in *Ponera*. Emery, 1916b: 105 (footnote), suspected that *quadrinotata* was synonymous with *Cryptopone ochracea*, but the description is not convincing. Losana's original description is reproduced by André, 1882c: 239 (footnote).]

**quadripunctata** Linnaeus, 1771; see under **DOLICHODERUS**.

**quadrisecta** Smith, F. 1858; see under **CAMPONOTUS**.

**quatuorpunctata** Christ, 1791; see under **DOLICHODERUS**.

**querquetulana**. *Formica querquetulana* Kennedy & Dennis, 1937: 536, figs. 10-15 (w.q.) U.S.A. (Ohio).

**Status as species**: Creighton, 1950a: 506; Smith, M.R. 1951a: 868; Smith, M.R. 1958c: 158; Kutter, 1968b: 207; Yensen, *et al.* 1977: 185; Smith, D.R. 1979: 1463; Allred, 1982: 475; Wheeler, G.C. & Wheeler, J. 1986g: 86; Mackay, Lowrie, *et al.* 1988: 112 (in key); Wheeler, G.C., *et al.* 1994: 307; Bolton, 1995b: 202; Coovert, 2005: 154; Ellison, *et al.* 2012: 170.

*rabaudi* Bondroit, 1917 [*Formicina*]; see under **LASIUS**.

\***radchenkoi**. \**Formica radchenkoi* Dlussky, 2008a: 55, figs. 4d-g (w.) ROVNO AMBER (Ukraine, Eocene).

**Status as species:** Dlussky & Rasnitsyn, 2009: 1030; Perkovsky, 2016: 114.

*rapax* Fabricius, 1804; see under **CAMPONOTUS**.

*rasilis*. *Formica microgyna* var. *rasilis* Wheeler, W.M. 1903e: 648 (w.q.m.) U.S.A. (Colorado).

[Note: Wheeler, W.M. 1903e: 649 (footnote) also records specimens from Utah.]

Subspecies of *microgyna*: Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 468 (redescription); Wheeler, W.M. 1914b: 56; Wheeler, W.M. 1917a: 542; Emery, 1925b: 256; Wesson, L.G. & Wesson, R.G. 1940: 101; Cole, 1942: 381; Smith, M.R. 1951a: 866.

Status as species: Creighton, 1950a: 506; Smith, M.R. 1958c: 158; Smith, M.R. 1967: 372; Kutter, 1968b: 207; Smith, D.R. 1979: 1463; Allred, 1982: 475.

Junior synonym of *densiventris*: Mackay, Lowrie, *et al.* 1988: 114; Bolton, 1995b: 202.

*rastellata* Latreille, 1802; see under **POLYRHACHIS**.

**ravida**. *Formica rufa* subsp. *ravida* Creighton, 1940a: 1, 7 (in key), fig. 1.

[First available use of *Formica truncicola* subsp. *integroides* var. *ravida* Wheeler, W.M. 1913f: 560 (w.q.m.) U.S.A. (Montana); unavailable (infrasubspecific) name.]

**Replacement name for** *Formica rufa* subsp. *haemorrhoidalis* Creighton, 1940a: 1 [Junior primary homonym of *Formica haemorrhoidalis* Latreille, 1802c: 276.]

[Note: *ravida* junior synonym of *haemorrhoidalis* Creighton (synonymy by Brown, 1965d: 181); hence *ravida* designated first available replacement name (Bolton, 1995b: 202).]

As unavailable (infrasubspecific) name: Wheeler, W.M. 1917a: 539; Emery, 1925b: 254.

Subspecies of *obscuripes*: Creighton, 1950a: 493; Smith, M.R. 1958c: 157; Smith, M.R. 1967: 372.

Subspecies of *rufa*: Smith, M.R. 1951a: 870.

Junior synonym of *haemorrhoidalis* Creighton: Brown, 1965d: 181; Smith, D.R. 1979: 1458.

**Status as species:** Bolton, 1995b: 202; Mackay & Mackay, 2002: 370; Ward, 2005: 64.

**Senior synonym of** *tahoensis*: Bolton, 1995b: 202.

*recidiva*. *Formica microgyna* var. *recidiva* Wheeler, W.M. 1913f: 395 (in key).

[*Formica microgyna* subsp. *microgyna* var. *recidiva* Wheeler, W.M. 1913f: 467 (w.m.) U.S.A. (Colorado, New Mexico); unavailable (infrasubspecific) name.]

Subspecies of *microgyna*: Wheeler, W.M. 1917a: 542; Emery, 1925b: 256; Smith, M.R. 1951a: 866.

Junior synonym of *microgyna*: Creighton, 1950a: 504; Smith, M.R. 1958c: 156; Smith, D.R. 1979: 1462; Bolton, 1995b: 202.

**rediana**. *Formica rediana* Leach, 1825: 291 (w.q.m.) FRANCE.

Status as species: Dalla Torre, 1893: 206.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 202.

\***redtenbacheri**. \**Formica redtenbacheri* Heer, 1849: 129, pl. 10, fig. 2 (w.q.) CROATIA (Miocene).

[Also described as new by Heer, 1850: 129.]

Combination in *Lasius*: Mayr, 1867b: 54.

Status as species: Giebel, 1856: 168; Heer, 1867: 13; Mayr, 1867b: 54; Scudder, 1891: 708, 714; Dalla Torre, 1893: 190; Handlirsch, 1907: 861; Bolton, 1995b: 225.

Junior synonym of \**ungeri*: Dlussky & Putyatina, 2014: 256.

**reflexa.** *Formica reflexa* Buren, 1942: 399 (w.q.m.) U.S.A. (Minnesota, Iowa).

**Status as species:** Buren, 1944a: 303; Creighton, 1950a: 495; Smith, M.R. 1951a: 868; Smith, M.R. 1967: 372; Francoeur, 1977b: 208; Smith, D.R. 1979: 1461; Bolton, 1995b: 202; Ellison, *et al.* 2012: 171.

*relucens* Latreille, 1802; see under **POLYRHACHIS**.

*respiciens* Smith, F. 1865; see under **OPISTHOPSIS**.

**reTECTa.** *Formica reTECTa* Francoeur, 1973: 245, figs. 405-408 (w.q.) MEXICO (Guerrero, Jalisco, Tlaxcala)).

**Status as species:** Bolton, 1995b: 202.

*rizadaghi.* *Formica (Serviformica) rizadaghi* Arnol'di, 1968: 1819, figs. 19, 20 (w.q.) TURKMENISTAN.

Junior synonym of *clara*: Dlussky, Soyunov & Zabelin, 1990: 139; Bolton, 1995b: 202.

**\*robusta.** \**Formica robusta* Carpenter, 1930: 56, pl. 6, fig. 6; pl. 7, fig. 6 (q.m.) U.S.A. (Colorado, Florissant, Eocene).

**Status as species:** Burnham, 1979: 115; Bolton, 1995b: 202; Guénard & Dunn, 2012: 32 (error).

**robusta.** *Formica robusta* Chang & He, 2002a: 53, figs. 18, 19, 54 (w.) CHINA (Ningxia).

[Unresolved junior primary homonym of \**Formica robusta* Carpenter, 1930: 56.]

**Status as species:** Guénard & Dunn, 2012: 32.

[Note: Guénard & Dunn, 2012: 32, list *robusta* Carpenter in error for *robusta* Chang & He.]

**rostrata.** *Formica rostrata* Fabricius, 1787: 310 (w.) FRENCH GUIANA.

Combination in *Eciton*: Latreille, 1817c: 75;

combination in *Myrmecia*: Fabricius, 1804: 425; Dalla Torre, 1893: 21.

**Status as species:** Gmelin, 1790: 2803; Olivier, 1792: 502; Fabricius, 1793: 364; Latreille, 1802c: 289; Fabricius, 1804: 425; Latreille, 1817c: 75.

Unidentifiable to genus; *incertae sedis* in Ponerinae: Emery, 1911d: 116; Kempf, 1972a: 260.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 202.

**rotundata.** *Formica sanguinea* var. *rotundata* Kuznetsov-Ugamsky, 1926b: 93 (in key), fig. 2 (w.) KYRGYZSTAN.

[*Formica sanguinea* subsp. *sanguinea* var. *rotundata* Kuznetsov-Ugamsky, 1926b: 95; unavailable (infrasubspecific) name.]

**Status as species:** Dlussky, 1962: 182.

Junior synonym of *sanguinea*: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Tarbinsky, 1976: 186; Bolton, 1995b: 202; Radchenko, 2016: 292.

**rubens.** *Formica exsecta* var. *rubens* Forel, 1874: 51 (in text) (w.) SWITZERLAND.

As unavailable (infrasubspecific) name: Emery & Forel, 1879: 450; Emery, 1909b: 191; Emery, 1916b: 257; Baroni Urbani, 1971c: 227.

**Status as species:** Bondroit, 1918: 62.

Subspecies of *exsecta*: André, 1882b: 179 (in key); Dalla Torre, 1893: 195; Ruzsky, 1896: 68; Ruzsky, 1905b: 358; Wheeler, W.M. 1913f: 397 (in key), 490; Forel, 1915d: 58 (in key); Wolf, 1915: 48 (footnote); Nadig, 1918: 341; Lomnicki, 1925a: 14 (in key); Ruzsky, 1925b: 43; Emery, 1925b: 257; Ruzsky, 1936: 92; Ruzsky, 1946: 69.

Junior synonym of *exsecta*: Dlussky, 1964: 1027; Dlussky, 1967a: 100; Bernard, 1967: 323; Bolton, 1995b: 202; Seifert, 2000a: 525; Czechowski, *et al.* 2002: 89; Casevitz-Weulersse & Galkowsky, 2009: 481; Czechowski, *et al.* 2012: 228; Radchenko, 2016: 309.

***rubescens***. *Formica rubescens* Leach, 1825: 289 (w.q.m.) FRANCE.

Junior synonym of *Polyergus rufescens*: Roger, 1859: 244; Roger, 1863b: 12; Forel, 1874: 99 (in list); Emery & Forel, 1879: 450; Dalla Torre, 1893: 215.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 202.

***rubescens***. *Formica fusca* var. *rubescens* Forel, 1904f: 423 (w.) SWITZERLAND.

[Unresolved junior primary homonym of *Formica rubescens* Leach, 1825: 289 (Bolton, 1995b: 202).]

Emery, 1909b: 196 (q.); Wheeler, W.M. 1913f: 498 (m.).

Combination in *F. (Serviformica)*: Ruzsky, 1915b: 12.

As unavailable (infrasubspecific) name: Emery, 1909b: 196; Wheeler, W.M. 1913f: 498; Forel, 1915d: 63 (in key); Emery, 1916b: 254; Menozzi, 1918: 88; Soudek, 1922: 84; Emery, 1925b: 247; Soudek, 1925b: 15; Santschi, 1926f: 289; Karavaiev, 1927c: 286 (in key); Santschi, 1932c: 73; Menozzi, 1939a: 320; Eidmann, 1942: 252.

Status as species: Bondroit, 1920a: 145; Lomnicki, 1928: 9.

Subspecies of *fusca*: Wheeler, W.M. 1913f: 397 (in key); Donisthorpe, 1914: 41; Ruzsky, 1915b: 12; Donisthorpe, 1915d: 318; Santschi, 1925g: 352; Donisthorpe, 1927b: 366; Soudek, 1931: 17; Menozzi, 1939a: 322 (in key); Ruzsky, 1946: 69; Donisthorpe, 1950e: 1065.

Subspecies of *glebaria*: Bondroit, 1918: 50; Betrem, 1926: 214; Stärcke, 1926: 148 (in key); Stärcke, 1935: 267; Eidmann, 1942: 252; van Boven, 1947: 188 (in key).

Junior synonym of *cunicularia*: Yarrow, 1954a: 231; Dlussky, 1967a: 73; Bernard, 1967: 296; Baroni Urbani, 1971c: 235; Dlussky & Pisarski, 1971: 166; Pisarski, 1975: 44; van Boven, 1977: 164; Bolton, 1995b: 202; Czechowski, *et al.* 2002: 85; Seifert & Schultz, 2009: 261; Legakis, 2011: 35; Czechowski, *et al.* 2012: 217; Kiran & Karaman, 2012: 10.

***rubicunda***. *Formica sanguinea* subsp. *rubicunda* Emery, 1893i: 647, pl. 22, fig. 2 (w.q.) CANADA (Newfoundland), U.S.A. (Pennsylvania).

[Note: type-locality Pennsylvania by designation of Wheeler, W.M. 1913f: 407.]

Wheeler, W.M. 1913f: 407 (m.).

Combination in *F. (Formica)*: Wheeler, W.M. 1913f: 404;

combination in *F. (Raptiformica)*: Emery, 1925b: 260.

**Subspecies of *sanguinea***: Wasmann, 1894: 163; Emery, 1895c: 334; Wheeler, W.M. 1900c: 47; Wheeler, W.M. 1901c: 711; Forel, 1904a: 153; Wheeler, W.M. 1904e: 305; Wheeler, W.M. 1905f: 399; Wheeler, W.M. 1906b: 15; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 406 (redescription); Wheeler, W.M. 1916m: 596; Emery, 1925b: 260; Dennis, 1938: 297; Wing, 1939: 165; Wesson, L.G. & Wesson, R.G. 1940: 101; Wheeler, G.C. & Wheeler, E.W. 1944: 266; Buren, 1944a: 307; Smith, M.R. 1951a: 871. Junior synonym of *subintegra*: Wilson & Brown, 1955: 120.

**Status as species**: Creighton, 1950a: 468; Cole, 1954c: 163; Smith, M.R. 1958c: 158; Smith, M.R. 1967: 373; Buren, 1968a: 30 (redescription); Francoeur, 1977b: 208; Yensen, *et al.* 1977: 185; Smith, D.R. 1979: 1465; Snelling, R.R. & Buren, 1985: 72 (in key); DuBois & LaBerge, 1988: 148; Mackay, Lowrie, *et al.* 1988: 113 (in key); Wheeler, G.C., *et al.* 1994: 307; Bolton, 1995b: 202; Mackay & Mackay, 2002: 371; Coovort, 2005: 158; MacGown & Forster, 2005: 66; Ellison, *et al.* 2012: 172.

***rubida*** Latreille, 1802; see under **MANICA**.

***rubiginosa*** Latreille, 1802; see under **LASIUS**.

***ruiginosa/rubiginosa*** Le Guillou, 1842; see under **POLYRHACHIS**.

*rubiginosa*. *Formica rufa* subsp. *obscuriventris* var. *rubiginosa* Emery, 1893i: 650 (w.q.) U.S.A.  
(Nebraska, Colorado, Dakota); unavailable (infrasubspecific) name.

As unavailable (infrasubspecific) name: Wheeler, W.M. 1910g: 570; Creighton, 1940a: 1;  
Creighton, 1950a: 492.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 202.

Material referred to *obscuripes* by Creighton, 1940a: 1; Creighton, 1950a: 492; Smith,  
M.R. 1951a: 869; Smith, D.R. 1979: 1460.

*rubra* Linnaeus, 1758; see under **MYRMICA**.

*rubra* Christ, 1791; see under *siamica rubra*.

*rubripes* Latreille, 1802; see under **CAMPONOTUS**.

*rubripes* 'Drury, 1770', *sensu* Forel, 1886; see under **CAMPONOTUS**

*rufa*. *Formica rufa* Linnaeus, 1761: 426 (q.m.) SWEDEN.

[Note: not Linnaeus, 1758: 580 (w.); discussion in Yarrow, 1954b: 313, Yarrow, 1955a: 5.]

Combination in *Formicina*: Shuckard, in Swainson & Shuckard, 1840: 172.

Latreille, 1798: 37 (w.q.m.); Latreille, 1802c: 143 (w.q.m.); Wheeler, G.C. & Wheeler, J.  
1953c: 166 (l.).

**Status as species:** Scopoli, 1763: 313; Linnaeus, 1767: 962; Fabricius, 1775: 391;  
Fabricius, 1782: 489; Retzius, 1783: 74; Geoffroy, in Fourcroy, 1785: 452; Fabricius,  
1787: 308; Razoumowsky, 1789: 223; Gmelin, 1790: 2798; Christ, 1791: 510; Olivier,  
1792: 492; Fabricius, 1793: 351; Latreille, 1798: 37; Latreille, 1802c: 143; Walckenaer,  
1802: 160; Fabricius, 1804: 398; Jurine, 1807: 272; Gravenhorst, 1807: 286; Latreille,  
1809: 126; Latreille, 1817d: 98; Lamarck, 1817: 95; Stephens, 1829: 357; Brullé, 1833:  
327; Losana, 1834: 318; Lepeletier de Saint-Fargeau, 1835: 201; Zetterstedt, 1838: 448;  
Schilling, 1839: 54; Guérin-Méneville, 1844a: 421; Nylander, 1846a: 902; Nylander,  
1846b: 1047; Foerster, 1850a: 13; Smith, F. 1851: 1; Schenck, 1852: 23; Mayr, 1855: 328  
(redescription); Smith, F. 1855a: 100; Nylander, 1856b: 60; Gredler, 1858: 6; Smith, F.  
1858b: 2, 51; Dumeril, 1860: 931; Mayr, 1861: 46 (in key); Meinert, 1861: 311; Mayr,  
1863: 420; Roger, 1863b: 12; Cresson, 1865: 426; Smith, F. 1871b: 1; Dours, 1873: 165;  
Forel, 1874: 52 (in key); André, 1874: 184 (in key); Emery, 1878a: ix (in list); Emery,  
1878b: 48; Emery & Forel, 1879: 450; Saunders, E. 1880: 204; Provancher, 1881b: 357;  
André, 1882b: 184 (in key); Provancher, 1883: 600; White, W.F. 1884: 249; Mayr,  
1886d: 426; Provancher, 1887: 232 (in key); Cresson, 1887: 256; Nasonov, 1889: 17;  
Scudder, 1891: 708; Lameere, 1892: 62; Forel, 1892i: 307; Dalla Torre, 1893: 206;  
Ruzsky, 1896: 68; Saunders, E. 1896: 20; Ruzsky, 1902d: 10; Ruzsky, 1903c: 205;  
Ruzsky, 1904a: 291; Ruzsky, 1905b: 320; Wasmann, 1906: 112 (in key); Emery, 1909b:  
184; Forel, 1909c: 105; Wheeler, W.M. 1909g: 172; Bondroit, 1910: 483; Wasmann,  
1910: 517; Karavaiev, 1912b: 588; Wheeler, W.M. 1913f: 425 (redescription); Ruzsky,  
1914b: 102; Stitz, 1914: 91; Ruzsky, 1915b: 6; Donisthorpe, 1915d: 245; Forel, 1915d:  
56 (in key); Morice & Durrant, 1915: 430; Emery, 1916b: 255; Bondroit, 1917a: 174;  
Wheeler, W.M. 1917a: 535; Escherich, 1917: 335 (in key); Nadig, 1918: 341; Bondroit,  
1918: 55; Santschi, 1919e: 246; Bondroit, 1920a: 145; Ruzsky, 1920: 78; Soudek, 1922:  
79; Vashkevich, 1924b: 147; Ruzsky, 1925a: 287; Ruzsky, 1925b: 43; Emery, 1925b:  
253; Lomnicki, 1925a: 16 (in key); Kiseleva, 1925: 74; Ruzsky, 1926: 109; Kuznetsov-  
Ugamsky, 1926b: 96; Krausse, 1926a: 107; Stärcke, 1926: 149 (in key); Donisthorpe,  
1927b: 286; Karavaiev, 1927c: 282 (in key); Karavaiev, 1927d: 345; Lomnicki, 1928: 8;  
Karavaiev, 1929b: 214; Karavaiev, 1930b: 148; Karavaiev, 1931b: 32; Karavaiev, 1931c:  
113; Karavaiev, 1931e: 216; Gösswald, 1932: 28; Santschi, 1932c: 72; Teranishi, 1932:

53; Arnol'di, 1933b: 604 (in key); Teranishi, 1934: 38; Grandi, 1935: 104; Karavaiev, 1936: 239 (redescription); Ruzsky, 1936: 91; Kono & Sugihara, 1939: 8; Gösswald, 1941: 69 (redescription); Novák & Sadil, 1941: 105 (in key); Holgersen, 1942: 12; Stärcke, 1942a: 22; Holgersen, 1943b: 176 (in key); Holgersen, 1944: 187; Ruzsky, 1946: 69; Stärcke, 1947: 144; Röszler, 1950: 212; Donisthorpe, 1950e: 1064; Betrem, 1953: 324 (in key); Yarrow, 1955a: 5; Ceballos, 1956: 319; Betrem, 1960b: 76 (in key); Dlussky, 1967a: 93; Bernard, 1967: 308 (redescription); Kutter, 1968a: 61; Collingwood & Yarrow, 1969: 91; Baroni Urbani, 1971c: 222; Collingwood, 1971: 168; Dlussky & Pisarski, 1971: 184 (redescription); Banert & Pisarski, 1972: 355; Bolton & Collingwood, 1975: 6 (in key); Pisarski, 1975: 48; van Boven, 1977: 170; Kutter, 1977c: 273; Collingwood, 1978: 94 (in key); Arnol'di & Dlussky, 1978: 554 (in key); Collingwood, 1979: 141; Douwes, 1979: 187; Douwes, 1981: 217; Pavan, 1981: 1; Agosti & Collingwood, 1987a: 59; Agosti & Collingwood, 1987b: 287 (in key); Nilsson & Douwes, 1987: 86; Gösswald, 1989: 16; Atanassov & Dlussky, 1992: 277; Arakelian, 1994: 98; Radchenko, 1994b: 114 (in key); Douwes, 1995: 97; Bolton, 1995b: 202; Poldi, *et al.* 1995: 8; Tang, J., Li, *et al.* 1995: 106; Czechowski & Douwes, 1996: 125; Espadaler, 1997b: 28; Gallé, *et al.* 1998: 218; Tinaut & Martínez-Ibáñez, 1998: 37 (in key); Czechowski, *et al.* 2002: 71; Karaman, M.G. & Karaman, 2003: 51; Csösz, & Markó, 2005: 231; Karaman, G.S. & Karaman, 2005: 61; Bráčko, 2006: 147; Markó, Sipos, *et al.* 2006: 68; Petrov, 2006: 113 (in key); Bráčko, 2007: 20; Seifert, 2007: 309; Werner & Wiezik, 2007: 144; Zryanin & Zryanina, 2007: 233; Gratiashvili & Barjadze, 2008: 134; Casevitz-Weulersse & Galkowsky, 2009: 482; Lapeva-Gjonova, *et al.* 2010: 53; Boer, 2010: 27; Csösz, *et al.* 2011: 59; Karaman, M.G. 2011: 83; Legakis, 2011: 36; Borowiec, L. & Salata, 2012: 496; Czechowski, *et al.* 2012: 190; Guénard & Dunn, 2012: 32; Kiran & Karaman, 2012: 11; Borowiec, L. 2014: 78 (see note in bibliography); Bráčko, *et al.* 2014: 19; Lebas, *et al.* 2016: 176; Radchenko, 2016: 284; Salata & Borowiec, 2018c: 45; Seifert, 2018: 318.

**Senior synonym of *dorsata*:** Latreille, 1802c: 146; Gravenhorst, 1807: 286; Stephens, 1829: 357; Nylander, 1846a: 902; Foerster, 1850a: 13; Smith, F. 1851: 1; Smith, F. 1855a: 100; Smith, F. 1858b: 3; Mayr, 1863: 420; Roger, 1863b: 12; Smith, F. 1871b: 1; Forel, 1874: 98 (in list); Emery & Forel, 1879: 450; Dalla Torre, 1893: 207; Wheeler, W.M. 1913f: 425; Forel, 1915d: 57 (in key); Donisthorpe, 1915d: 245; Emery, 1925b: 253; Donisthorpe, 1927b: 286; Karavaiev, 1936: 240; Gösswald, 1941: 73; Bolton, 1995b: 202; Radchenko, 2016: 284.

**Senior synonym of *ferruginea*:** Emery, 1892b: 161; Dalla Torre, 1893: 207; Emery, 1925b: 253; Karavaiev, 1936: 240; Gösswald, 1941: 73; Bolton, 1995b: 202; Radchenko, 2016: 284.

**Senior synonym of *gaullei*:** Yarrow, 1955a: 4; Bernard, 1967: 308; Bolton, 1995b: 202; Casevitz-Weulersse & Galkowsky, 2009: 482; Radchenko, 2016: 284.

**Senior synonym of *meridionalis*:** Yarrow, 1955a: 4; Dlussky, 1967a: 93; Dlussky & Pisarski, 1971: 184; Bolton, 1995b: 202; Radchenko, 2016: 284.

**Senior synonym of *obscurata*:** Casevitz-Weulersse & Galkowsky, 2009: 482.

**Senior synonym of *piniphila*:** Mayr, 1855: 328; Nylander, 1856b: 60; Smith, F. 1858b: 3; Roger, 1863b: 12; Mayr, 1863: 420; Smith, F. 1871b: 1; Dours, 1873: 165; André, 1874: 202 (in list); Forel, 1874: 98 (in list); Emery & Forel, 1879: 450; Dalla Torre, 1893: 208; Wheeler, W.M. 1913f: 425; Donisthorpe, 1915d: 245; Donisthorpe, 1927b:

286; Karavaiev, 1936: 240; Gösswald, 1941: 73; Yarrow, 1955a: 4; Betrem, 1960a: 131 (in text); Betrem, 1960b: 76 (in key); Dlussky, 1967a: 93; Bernard, 1967: 308; Baroni Urbani, 1971c: 222; Dlussky & Pisarski, 1971: 184; Pisarski, 1975: 48; van Boven, 1977: 170; Kutter, 1977c: 273; Bolton, 1995b: 202; Czechowski, *et al.* 2002: 71; Casevitz-Weulersse & Galkowsky, 2009: 482; Czechowski, *et al.* 2012: 190; Radchenko, 2016: 284.

**Senior synonym of *rufopratensis*:** Karavaiev, 1936: 240; Bernard, 1967: 308; Dlussky, 1967a: 93; Baroni Urbani, 1971c: 222; Dlussky & Pisarski, 1971: 184; Pisarski, 1975: 48; Bolton, 1995b: 202; Czechowski, *et al.* 2002: 71; Czechowski, *et al.* 2012: 190; Radchenko, 2016: 284.

Material of the *nomen nudum apicalis* referred here by Roger, 1862c: 287; Roger, 1863b: 12; Donisthorpe, 1915d: 245; Bolton, 1995b: 202.

Material of the unavailable names *bondroiti*, *emeryi* referred here by Yarrow, 1955a: 4. Material of the unavailable name *major* Gösswald referred here by Dlussky, 1967a: 93.

[Note: Zetterstedt, 1838: 448, 450, nominates *Formica rufa* twice. The first mention (p. 448) is to the genuine *Formica rufa* Linnaeus, as indicated by his sub-entry “Fabr. [1804] Piez. 398.11”. The second mention of *Formica rufa* is sub-entered “Fabr. [1804] Piez. 400.17,” but in Fabricius, 1804, this entry refers to *Formica rubra*, now *Myrmica rubra*.]

Current subspecies: nominal plus *angusticeps*, *brevisetosa*, *constricta*, *rufopratensisoides*, *tshugunovi*.

*rufescens* Latreille, 1798; see under **POLYERGUS**.

**rufibarbis.** *Formica rufibarbis* Fabricius, 1793: 355 (w.) FRANCE.

Jurine, 1807: 273 (q.m.); Emery, 1909b: 197 (q.m.).

Combination in *F. (Serviformica)*: Forel, 1915d: 64; Ruzsky, 1915b: 13.

Synonym of *cunicularia*: Stephens, 1829: 357; Mayr, 1863: 414.

[Note: Stephens, 1829: 357, and Mayr, 1863: 414, give *cunicularia* as senior synonym, but *rufibarbis* has priority.]

**Subspecies of *fusca*:** Forel, 1874: 54; Emery & Forel, 1879: 451; Mayr, 1886d: 427; Cresson, 1887: 257; Forel, 1889: 256; Mayr, 1889: 279; Forel, 1892i: 307; Lameere, 1892: 63; Emery, in Dalla Torre, 1893: 196 (footnote); Forel, 1894c: 403; Forel, 1895e: 457; Ruzsky, 1896: 70; Saunders, E. 1896: 22; Forel, 1899c: 128; Ruzsky, 1904b: 4; Forel, 1906b: 85; Wheeler, W.M. 1908g: 406; Emery, 1909b: 197; Forel, 1909c: 105; Bondroit, 1910: 483; Karavaiev, 1910a: 269; Krausse, 1912b: 165; Stitz, 1914: 93; Forel, 1915d: 64; Emery, 1916b: 255; Stitz, 1917: 350; Escherich, 1917: 336 (in key); Santschi, 1919e: 247; Soudek, 1922: 84; Menozzi, 1922b: 331; Schkaff, 1925: 276; Gösswald, 1932: 46.

**Status as species:** Fabricius, 1804: 402; Jurine, 1807: 273; Roger, 1863b: 13; Emery, 1869b: 9; André, 1874: 185 (in key); Mayr, 1877: 7; Emery, 1878a: ix (in list); Emery, 1878b: 49; Mayr, 1880: 26; André, 1881b: 59; André, 1882b: 182 (in key); Costa, 1884: 34; Provancher, 1887: 233 (in key); Nasonov, 1889: 19; Dalla Torre, 1893: 209; Medina, 1893: 104; Forel, 1895d: 227; Emery, 1898c: 126; Ruzsky, 1902a: 233; Ruzsky, 1902d: 11; Ruzsky, 1902e: 16; Wheeler, W.M. 1902e: 947; Ruzsky, 1903b: 303; Ruzsky, 1903c: 206; Bingham, 1903: 335; Forel, 1904b: 384; Ruzsky, 1905b: 385; Wasmann, 1906: 112 (in key); Karavaiev, 1910b: 16; Wheeler, W.M. 1913f: 514 (redescription); Ruzsky, 1915b: 12; Forel, 1915d: 64 (in key); Donisthorpe, 1915d: 320; Karavaiev, 1916: 507; Emery, 1916b: 255; Ruzsky, 1916: 5; Wheeler, W.M. 1917a: 550; Bondroit, 1918: 51; Crawley, 1920b: 178; Santschi, 1921a: 116; Kulmatycki, 1922: 84; Kuznetsov-Ugamsky,

1923: 245; Wheeler, W.M. 1923b: 4; Müller, 1923b: 140; Finzi, 1923: 4; Lomnicki, 1925a: 18 (in key); Emery, 1925b: 249; Ruzsky, 1925a: 287; Ruzsky, 1925b: 44; Santschi, 1925g: 353; Karavaiev, 1926e: 198; Kuznetsov-Ugamsky, 1926b: 97; Santschi, 1926f: 289; Stärcke, 1926: 148 (in key); Donisthorpe, 1927b: 368; Karavaiev, 1927a: 302; Karavaiev, 1927c: 286 (in key); Karavaiev, 1927d: 346; Menozzi, 1927b: 92; Lomnicki, 1928: 9; Kuznetsov-Ugamsky, 1929b: 38; Wheeler, W.M. 1929f: 10; Karavaiev, 1930b: 148; Stitz, 1930: 238; Karavaiev, 1931c: 113; Karavaiev, 1931e: 216; Soudek, 1931: 17; Santschi, 1932g: 5; Arnol'di, 1933b: 604 (in key); Grandi, 1935: 104; Karavaiev, 1935b: 109; Karavaiev, 1936: 234 (redescription); Ruzsky, 1936: 92; Stitz, 1939: 355; Menozzi, 1939a: 322 (in key); Holgersen, 1940: 186; Novák & Sadil, 1941: 107 (in key); Röszler, 1942a: 59; Holgersen, 1943b: 176 (in key); Holgersen, 1944: 191; Ruzsky, 1946: 69; van Boven, 1947: 188 (in key); Arnol'di, 1948: 212 (in list); Röszler, 1950: 215; Donisthorpe, 1950e: 1065; Creighton, 1950a: 539; Chapman & Capco, 1951: 198; Consani & Zangheri, 1952: 45; Yarrow, 1954a: 231; Ceballos, 1956: 320; Baroni Urbani, 1964a: 7; Baroni Urbani, 1964c: 167; Dlussky, 1965a: 37 (in key); Dlussky, 1967a: 73; Bernard, 1967: 297 (redescription); Collingwood & Yarrow, 1969: 90; Baroni Urbani, 1971c: 240; Collingwood, 1971: 169; Dlussky & Pisarski, 1971: 163 (redescription); Banert & Pisarski, 1972: 355; Francoeur, 1973: 228; Bolton & Collingwood, 1975: 6 (in key); Pisarski, 1975: 43; van Boven, 1977: 164; Collingwood, 1978: 94 (in key); Arnol'di & Dlussky, 1978: 553 (in key); Collingwood, 1979: 128; Dlussky, 1981a: 17; Agosti & Collingwood, 1987a: 59; Agosti & Collingwood, 1987b: 286 (in key); Dlussky, Soyunov & Zabelin, 1990: 139; Arakelian, 1994: 98; Douwes, 1995: 98; Bolton, 1995b: 202; Poldi, *et al.* 1995: 8; Espadaler, 1997b: 28; Collingwood & Prince, 1998: 26 (in key); Gallé, *et al.* 1998: 217; Collingwood & Heatwole, 2000: 14; Chang & He, 2002a: 52 (in key); Czechowski, *et al.* 2002: 84; Karaman, M.G. & Karaman, 2003: 51; Csösz, & Markó, 2005: 233; Karaman, G.S. & Karaman, 2005: 61; Bračko, 2006: 148; Cagniant, 2006a: 195; Markó, Sipos, *et al.* 2006: 68; Petrov, 2006: 70, 112 (in key); Bračko, 2007: 20; Seifert, 2007: 301; Werner & Wiezik, 2007: 144; Zryanin & Zryanina, 2007: 233; Gratiashvili & Barjadze, 2008: 134; Paknia, *et al.* 2008: 154; Casevitz-Weulersse & Galkowsky, 2009: 482; Seifert & Schultz, 2009: 260 (redescription); Lapeva-Gjonova, *et al.* 2010: 54; Boer, 2010: 32; Csösz, *et al.* 2011: 59; Karaman, M.G. 2011: 80; Legakis, 2011: 36; Borowiec, L. & Salata, 2012: 496; Czechowski, *et al.* 2012: 215; Guénard & Dunn, 2012: 32; Kiran & Karaman, 2012: 11; Borowiec, L. 2014: 78 (see note in bibliography); Bračko, *et al.* 2014: 19; Bharti, Guénard, *et al.* 2016: 27; Lebas, *et al.* 2016: 198; Radchenko, 2016: 306; Salata & Borowiec, 2018c: 45; Seifert, 2018: 309.

**Senior synonym of *cinereorufibarbis*:** Bernard, 1967: 297; Collingwood, 1978: 73; Bolton, 1995b: 203; Seifert, 2002b: 266 (in text); Seifert & Schultz, 2009: 260; Karaman, M.G. 2011: 80; Radchenko, 2016: 306.

**Senior synonym of *defensor*:** Forel, 1894c: 403; Bingham, 1903: 335; Bolton, 1995b: 203.

**Senior synonym of *fraterna*:** Forel, 1894c: 403; Bingham, 1903: 335; Emery, 1925b: 250; Karavaiev, 1936: 234; Bolton, 1995b: 203.

**Senior synonym of *nicaeensis*:** Roger, 1863b: 13; Forel, 1874: 98 (in list); Emery & Forel, 1879: 451; Dalla Torre, 1893: 202 (footnote) ; Bolton, 1995b: 203; Radchenko, 2016: 306.

**Senior synonym of *piligera*:** Donisthorpe, 1927b: 369; Lomnicki, 1928: 9; Dlussky & Pisarski, 1971: 163; Pisarski, 1975: 43; Bolton, 1995b: 203; Czechowski, *et al.* 2002: 84; Czechowski, *et al.* 2012: 215; Radchenko, 2016: 306.

**Senior synonym of *stenoptera*:** Roger, 1863b: 13; André, 1874: 202 (in list); Forel, 1874: 98 (in list); Emery & Forel, 1879: 451; Dalla Torre, 1893: 210; Forel, 1894c: 403; Donisthorpe, 1915d: 320; Emery, 1925b: 250; Donisthorpe, 1927b: 368; Karavaiev, 1936: 234; Stitz, 1939: 355; Yarrow, 1954a: 231; Dlussky, 1967a: 73; Bolton, 1995b: 203; Radchenko, 2016: 306.

Current subspecies: nominal plus *clarorufibarbis*, *subpilosorufibarbis*.

*rufibarbissubrufa*. *Formica rufibarbis* var. *rufibarbissubrufa* Dalla Torre, 1893: 210. *Nomen nudum* (attributed to Mayr).

*ruficeps* Fabricius, 1804; see under **CAMPONOTUS**.

*ruficeps* Smith, F. 1857; see under **CAMPONOTUS**.

*ruficeps*. *Formica ruficeps* Motschoulsky, 1863: 12 (w.) INDONESIA (Java).

[Unresolved junior primary homonym of *Formica ruficeps* Fabricius, 1804: 404 (Bolton, 1995b: 203).]

Status as species: Dalla Torre, 1893: 211; Chapman & Capco, 1951: 201.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 203.

*ruficornis*. *Formica ruficornis* Gmelin, 1790: 2805 (q.) Europe (no state data, “Habitat in Europa”).

Status as species: Olivier, 1792: 505; Dalla Torre, 1893: 211.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 203.

*ruficornis* Fabricius, 1804; see under **LASIUS**.

*rufifrons* Smith, F. 1860; see under **COLOBOPSIS**.

*rufipes* Fabricius, 1775; see under **CAMPONOTUS**.

*rufipes*. *Formica fusca* var. *rufipes* Stitz, 1930: 238 (w.q.) TADJIKISTAN.

[Unresolved junior primary homonym of *Formica rufipes* Fabricius, 1775: 391 (Bolton, 1995b: 203).]

Junior synonym of *fusca*: Dlussky, 1967a: 58; Bolton, 1995b: 203; Radchenko, 2007: 35; Radchenko, 2016: 294.

*rufitarsis* Fabricius, 1804; see under **MESSOR**.

*rufiventris* Fabricius, 1804; see under **CAMPONOTUS**.

*rufiventris*. *Formica rufiventris* Emery, 1893i: 665, pl. 22, fig. 11 (m.) U.S.A. (California).

[**Junior primary homonym** of *Formica rufiventris* Fabricius, 1804: 409.]

Status as species: Wheeler, W.M. 1910g: 571.

**Replacement name:** *Formica flammiventris* Wheeler, W.M. 1912c: 90.

Junior synonym of *subpolita*: Wheeler, W.M. 1913f: 532; Emery, 1925b: 251; Creighton, 1950a: 541; Smith, M.R. 1951a: 872; Francoeur, 1973: 107; Smith, D.R. 1979: 1455; Bolton, 1995b: 194.

*rufobaroides*. *Formica fusca* var. *rufobaroides* Emery, 1897f: 239, TURKEY. *Nomen nudum* (attributed to Forel).

*rufobrevisetosa*. *Formica rufa* var. *rufobrevisetosa* Ruzsky, 1926: 110 (in text) (w.) RUSSIA.

*Nomen nudum*.

[*Formica rufa* var. *rufobrevisetosa* Ruzsky, 1936: 91. *Nomen nudum*.]

Subspecies of *rufa*: Bolton, 1995b: 203 (error).

*rufoglauca* Jerdon, 1851; see under **CAMPONOTUS**.

**rufoides.** *Formica pratensis* subsp. *rufoides* Stärcke, 1926: 150 (w.) (diagnosis in key).

[First available use of *Formica rufa* r. *pratensis* var. *rufoides* Forel, 1874: 368 (w.) SWITZERLAND; unavailable (infrasubspecific) name (Bolton, 1995b: 203.)]

**Subspecies of pratensis:** Holgersen, 1944: 186.

**rufolucida.** *Formica (Neoformica) rufolucida* Collingwood, 1962: 227, figs. 10, 11 (w.) MYANMAR.

[Note: Bolton, 1995b: 203, suspected that the generic combination may be incorrect.]

**rufomaculata.** *Formica exsecta* var. *rufomaculata* Ruzsky, 1895: 13 (w.) RUSSIA.

[Also described as new by Ruzsky, 1896: 68.]

Kupyanskaya, 1980: 103 (q.m.).

As unavailable (infrasubspecific) name: Ruzsky, 1905b: 369; Emery, 1909b: 192; Wheeler, W.M. 1913f: 397 (in key), 492; Ruzsky, 1915b: 11; Wolf, 1915: 48 (footnote); Emery, 1925b: 257; Eidmann, 1941: 31.

Subspecies of *pressilabris*: Ruzsky, 1902e: 16; Ruzsky, 1946: 69.

Status as species: Dlussky, 1964: 1035 (redescription); Dlussky, 1965a: 28 (in key); Dlussky, 1967a: 108; Arnol'di & Dlussky, 1978: 552 (in key); Kupyanskaya, 1980: 103; Kupyanskaya, 1990: 203; Bolton, 1995b: 203.

Junior synonym of *pressilabris*: Seifert, 2000a: 541; Czechowski, *et al.* 2002: 91; Czechowski, *et al.* 2012: 231; Radchenko, 2016: 311.

**rufonigra** Lowne, 1865; see under **IRIDOMYRMEX**.

**rufopratensis.** *Formica rufa* var. *rufopratensis* Forel, 1874: 53 (w.q.) SWITZERLAND.

Stitz, 1939: 338 (m.).

As unavailable (infrasubspecific) name: Emery & Forel, 1879: 450; Lameere, 1892: 63; Ruzsky, 1905b: 346; Emery, 1909b: 186; Wheeler, W.M. 1913f: 427; Emery, 1916b: 256; Ruzsky, 1916: 4; Nadig, 1918: 341; Krausse, 1926b: 115; Stärcke, 1926: 150 (in key).

Subspecies of *pratensis*: Dalla Torre, 1893: 205; Ruzsky, 1903c: 205.

Subspecies of *rufa*: André, 1882b: 184; Ruzsky, 1896: 68; Ruzsky, 1902e: 15; Ruzsky, 1904a: 291; Wheeler, W.M. 1913f: 390 (in key); Donisthorpe, 1914: 40; Forel, 1915d: 58 (in key); Donisthorpe, 1915d: 262; Ruzsky, 1915b: 7; Menozzi, 1922b: 331; Emery, 1925b: 253; Donisthorpe, 1927b: 304; Karavaiev, 1927c: 282 (in key); Karavaiev, 1927d: 346; Karavaiev, 1929b: 216; Karavaiev, 1930b: 149; Karavaiev, 1931b: 32; Karavaiev, 1931e: 216; Gösswald, 1932: 31; Ruzsky, 1936: 91; Gösswald, 1941: 78; Novák & Sadil, 1941: 105 (in key); Holgersen, 1942: 13; Holgersen, 1943b: 176 (in key); Holgersen, 1944: 186.

Junior synonym of *rufa*: Karavaiev, 1936: 240; Bernard, 1967: 308; Dlussky, 1967a: 93; Baroni Urbani, 1971c: 222; Dlussky & Pisarski, 1971: 184; Pisarski, 1975: 48; Bolton, 1995b: 203; Czechowski, *et al.* 2002: 71; Czechowski, *et al.* 2012: 190; Radchenko, 2016: 284.

**rufopratensoides.** *Formica rufa* var. *rufopratensoides* Forel, 1874: 368 (w.) SWITZERLAND.

**Subspecies of rufa:** Bolton, 1995b: 203.

**rufotruncicola.** *Formica rufa* var. *rufotruncicola* Ruzsky, 1896: 68.

[First available use of *Formica rufa* subsp. *pratensis* form. *rufotruncicola* Ruzsky, 1895: 11 (w.) RUSSIA; unavailable (infrasubspecific) name.]

As unavailable (infrasubspecific) name: Ruzsky, 1920: 78.

Junior synonym of *truncorum*: Dlussky, 1967a: 81; Dlussky & Pisarski, 1971: 174; Tarbinsky, 1976: 192; Bolton, 1995b: 203; Imai, *et al.* 2003: 58; Radchenko, 2016: 290.

*rupestris*. *Formica rupestris* Leach, 1825: 291 (w.q.m.) FRANCE.

Status as species: Dalla Torre, 1893: 211.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 203.

*rutilans*. *Formica cinerea* var. *rutilans* Wheeler, W.M. 1913f: 399 (in key).

[*Formica cinerea* subsp. *cinerea* var. *rutilans* Wheeler, W.M. 1913f: 525 (w.) U.S.A. (Illinois); unavailable (infrasubspecific) name.]

Subspecies of *cinerea*: Emery, 1925b: 246; Smith, M.R. 1951a: 861.

Junior synonym of *montana*: Creighton, 1950a: 534; Smith, M.R. 1958c: 154; Francoeur, 1973: 67; Smith, D.R. 1979: 1454; Bolton, 1995b: 203; Coovert, 2005: 142.

*ruzskyi*. *Formica subpilosa* subsp. *ruzskyi* Dlussky, 1965a: 30.

Unnecessary (second) replacement name for *clarior* Ruzsky, 1915a: 421; unavailable (infrasubspecific) name.

Subspecies of *subpilosa*: Dlussky, 1967a: 70; Dlussky & Pisarski, 1970: 88; Kupyanskaya, 1980: 102; Kupyanskaya, 1990: 188.

Junior synonym of *clarissima*: Bolton, 1995b: 203; Seifert & Schultz, 2008: 79.

*sabularum* Bondroit, 1918 [Formicina]; see under **LASIUS**.

*sabulosa*. *Formica (Serviformica) cinerea* var. *sabulosa* Karavaiev, 1931a: 315 (w.) UKRAINE.

Junior synonym of *imitans*: Dlussky, 1967a: 65; Bolton, 1995b: 203.

*Incata sedis* in *cinerea* group: Seifert, 2002b: 267.

Junior synonym of *cinerea*: Radchenko, 2016: 300.

*saccharivora*. *Formica saccharivora* Linnaeus, 1758: 580 (w.) (no state data, “Habitat in America”).

[Note: Linnaeus adds that the ants were nesting in sugar stems, “*intra culmos sacchari nidificans*”].

Combination in *Lasius*: Fabricius, 1804: 417.

Status as species: Linnaeus, 1767: 963; Fabricius, 1775: 392; Fabricius, 1782: 490; Fabricius, 1787: 308; Gmelin, 1790: 2800; Christ, 1791: 514; Olivier, 1792: 495; Fabricius, 1793: 356; Latreille, 1802c: 280; Fabricius, 1804: 417; Smith, F. 1858b: 48; Mayr, 1863: 420; Scudder, 1891: 708; Dalla Torre, 1893: 191; Forel, 1895b: 105.

*Incata sedis* in Formicinae: Kempf, 1972a: 261.

Unidentifiable to genus; *incata sedis* in *Formica*: Bolton, 1995b: 203.

*salomonis* Linnaeus, 1758; see under **MONOMORIUM**.

*sanguinea*. *Formica sanguinea* Latreille, 1798: 37 (w.) FRANCE.

Jurine, 1807: 272 (q.m.); Wheeler, G.C. & Wheeler, J. 1953c: 169 (l.); Imai, 1966: 119 (k.).

Combination in *F. (Formica)*: Wheeler, W.M. 1913f: 401;

combination in *F. (Raptiformica)*: Forel, 1913i: 361.

**Status as species:** Latreille, 1802c: 150; Jurine, 1807: 272; Latreille, 1817d: 98; Lamarck, 1817: 96; Stephens, 1829: 357; Lepeletier de Saint-Fargeau, 1835: 203; Foerster, 1850a: 20; Smith, F. 1851: 2; Schenck, 1852: 36; Mayr, 1855: 336 (redescription); Smith, F. 1855a: 101; Nylander, 1856b: 62; Gredler, 1858: 8; Smith, F. 1858b: 4, 52; Mayr, 1861: 46 (in key); Meinert, 1861: 313; Mayr, 1863: 420; Roger, 1863b: 13; Smith, F. 1871b: 1; Dours, 1873: 165; Forel, 1874: 52 (in key); André, 1874: 183 (in key); Emery, 1878b: 48; Emery & Forel, 1879: 451; Saunders, E. 1880: 205; André, 1882b: 180 (in key); White, W.F. 1884: 251; Provancher, 1887: 232 (in key); Cresson, 1887: 257; Nasonov, 1889: 16; Lameere, 1892: 62; Forel, 1892i: 307; Dalla Torre, 1893: 211; Forel, 1894c: 403; Wasmann, 1894: 163; Ruzsky, 1896: 69; Saunders, E. 1896: 21; Wheeler, W.M. 1901b: 523; Wheeler, W.M. 1901c: 702; Ruzsky, 1902d: 11;

Ruzsky, 1902e: 16; Ruzsky, 1903c: 206; Bingham, 1903: 366; Ruzsky, 1905b: 411; Wheeler, W.M. 1906b: 15; Wheeler, W.M. 1906c: 322; Wasmann, 1906: 111 (in key); Forel, 1906b: 85; Emery, 1909b: 182; Bondroit, 1910: 483; Wheeler, W.M. 1913f: 401 (redescription); Stitz, 1914: 90; Ruzsky, 1915a: 428; Ruzsky, 1915b: 14; Forel, 1915d: 61 (in key); Donisthorpe, 1915d: 280; Emery, 1916b: 257; Ruzsky, 1916: 5; Wheeler, W.M. 1917a: 533; Escherich, 1917: 334 (in key); Bondroit, 1918: 55; Menozzi, 1918: 88; Nadig, 1918: 341; Santschi, 1919e: 247; Kulmatycki, 1922: 83; Soudek, 1922: 78; Kuznetsov-Ugamsky, 1923: 246; Müller, 1923b: 145; Vashkevich, 1924b: 148; Emery, 1925b: 259; Lomnicki, 1925a: 13 (in key); Ruzsky, 1925a: 287; Santschi, 1925g: 351; Schkaff, 1925: 276; Kuznetsov-Ugamsky, 1926b: 95; Karavaiev, 1926e: 195; Stärcke, 1926: 146 (in key); Donisthorpe, 1927a: 8; Donisthorpe, 1927b: 323; Karavaiev, 1927c: 284 (in key); Karavaiev, 1927d: 344; Lomnicki, 1928: 9; Karavaiev, 1930b: 148; Karavaiev, 1931c: 116; Karavaiev, 1931e: 216; Soudek, 1931: 15; Gösswald, 1932: 38; Arnol'di, 1933b: 603 (in key); Grandi, 1935: 104; Karavaiev, 1935b: 110; Karavaiev, 1936: 258 (redescription); Ruzsky, 1936: 93; Stitz, 1939: 316; Menozzi, 1939a: 321; Holgersen, 1940: 186; Novák & Sadil, 1941: 104 (in key); Rösler, 1942a: 61; Holgersen, 1943b: 175 (in key); Holgersen, 1944: 182; Ruzsky, 1946: 69; van Boven, 1947: 187 (in key); Forsslund, 1947: 73; Creighton, 1950a: 469; Consani & Zangheri, 1952: 45; Wellenius, 1955: 16; Wilson & Brown, 1955: 116; Ceballos, 1956: 320; Collingwood, 1961a: 68; Baroni Urbani, 1964b: 63; Baroni Urbani, 1964c: 169; Dlussky, 1965a: 16; Dlussky, 1967a: 97; Bernard, 1967: 326 (redescription); Kutter, 1968a: 61; Kutter, 1968b: 206; Collingwood & Yarrow, 1969: 90; Pisarski, 1969a: 234; Pisarski, 1969b: 313; Dlussky & Pisarski, 1970: 89; Baroni Urbani, 1971c: 228; Collingwood, 1971: 167; Dlussky & Pisarski, 1971: 189 (redescription); Banert & Pisarski, 1972: 356; Bolton & Collingwood, 1975: 6 (in key); Pisarski, 1975: 50; Tarbinsky, 1976: 186 (redescription); Collingwood, 1976: 305; Aktaç, 1977: 127; van Boven, 1977: 158; Kutter, 1977c: 289; Arnol'di & Dlussky, 1978: 553 (in key); Báez & Ortega, 1978: 189; Collingwood, 1978: 93 (in key); Collingwood, 1979: 137; Kupyanskaya, 1980: 99; Onoyama, 1980: 200; Collingwood, 1981: 27; Barquin Diez, 1981: 478; Pisarski & Krzysztofiak, 1981: 164; Kupyanskaya, 1986b: 98; Agosti & Collingwood, 1987b: 285 (in key); Nilsson & Douwes, 1987: 74; Wu, J. 1990: 4 (in key); Kupyanskaya, 1990: 191; Morisita, *et al.* 1991: 34; Atanassov & Dlussky, 1992: 280; Arakelian, 1994: 100; Radchenko, 1994b: 113 (in key); Douwes, 1995: 96; Bolton, 1995b: 203; Poldi, *et al.* 1995: 8; Wu, J. & Wang, 1995: 140; Tang, J., Li, *et al.* 1995: 107; Espadaler, 1997b: 28; Collingwood & Prince, 1998: 25 (in key); Gallé, *et al.* 1998: 217; Tinaut & Martínez-Ibáñez, 1998: 36 (in key); Collingwood & Heatwole, 2000: 14; Chang & He, 2002a: 51 (in key); Czechowski, *et al.* 2002: 88; Imai, *et al.* 2003: 59; Karaman, M.G. & Karaman, 2003: 51; Radchenko, 2005b: 163; Csösz, & Markó, 2005: 231; Karaman, G.S. & Karaman, 2005: 61; Bračko, 2006: 148; Markó, Sipos, *et al.* 2006: 68; Petrov, 2006: 111 (in key); Schultz, R. *et al.* 2006: 205; Bračko, 2007: 20; Seifert, 2007: 320; Radchenko, 2007: 37; Werner & Wiezik, 2007: 144; Zryannin & Zryannina, 2007: 233; Gratiashvili & Barjadze, 2008: 134; Paknia, *et al.* 2008: 154; Casevitz-Weulersse & Galkowsky, 2009: 483; Lapeva-Gjonova, *et al.* 2010: 55; Boer, 2010: 28; Csösz, *et al.* 2011: 59; Karaman, M.G. 2011: 84; Legakis, 2011: 36; Borowiec, L. & Salata, 2012: 496; Czechowski, *et al.* 2012: 225; Guénard & Dunn, 2012: 32; Kiran & Karaman, 2012: 11; Borowiec, L. & Salata, 2013: 353; Borowiec, L. 2014: 79; Bračko, *et al.* 2014: 19; Bharti, Guénard, *et al.*

2016: 27; Lebas, *et al.* 2016: 180; Radchenko, 2016: 292; Salata & Borowiec, 2018c: 45; Seifert, 2018: 332.

**Senior synonym of *arenicola*** Kuznetsov-Ugamsky: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Tarbinsky, 1976: 186; Bolton, 1995b: 203; Imai, *et al.* 2003: 59; Radchenko, 2016: 292.

**Senior synonym of *borea***: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Bolton, 1995b: 203; Imai, *et al.* 2003: 59; Radchenko, 2016: 292.

**Senior synonym of *clarior***: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Dlussky & Pisarski, 1971: 189; Tarbinsky, 1976: 186; Arakelian, 1994: 100; Bolton, 1995b: 203; Imai, *et al.* 2003: 59; Gratiashvili & Barjadze, 2008: 134; Radchenko, 2016: 292.

**Senior synonym of *dominula***: Smith, F. 1851: 115; Schenck, 1852: 36; Smith, F. 1855a: 102; Mayr, 1855: 337; Nylander, 1856b: 62; Smith, F. 1858b: 4; Mayr, 1863: 420; Roger, 1863b: 13; Smith, F. 1871b: 1; Dours, 1873: 165; André, 1874: 202 (in list); Forel, 1874: 98 (in list); Emery & Forel, 1879: 451; Dalla Torre, 1893: 211; Forel, 1894c: 403; Ruzsky, 1905b: 411; Wheeler, W.M. 1913f: 401; Donisthorpe, 1915d: 280; Emery, 1925b: 259; Donisthorpe, 1927b: 323; Karavaiev, 1936: 258; Bolton, 1995b: 203; Imai, *et al.* 2003: 59; Radchenko, 2007: 37; Radchenko, 2016: 292.

**Senior synonym of *flavorubra***: Dlussky, 1967a: 97; Collingwood, 1978: 74; Bolton, 1995b: 203; Imai, *et al.* 2003: 59; Radchenko, 2016: 292.

**Senior synonym of *fusciceps***: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Onoyama, 1980: 200; Bolton, 1995b: 203; Imai, *et al.* 2003: 59; Radchenko, 2016: 292.

**Senior synonym of *griseopubescens***: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Tarbinsky, 1976: 186; Bolton, 1995b: 203.

**Senior synonym of *leninei***: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Dlussky & Pisarski, 1971: 189; Bolton, 1995b: 203; Radchenko, 2016: 292.

**Senior synonym of *mollesonae***: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Tarbinsky, 1976: 186; Bolton, 1995b: 203; Radchenko, 2016: 292.

**Senior synonym of *monticola***: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Tarbinsky, 1976: 186; Bolton, 1995b: 203; Radchenko, 2016: 292.

**Senior synonym of *rotundata***: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Tarbinsky, 1976: 186; Bolton, 1995b: 203; Radchenko, 2016: 292.

**Senior synonym of *strenua***: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Collingwood, 1979: 74; Bolton, 1995b: 203; Radchenko, 2016: 292.

**Senior synonym of *tristis*** Karavaiev: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Dlussky & Pisarski, 1971: 189; Bolton, 1995b: 203; Radchenko, 2016: 292.

Material of the unavailable name *minuta* referred here by Dlussky, 1965a: 16; Dlussky, 1967a: 97; Tarbinsky, 1976: 186; Bolton, 1995b: 203.

*sansabeana* Buckley, 1866; see under **CAMPONOTUS**.

*santschii*. *Formica rufa* var. *santschii* Wheeler, W.M. 1913f: 390 (in key).

[*F. rufa* subsp. *rufa* var. *santschii* Wheeler, W.M. 1913f: 428 (w.) ITALY; unavailable (infrasubspecific) name.]

Replacement name for *Formica rufa* var. *alpina* Santschi, 1911j: 349. [Junior primary homonym of *Formica adamsi* var. *alpina* Wheeler, W.M. 1909e: 85.]

As unavailable (infrasubspecific) name: Krausse, 1926b: 115 (Bolton, 1995b: 203).

Subspecies of *rufa*: Forel, 1915d: 58 (in key); Emery, 1925b: 253; Holgersen, 1943b: 176 (in key); Holgersen, 1944: 188.

Junior synonym of *lugubris*: Yarrow, 1955a: 5; Dlussky, 1967a: 91; Bernard, 1967: 318; Baroni Urbani, 1971c: 219; Dlussky & Pisarski, 1971: 180; Bolton, 1995b: 203; Radchenko, 2016: 287.

*saturata*. *Formica dakotensis* var. *saturata* Wheeler, W.M. 1917a: 542 (w.) U.S.A. (Montana).

Subspecies of *dakotensis*: Smith, M.R. 1951a: 862.

Junior synonym of *dakotensis*: Creighton, 1950a: 484; Smith, M.R. 1958c: 154; Smith, D.R. 1979: 1457; Bolton, 1995b: 203.

*savignyi* Dufour, 1862; see under **CATAGLYPHIS**.

**saxicola**. *Formica saxicola* Buckley, 1866: 166 (w.q.) U.S.A. (Texas).

Combination in *Lasius*?: Cresson, 1887: 257; Emery, 1895c: 338; Emery, 1925b: 238.

Status as species: Cresson, 1887: 257; Dalla Torre, 1893: 212; Emery, 1925b: 238.

Unidentifiable taxon: Wheeler, W.M. 1902f: 23;

unidentifiable taxon; *incertae sedis* in *Lasius*: Smith, M.R. 1951a: 854;

unidentifiable taxon; *incertae sedis* in Formicinae: Smith, M.R. 1958c: 162; Smith, D.R. 1979: 1467;

unidentifiable taxon; *incertae sedis* in *Formica*: Bolton, 1995b: 203.

**schardj**. *Formica schardj* Forskål, 1775: xxiii (w.) YEMEN.

Unidentifiable to genus; *incertae sedis* in *Formica*: Emery, 1892b: 160; Bolton, 1995b: 203.

*schaufussi*. *Formica schaufussi* Mayr, 1866a: 493, fig. 6 (w.) U.S.A. (no state data).

Mayr, 1886d: 427 (q.m.).

Combination in *F. (Neoformica)*: Wheeler, W.M. 1913f: 552.

Subspecies of *pallidefulva*: Emery, 1893i: 654; Wheeler, W.M. 1900c: 47; Wheeler, W.M. 1904e: 306; Wheeler, W.M. 1904f: 370 (in key); Wheeler, W.M. 1905f: 400; Wheeler, W.M. 1906b: 18; Wheeler, W.M. 1908g: 408; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913c: 116; Wheeler, W.M. 1913f: 552 (redescription); Wheeler, W.M. 1916m: 598; Wheeler, W.M. 1917a: 554; Wheeler, W.M. 1917i: 465; Emery, 1925b: 245; Smith, M.R. 1930a: 6; Wheeler, W.M. 1932a: 16; Cole, 1936a: 38; Dennis, 1938: 298; Wing, 1939: 164; Wesson, L.G. & Wesson, R.G. 1940: 102.

Status as species: Mayr, 1886d: 427; Cresson, 1887: 257; André, 1893b: 152; Dalla Torre, 1893: 212; Creighton, 1950a: 551; Smith, M.R. 1951a: 859; Smith, M.R. 1958c: 154; Carter, 1962a: 8 (in list); Francoeur, 1977b: 208; Smith, D.R. 1979: 1451; DuBois & LaBerge, 1988: 148; Wheeler, G.C., et al. 1994: 307; Bolton, 1995b: 203; Covert, 2005: 138.

Junior synonym of *pallidefulva*: Trager, MacGown & Trager, 2007: 624.

\**schmidti* Heer, 1849; see under **LIOMETOPUM**.

*schmidti*. *Formica rufa* subsp. *schmidti* Ruzsky, 1926: 109.

[First available use of *Formica rufa* subsp. *rufa* var. *schmidti* Ruzsky, 1920: 78 (w.) RUSSIA; unavailable (infrasubspecific) name.]

[Junior primary homonym of \**Formica schmidti* Heer, 1849: 138.]

**Replacement name**: *Formica aquilonia* Yarrow, 1955a: 31.

[Note: *aquilonia* junior synonym of *schmidti* Ruzsky (synonymy by Dlussky, 1967a: 90); hence *aquilonia* first available replacement name (Bolton, 1995b: 191).]

**scitula**. *Formica microgyna* subsp. *scitula* Wheeler, W.M. 1913f: 470 (q.) U.S.A. (Georgia).

**Subspecies of microgyna**: Emery, 1925b: 256; Smith, M.R. 1951a: 866.

**Status as species**: Creighton, 1950a: 507; Smith, M.R. 1958c: 159; Smith, D.R. 1979: 1463; Bolton, 1995b: 203.

*scorpio major*. *Formica scorpio major* Christ, 1791: 518 (no sex/caste indicated) (no state data, “Amerikanische”) *Nomen nudum*.

As *nomen nudum* in Dalla Torre, 1893: 212.

*scorpio minor*. *Formica scorpio minor* Christ, 1791: 518 (no sex/caste indicated) (no state data, “Amerikanische”) *Nomen nudum*.

As *nomen nudum* in Dalla Torre, 1893: 212.

*scrutator* Smith, F. 1859; see under *ANONYCHOMYRMA*.

*scutellaris* Olivier, 1792; see under *CREMATOGASTER*.

*sedula* Smith, F. 1857; see under *CAMPONOTUS*.

*selysi*. *Formica cinerea* var. *selysi* Bondroit, 1918: 54 (w.) FRANCE.

Combination in *F. (Serviformica)*: Emery, 1925b: 246.

As unavailable (infrasubspecific) name: Baroni Urbani, 1971c: 233.

**Subspecies of *cinerea***: Emery, 1925b: 246; Santschi, 1925g: 353; Finzi, 1928a: 71.

**Status as species**: Kutter, 1977c: 253; Agosti & Collingwood, 1987a: 59; Agosti & Collingwood, 1987b: 286, 287 (in key); Bolton, 1995b: 203; Poldi, *et al.* 1995: 8; Espadaler, 1997b: 28; Seifert, 2002b: 259 (redescription); Petrov, 2006: 112 (in key); Bračko, 2007: 20; Seifert, 2007: 304; Casevitz-Weulersse & Galkowsky, 2009: 483; Borowiec, L. 2014: 79; Lebas, *et al.* 2016: 184; Seifert, 2018: 313.

**Senior synonym of *torrentium***: Seifert, 2002b: 259; Casevitz-Weulersse & Galkowsky, 2009: 483.

*semipunctata* Kirby, W. 1837; see under *CAMPONOTUS*.

*senex* Smith, F. 1858; see under *CAMPONOTUS*.

*sentschuensis*. *Formica (Raptiformica) sentschuensis* Ruzsky, 1915a: 428, figs. 7, 8 (w.q.) CHINA (Tibet).

[Misspelled as *seutschuensis* by Menozzi, 1939a: 344.]

**Status as species**: Emery, 1925b: 260; Menozzi, 1939a: 321 (in key); Dlussky, 1965a: 17; Kutter, 1968b: 206; Wu, J. 1990: 5 (in key); Bolton, 1995b: 203; Wu, J. & Wang, 1995: 140; Guénard & Dunn, 2012: 32.

**Senior synonym of *dalailamae***: Dlussky, 1965a: 17; Bolton, 1995b: 203.

*septentrionale* Buckley, 1866; see under *CAMPONOTUS*.

\**sepulta*. \**Formica sepulta* Théobald, 1937b: 319, pl. 15, fig. 14; pl. 25, fig. 16; pl. 26, fig. 16 (q.m.) FRANCE (Oligocene).

**Status as species**: Burnham, 1979: 115; Bolton, 1995b: 203.

*sericata* Guérin-Méneville, 1831; see under *POLYRHACHIS*.

*sericea* Fabricius, 1798; see under *CAMPONOTUS*.

*sericeiventris* Guérin-Méneville, 1838; see under *CAMPONOTUS*.

\**serresi*. \**Formica serresi* Théobald, 1937b: 317, pl. 26, fig. 19 (m.) FRANCE (Oligocene).

**Status as species**: Burnham, 1979: 115; Bolton, 1995b: 203.

*sessilis* Say, 1836; see under *TAPINOMA*.

\**seuberti*. \**Formica seuberti* Heer, 1849: 127, pl. 9, fig. 12 (q.) GERMANY (Miocene).

[Also described as new by Heer, 1850: 127.]

*Incertae sedis* in *Formica*: Handlirsch, 1907: 866.

Status as species: Giebel, 1856: 167; Scudder, 1891: 709; Dalla Torre, 1893: 212; Bolton, 1995b: 203.

*sexdens* Linnaeus, 1758; see under *ATTA*.

*sexdentata* Latreille, 1802; see under *ATTA*.

*sexguttata* Fabricius, 1793; see under **CAMPONOTUS**.

*sexspinosa* Latreille, 1802; see under **POLYRHACHIS**.

*siamica alba*. *Formica siamica alba* Christ, 1791: 518 (no sex/caste indicated) SENEGAL.  
*Nomen nudum*.

As *nomen nudum* in Dalla Torre, 1893: 212.

*siamica rubra*. *Formica siamica rubra* Christ, 1791: 518 (w.) THAILAND.

As *nomen nudum* in Dalla Torre, 1893: 212.

[Note: not a *nomen nudum* as original description contains a few words.]

Unidentifiable to genus; *incertae sedis* in *Formica*: Emery, 1892b: 162; Bolton, 1995b: 203.

*sibylla*. *Formica sibylla* Wheeler, W.M. 1913f: 530 (w.m.) U.S.A. (Nevada).

Combination in *F. (Serviformica)*: Emery, 1925b: 250.

**Status as species**: Wheeler, W.M. 1917a: 551; Emery, 1925b: 250; Creighton, 1950a: 541; Smith, M.R. 1951a: 872; Francoeur, 1973: 263 (redescription); Wheeler, G.C. & Wheeler, J. 1977b: 15 (in key); Wheeler, G.C. & Wheeler, J. 1978: 395; Francoeur & Snelling, 1979: 6; Smith, D.R. 1979: 1455; Wheeler, G.C. & Wheeler, J. 1986g: 91; Bolton, 1995b: 203; Ward, 2005: 64.

*similis*. *Formica integra* var. *similis* Mayr, 1886d: 425 (w.q.m.) U.S.A. (Connecticut, New York, New Jersey, Maryland, Virginia, Michigan, Colorado, California).

Subspecies of *integra*: Cresson, 1887: 257; Dalla Torre, 1893: 200.

Junior synonym of *integra*: Emery, 1893i: 652; Wheeler, W.M. 1906b: 16; Wheeler, W.M. 1913f: 444; Emery, 1925b: 254; Creighton, 1950a: 487; Smith, M.R. 1951a: 869; ; Smith, D.R. 1979: 1458; Bolton, 1995b: 203.

*simillima* Smith, F. 1862; see under **CAMPONOTUS**.

*simulata*. *Formica simulata* Smith, F. 1878b: 10 (w.) (no state data, “On the road across the Pámir, from Sarikol to Panja, also at Yárkand”).

**Status as species**: Dalla Torre, 1893: 212; Emery, 1925b: 255; Chapman & Capco, 1951: 201 (error).

Junior synonym of *truncicola*: Forel, 1894c: 403; Bolton, 1995b: 203.

Junior synonym of *truncorum*: Imai, et al. 2003: 58.

*sinae*. *Formica (Serviformica) rufibarbis* var. *sinae* Emery, 1925b: 250.

[Misspelled as *sinensis* by Wheeler, W.M. 1927e: 3, Wheeler, W.M. 1928c: 38.]

**Replacement name for** *Formica rufibarbis* var. *orientalis* Wheeler, W.M. 1923b: 4.

[Junior primary homonym of *Formica fusca* subsp. *orientalis* Ruzsky, 1915a: 427.]

Santschi, 1928b: 42 (q.).

**Subspecies of rufibarbis**: Wheeler, W.M. 1927e: 3; Santschi, 1928b: 42; Wheeler, W.M. 1928c: 38; Wheeler, W.M. 1929f: 10; Wheeler, W.M. 1930h: 81; Chapman & Capco, 1951: 199.

Junior synonym of *glauca*: Dlussky, 1967a: 74.

**Status as species**: Wu, J. 1990: 4, 6 (in key); Bolton, 1995b: 203; Wu, J. & Wang, 1995: 146; Chang & He, 2002a: 52 (in key).

**Subspecies of clara**: Seifert & Schultz, 2009: 265 (redescription); Guénard & Dunn, 2012: 31.

*sinensis*. *Formica truncicola* var. *sinensis* Wheeler, W.M. 1913f: 391 (in key).

[*Formica truncicola* subsp. *truncicola* var. *sinensis* Wheeler, W.M. 1913f: 437 (w.) CHINA (Sichuan); unavailable (infrasubspecific) name.]

As unavailable (infrasubspecific) name: Emery, 1925b: 255; Wheeler, W.M. 1930h: 81; Chapman & Capco, 1951: 197.

**Status as species:** Wu, J. 1990: 6 (in key); Bolton. 1995b: 204; Wu, J. & Wang, 1995: 145; Chang & He, 2002a: 51 (in key); Zhang, W. & Zheng, 2002: 218; Guénard & Dunn, 2012: 32.

*sinensis*, Wheeler, W.M. 1927e: 3, misspelling, see under *sinae*.

*singularis* Smith, F. 1858; see under **CAMPONOTUS**.

*smaragdina* Fabricius, 1775; see under **OECOPHYLLA**.

*smithii* Lowne, 1865; see under **IRIDOMYRMEX**.

*solitaria* Smith, F. 1858; see under **GIGANTIOPS**.

**spatulata**. *Formica microgyna* subsp. *spatulata* Buren, 1944a: 305 (w.q.m.) U.S.A. (Iowa, Minnesota).

**Subspecies of microgyna:** Smith, M.R. 1951a: 866.

**Status as species:** Creighton, 1950a: 508; Smith, M.R. 1958c: 159; Smith, M.R. 1967: 373; Kutter, 1968b: 207; Francoeur, 1977b: 208; Smith, D.R. 1979: 1463 Bolton. 1995b: 204.

*specularis*. *Formica specularis* Wheeler, W.M. 1908g: 408.

[First available use of *Formica fusca* subsp. *subpolita* var. *specularis* Emery, 1893i: 663 (q.) U.S.A.(Wisconsin, Dakota); unavailable (infrasubspecific) name.]

Wheeler, W.M. 1913f: 465 (w.m.).

Status as species: Wheeler, W.M. 1910g: 570.

Subspecies of *dakotensis*: Wheeler, W.M. 1913f: 464 (redescription); Smith, M.R. 1951a: 862.

Synonym of *wasmanni*: Wheeler, W.M. 1908f: 642 (in text); Wheeler, W.M. 1913f: 464; Emery, 1925b: 252; Smith, M.R. 1951a: 862.

[Note: Wheeler, Emery, and Smith, give *specularis* as senior synonym, but *wasmanni* has priority (Bolton, 1995b: 206)].

Junior synonym of *dakotensis*: Creighton, 1950a: 484; Smith, M.R. 1958c: 154; Smith, D.R. 1979: 1457; Bolton, 1995b: 204.

*spicata*. *Formica rasilis* subsp. *spicata* Creighton, 1950a: 507.

[First available use of *Formica microgyna* subsp. *rasilis* var. *spicata* Wheeler, W.M. 1913f: 469 (w.q.m.) U.S.A. (Colorado); unavailable (infrasubspecific) name.]

As unavailable (infrasubspecific) name: Wheeler, W.M. 1917a: 542; Emery, 1925b: 256; Smith, M.R. 1951a: 866.

Subspecies of *rasilis*: Cole, 1954c: 165.

Junior synonym of *densiventris*: Cole, 1954a: 89; Cole, 1955b: 50; Smith, M.R. 1958c: 155; Smith, D.R. 1979: 1462; Bolton, 1995b: 204.

*spinicollis* Latreille, 1817; see under **DOLICHODERUS**.

*spininoda* Latreille, 1802; see under **PARAPONERA**.

*staegeri*. *Formica truncorum* var. *staegeri* Stitz, 1939: 347.

[First available use of *Formica rufa* subsp. *truncicola* ab. *staegeri* Krausse, 1926d: 264 (w.) GERMANY; unavailable (infrasubspecific) name.]

Subspecies of *truncorum*: Betrem, 1960b: 76.

Junior synonym of *truncorum*: Dlussky, 1967a: 81; Dlussky & Pisarski, 1971: 174; Radchenko, 2016: 290; Bolton, 1995b: 204.

*staercke*. *Formica nigricans* var. *staercke* Betrem, 1960a: 132 (in text) (q.) NETHERLANDS.

[Also described as new by Betrem, 1960b: 70.]

**Subspecies of *pratensis*:** Bolton, 1995b: 204.

*stenoptera*. *Formica stenoptera* Foerster, 1850a: 26 (w.q.) GERMANY.

Junior synonym of *cunicularia*: Smith, F. 1855a: 103; Mayr, 1855: 343; Nylander, 1856b: 64; Smith, F. 1858b: 5; Mayr, 1863: 414.

Unidentifiable taxon; *incertae sedis* in *Formica*: Seifert & Schultz, 2009: 271.

Junior synonym of *rufibarbis*: Roger, 1863b: 13; André, 1874: 202 (in list); Forel, 1874: 98 (in list); Emery & Forel, 1879: 451; Dalla Torre, 1893: 210; Forel, 1894c: 403; Donisthorpe, 1915d: 320; Emery, 1925b: 250; Donisthorpe, 1927b: 368; Karavaiev, 1936: 234; Stitz, 1939: 355; Yarrow, 1954a: 231; Dlussky, 1967a: 73; Bolton, 1995b: 204; Radchenko, 2016: 306.

*stigma* Fabricius, 1804; see under **PSEUDOPONERA**.

*stitzi*. *Formica rufa* subsp. *truncicola* ab. *stitzi* Krausse, 1926d: 264 (w.) GERMANY; unavailable (infrasubspecific) name.

Declared as unavailable (infrasubspecific) name: here (not previously recorded);

[*Formica truncorum* ab. *stitzi* Stitz, 1939: 347; unavailable name.]

Material referred to *truncorum* by Dlussky, 1967a: 81; Imai, et al. 2003: 58.

\***strangulata**. \**Formica strangulata* Wheeler, W.M. 1915h: 130, fig. 62 (w.) BALTIC AMBER (Eocene).

[*Formica strangulata* Wheeler, W.M. 1913f: 383 (footnote). *Nomen nudum*.]

**Status as species:** Dlussky, 1967b: 80; Burnham, 1979: 115; Keilbach, 1982: 279; Bolton, 1995b: 204; Dlussky, 2008a: 55; Dlussky & Rasnitsyn, 2009: 1030; Perkovsky, 2016: 114.

*strawinskii*. *Formica forsslundi* subsp. *strawinskii* Petal, 1963: 195, figs. 1a, 2a, 3, 4a, 5a, 6a, 7, 8a, 9a, 10a, 11 (w.q.m.) POLAND.

Junior synonym of *forsslundi*: Collingwood, 1971: 167; Dlussky & Pisarski, 1971: 199; Pisarski, 1975: 52; Bolton, 1995b: 204; Seifert, 2000a: 552; Czechowski, et al. 2012: 233.

*strenua* Haliday, 1836; see under **LASIOPHANES**.

*strenua*. *Formica (Raptiformica) sanguinea* var. *strenua* Santschi, 1925g: 352 (w.) SPAIN.

[Unresolved junior primary homonym of *Formica strenua* Haliday, 1836: 329 (Bolton, 1995b: 204).]

Subspecies of *sanguinea*: Ceballos, 1956: 320.

Junior synonym of *sanguinea*: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Collingwood, 1979: 74; Bolton, 1995b: 204; Radchenko, 2016: 292.

*striata* Smith, F. 1862; see under **CAMPONOTUS**.

*striaticeps* Forel, 1911; see under **PROFORMICA**.

*stricta* Jerdon, 1851; see under **COLOBOPSIS**.

*structor* Latreille, 1798; see under **MESSOR**.

**subaenescens**. *Formica fusca* var. *subaenescens* Emery, 1893i: 659 (w.) U.S.A. (South Dakota, Connecticut).

[Misspelled as *subaeneus* by Menozzi, 1932b: 312.]

Wheeler, W.M. 1913f: 504 (q.m.).

As unavailable (infrasubspecific) name: Wheeler, W.M. 1913f: 504; Emery, 1925b: 248; Menozzi, 1932b: 312.

**Subspecies of *fusca*:** Wheeler, W.M. 1900c: 47; Forel, 1902i: 699; Forel, 1904a: 153; Wheeler, W.M. 1905f: 401; Wheeler, W.M. 1906b: 20; Wheeler, W.M. 1910g: 570;

Santschi, 1911d: 7; Wheeler, W.M. 1913f: 399 (in key); Wheeler, W.M. 1916m: 599; Wheeler, W.M. 1917a: 546; Cole, 1936a: 37; Cole, 1937b: 137; Dennis, 1938: 300; Wing, 1939: 165; Cole, 1942: 382; Buren, 1944a: 300; Wheeler, G.C. & Wheeler, E.W. 1944: 261; Smith, M.R. 1951a: 865.

Junior synonym of *fusca*: Creighton, 1950a: 532; Smith, M.R. 1958c: 155; Francoeur, 1973: 189; Smith, D.R. 1979: 1451=2; Wheeler, G.C. & Wheeler, J. 1986g: 16.

**Status as species:** Francoeur, 1977b: 208; Yensen, *et al.* 1977: 185; Bolton, 1995b: 204; Mackay & Mackay, 2002: 371; Ellison, *et al.* 2012: 173; Schär, Talavera, *et al.* 2018: 6.

**Senior synonym of *marcida*:** Schär, Talavera, *et al.* 2018: 6.

*subcaviceps*. *Formica rufa* subsp. *subcaviceps* Creighton, 1940a: 1, 7 (in key), fig. 1.

[First available use of *Formica truncicola* subsp. *integra* var. *subcaviceps* Wheeler, W.M. 1917a: 540 (w.m.) U.S.A. (Oregon), CANADA (British Columbia); unavailable (infrasubspecific) name.]

As unavailable (infrasubspecific) name: Emery, 1925b: 254.

Subspecies of *rufa*: Smith, M.R. 1951a: 870.

Junior synonym of *integroides*: Creighton, 1950a: 489; Smith, D.R. 1979: 1459; Bolton, 1995b: 204.

*subcyanea*. *Formica subcyanea* Wheeler, W.M. 1913f: 563 (w.q.m.) MEXICO (Hidalgo).

Combination in *F. (Serviformica)*: Emery, 1925b: 250.

**Status as species:** Wheeler, W.M. 1914b: 56; Wheeler, W.M. 1917a: 553; Emery, 1925b: 250; Francoeur, 1973: 249 (redescription); Francoeur, 1975: 263; Bolton. 1995b: 204.

*subelongata*. *Formica subelongata* Francoeur, 1973: 268, figs. 482-485 (w.) U.S.A. (California).

**Status as species:** Wheeler, G.C. & Wheeler, J. 1977b: 14 (in key); Smith, D.R. 1979: 1455; Wheeler, G.C. & Wheeler, J. 1986g: 91; Bolton. 1995b: 204; Ward, 2005: 64.

*subfasciata*. *Formica rufa* subsp. *subfasciata* Creighton, 1940a: 1, 7 (in key), fig. 1.

[First available use of *Formica truncicola* subsp. *integroides* var. *subfasciata* Wheeler, W.M. 1917a: 539 (w.) U.S.A. (California); unavailable (infrasubspecific) name.]

As unavailable (infrasubspecific) name: Emery, 1925b: 254.

Subspecies of *rufa*: Smith, M.R. 1951a: 870.

Subspecies of *integroides*: Creighton, 1950a: 490; Smith, M.R. 1958c: 156; Smith, D.R. 1979: 1459 (error).

Junior synonym of *integroides*: Brown, 1965d: 185 (in text); Bolton, 1995b: 204.

*subintegra*. *Formica sanguinea* subsp. *subintegra* Wheeler, W.M. 1908f: 627.

[First available use of *Formica sanguinea* subsp. *rubicunda* var. *subintegra* Emery, 1893i: 648, pl. 22, fig. 3 (w.q.) U.S.A. (District of Columbia); unavailable (infrasubspecific) name.]

Wheeler, W.M. 1913f: 411 (m.); Hung, 1969: 456 (k.).

Combination in *F. (Formica)*: Wheeler, W.M. 1913f: 410;

combination in *F. (Raptiformica)*: Emery, 1925b: 260.

As unavailable (infrasubspecific) name: Wheeler, W.M. 1901c: 713; Wheeler, W.M. 1905f: 399; Wheeler, W.M. 1906b: 15.

**Subspecies of *sanguinea*:** Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 410 (redescription); Wheeler, W.M. 1916m: 596; Emery, 1925b: 260; Dennis, 1938: 297; Wing, 1939: 165; Talbot & Kennedy, 1940: 560; Wesson, L.G. & Wesson, R.G. 1940: 101; Buren, 1944a: 308; Smith, M.R. 1951a: 872.

**Status as species:** Creighton, 1950a: 470; Wilson & Brown, 1955: 120; Smith, M.R. 1958c: 159; Carter, 1962a: 8 (in list); Smith, M.R. 1967: 373; Buren, 1968a: 29 (redescription); Kutter, 1968b: 207; Francoeur, 1977b: 208; Smith, D.R. 1979: 1465; Allred, 1982: 476; Snelling, R.R. & Buren, 1985: 72 (in key); DuBois & LaBerge, 1988: 148; Wheeler, G.C., et al. 1994: 307; Bolton, 1995b: 204; Coovert, 2005: 159; MacGown & Forster, 2005: 66; Ellison, et al. 2012: 174.

Material of the unavailable name *gilvescens* referred here by Creighton, 1950a: 470; Smith, M.R. 1958c: 160; Buren, 1968a: 29; Smith, D.R. 1979: 1465; Coovert, 2005: 159. *sublucida*. *Formica sublucida* Creighton, 1950a: 472.

[First available use of *Formica sanguinea* subsp. *rubicunda* var. *sublucida* Wheeler, W.M. 1913f: 408 (w.q.) U.S.A. (Massachusetts); unavailable (infrasubspecific) name.]

As unavailable (infrasubspecific) name: Emery, 1925b: 260; Smith, M.R. 1951a: 871.

Status as species: Smith, M.R. 1958c: 160; Smith, M.R. 1967: 373; Kutter, 1968b: 207.

Junior synonym of *subintegra*: Wilson & Brown, 1955: 120.

Junior synonym of *pergandei*: Buren, 1968a: 28; Smith, D.R. 1979: 1464; Bolton, 1995b: 204; Coovert, 2005: 157.

***subnitens*.** *Formica rufa* subsp. *subnitens* Creighton, 1940a: 10, 7 (in key), fig. 1 (w.) U.S.A. (Oregon).

Miller, 1957: 255 (q.m.).

**Subspecies of *rufa*:** Smith, M.R. 1951a: 870.

**Subspecies of *integroides*:** Creighton, 1950a: 490; Cole, 1954c: 165.

**Status as species:** Cole, 1955b: 50; Miller, 1957: 253; Smith, M.R. 1958c: 160; Smith, M.R. 1967: 373; Yensen, et al. 1977: 185; Smith, D.R. 1979: 1461; Allred, 1982: 476; Wheeler, G.C. & Wheeler, J. 1986g: 86; Mackay, Lowrie, et al. 1988: 111 (in key); Bolton, 1995b: 204; Mackay & Mackay, 2002: 372; Ward, 2005: 64.

*subnuda*. *Formica sanguinea* subsp. *subnuda* Wheeler, W.M. in Viereck, 1903: 73.

[First available use of *Formica sanguinea* subsp. *rubicunda* var. *subnuda* Emery, 1895c: 335 (w.) CANADA (British Columbia); unavailable (infrasubspecific) name.]

Wheeler, W.M. 1913f: 409 (q.m.); Wheeler, G.C. & Wheeler, J. 1953c: 170 (l.).

Combination in *F. (Formica)*: Wheeler, W.M. 1913f: 409;

combination in *F. (Raptiformica)*: Emery, 1925b: 260.

As unavailable (infrasubspecific) name: Wheeler, W.M. 1901c: 713; Forel, 1904a: 153.

**Subspecies of *sanguinea*:** Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 409 (redescription); Wheeler, W.M. 1917a: 533; Wheeler, W.M. 1917e: 18; Emery, 1925b: 260; Essig, 1926: 867; Cole, 1936a: 37; Cole, 1937b: 137; Wing, 1939: 165; Cole, 1942: 378; Wheeler, G.C. & Wheeler, E.W. 1944: 267; Buren, 1944a: 308; Cole, 1954c: 163.

Status as species: Creighton, 1950a: 469; Smith, M.R. 1951a: 872; Wilson & Brown, 1955: 118; Smith, M.R. 1958c: 160; Smith, M.R. 1967: 373; Buren, 1968a: 33 (redescription); Hunt & Snelling, 1975: 23; Francoeur, 1977b: 208; Yensen, et al. 1977: 185; Wheeler, G.C. & Wheeler, J. 1978: 396; Smith, D.R. 1979: 1465; Allred, 1982: 476; Snelling, R.R. & Buren, 1985: 72 (in key); Wheeler, G.C. & Wheeler, J. 1986g: 94; Mackay, Lowrie, et al. 1988: 116; Blacker, 1992: 11; Wheeler, G.C., et al. 1994: 307.

Synonym of *aserva*: Creighton, 1950a: 469; Wilson & Brown, 1955: 118; Smith, M.R. 1958c: 160; Buren, 1968a: 33; Smith, D.R. 1979: 1465.

[Note: Creighton, Wilson & Brown, Smith, M.R., Buren, and Smith, D.R. all give *subnuda* as senior synonym, but *aserva* has priority (Bolton, 1995b: 204).]

***subpicea*.** *Formica subpicea* Motschoulsky, 1863: 12 (w.) SRI LANKA.

Status as species: Smith, F. 1871a: 309; Dalla Torre, 1893: 212; Chapman & Capco, 1951: 201.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 204.

**subpilosa.** *Formica rufibarbis* subsp. *subpilosa* Ruzsky, 1902b: 472 (w.) KAZAKHSTAN, UZBEKISTAN.

Karavaiev, 1910b: 17 (q.m.).

Combination in *F. (Serviformica)*: Ruzsky, 1915b: 13; Emery, 1925b: 250.

As unavailable (infrasubspecific) name: Emery, 1909b: 198; Karavaiev, 1910a: 269 (footnote).

**Subspecies of rufibarbis:** Ruzsky, 1902d: 12; Forel, 1904b: 385; Ruzsky, 1905b: 397; Karavaiev, 1910b: 16; Wheeler, W.M. 1913f: 516 (redescription); Ruzsky, 1915a: 421; Ruzsky, 1915b: 13; Ruzsky, 1916: 5; Emery, 1925b: 250; Ruzsky, 1925a: 287; Ruzsky, 1925b: 44; Kuznetsov-Ugamsky, 1926b: 97; Santschi, 1928b: 45; Karavaiev, 1929b: 213; Kuznetsov-Ugamsky, 1929b: 39; Ruzsky, 1936: 95; Novák & Sadil, 1941: 107 (in key); Ruzsky, 1946: 69; Chapman & Capco, 1951: 199.

Junior synonym of *rufibarbis*: Bernard, 1967: 297.

**Status as species:** Bondroit, 1918: 51; Collingwood, 1961a: 70; Dlussky, 1965a: 28; Dlussky, 1967a: 70; Pisarski, 1967: 416; Dlussky & Pisarski, 1970: 88; Pisarski, 1970: 323; Tarbinsky, 1976: 189 (redescription); Arnol'di & Dlussky, 1978: 553 (in key); Dlussky, 1981a: 17; Dlussky, Soyunov & Zabelin, 1990: 140; Arakelian, 1994: 101; Radchenko, 1994b: 114 (in key); Bolton, 1995b: 204; Collingwood & Heatwole, 2000: 14; Schultz, R. et al. 2006: 205; Gratiashvili & Barjadze, 2008: 134; Seifert & Schultz, 2008: 79 (redescription); Guénard & Dunn, 2012: 32; Borowiec, L. 2014: 79.

**Senior synonym of bipilosa:** Dlussky, 1965a: 28; Dlussky, 1967a: 70; Arakelian, 1994: 101; Bolton, 1995b: 204; Seifert & Schultz, 2008: 79.

Material of the unavailable name *clara* referred here by Dlussky, 1965a: 28; Dlussky, 1967a: 70; Tarbinsky, 1976: 189; Bolton, 1995b: 204.

Material of the unavailable name *fallax* referred here by Dlussky, 1965a: 28; Dlussky, 1967a: 70; Bolton, 1995b: 204.

Material of the unavailable name *subpilosoclara* referred here by Dlussky, 1967a: 70; Bolton, 1995b: 204.

**subpilosoclara.** *Formica rufibarbis* subsp. *clara* var. *subpilosoclara* Ruzsky, 1905b: 400 (w.) no locality given; unavailable (infrasubspecific) name.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 204.

Material referred to *subpilosa* by Dlussky, 1967a: 70; Bolton, 1995b: 204.

**subpilosorufibarbis.** *Formica rufibarbis* var. *subpilosorufibarbis* Ruzsky, 1905b: 398 (in text) (w.) no locality given.

Combination in *F. (Serviformica)*: Ruzsky, 1915b: 13.

As unavailable (infrasubspecific) name: Emery, 1909b: 198; Karavaiev, 1910b: 17; Ruzsky, 1915b: 13.

**Subspecies of rufibarbis:** Bolton, 1995b: 204.

**subpolita.** *Formica fusca* var. *subpolita* Mayr, 1886d: 426 (w.q.) U.S.A. (Connecticut, Colorado, California).

[Note: type-locality California by designation of Wheeler, W.M. 1913f: 534.]

Wheeler, W.M. 1913f: 534 (m.).

Combination in *F. (Serviformica)*: Emery, 1925b: 251.

**Subspecies of gagates:** Dalla Torre, 1893: 199.

**Subspecies of fusca:** Cresson, 1887: 257; Emery, 1893i: 661; Forel, 1904a: 153; Wheeler, W.M. 1904e: 306; Wheeler, W.M. 1905f: 401; Wheeler, W.M. 1906b: 20; Wheeler, W.M. 1906d: 345.

**Status as species:** Wheeler, W.M. 1908g: 625; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 532 (redescription); Wheeler, W.M. 1917a: 553; Emery, 1925b: 251; Essig, 1926: 867; Menozzi, 1932b: 312; Cole, 1936a: 38; Cole, 1937b: 138; Cole, 1942: 383; Wheeler, G.C. & Wheeler, E.W. 1944: 267; Creighton, 1950a: 541; Smith, M.R. 1951a: 872; Francoeur, 1973: 106 (redescription); Francoeur, 1975: 260; Wheeler, G.C. & Wheeler, J. 1977b: 13 (in key); Yensen, *et al.* 1977: 185; Wheeler, G.C. & Wheeler, J. 1978: 396; Francoeur & Snelling, 1979: 4; Smith, D.R. 1979: 1455; Allred, 1982: 477; Wheeler, G.C. & Wheeler, J. 1986g: 92; Blacker, 1992: 11; Bolton, 1995b: 204; Ward, 2005: 64.

**Senior synonym of camponoticeps:** Francoeur, 1973: 107; Smith, D.R. 1979: 1455; Bolton, 1995b: 204.

**Senior synonym of ficticia:** Francoeur, 1973: 107; Smith, D.R. 1979: 1451; Bolton, 1995b: 204.

**Senior synonym of flammiventris:** Wheeler, W.M. 1913f: 532; Emery, 1925b: 251; Creighton, 1950a: 541; Smith, M.R. 1951a: 872; Francoeur, 1973: 107; Smith, D.R. 1979: 1455; Bolton, 1995b: 204.

**Senior synonym of rufiventris** Emery: Francoeur, 1973: 107; Smith, D.R. 1979: 1455.

*subrufa* Roger, 1859; see under **IBEROFORMICA**.

*subrufoides*. *Formica cinerea* var. *subrufoides* Forel, 1913i: 360 (w.) AUSTRIA.

Röszler, 1950: 219 (q.).

Combination in *Formica (Serviformica)*: Emery, 1916b: 255.

As unavailable (infrasubspecific) name: Baroni Urbani, 1971c: 233.

Subspecies of *cinerea*: Forel, 1915d: 64 (in key); Emery, 1916b: 255; Emery, 1925b: 246; Finzi, 1928a: 71; Röszler, 1950: 218.

Status as species: Bondroit, 1918: 55; Kutter, 1977c: 255; Poldi, *et al.* 1995: 8.

Junior synonym of *cinerea*: Agosti & Collingwood, 1987a: 59; Bolton, 1995b: 204; Seifert, 2002b: 251; Radchenko, 2016: 300.

**subsericea**. *Formica subsericea* Say, 1836: 289 (w.m.) U.S.A. (Indiana).

Combination in *Camponotus*: Roger, 1863b: 5;

combination in *Formica*: Mayr, 1886d: 426.

As unavailable (infrasubspecific) name: Wheeler, W.M. 1913f: 499.

Junior synonym of *fusca*: Mayr, 1886d: 426; Cresson, 1887: 257; Creighton, 1950a: 532; Smith, M.R. 1958c: 155.

**Subspecies of fusca:** Emery, 1893i: 659; Forel, 1899c: 128; Wheeler, W.M. 1900c: 47; Wheeler, W.M. in Viereck, 1903: 72; Wheeler, W.M. 1904e: 306; Wheeler, W.M. 1905f: 401; Wheeler, W.M. 1906b: 19; Wheeler, W.M. 1908f: 625; Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913c: 116; Wheeler, W.M. 1913f: 398 (in key); Wheeler, W.M. 1916m: 598; Wheeler, W.M. 1917a: 545; Wheeler, W.M. 1917c: 27; Wheeler, W.M. 1917i: 464; Emery, 1925b: 248; Essig, 1926: 867; Menozzi, 1932b: 312; Cole, 1936a: 37; Cole, 1937b: 137; Dennis, 1938: 299; Wing, 1939: 165; Wesson, L.G. & Wesson, R.G. 1940: 102; Cole, 1942: 382; Buren, 1944a: 300; Wheeler, G.C. & Wheeler, E.W. 1944: 262; Smith, M.R. 1951a: 865.

**Status as species:** Smith, F. 1858b: 53; Mayr, 1863: 421; Roger, 1863b: 5; Dalla Torre, 1893: 213; Francoeur, 1973: 172 (redescription); Francoeur, 1975: 261; Francoeur, 1977b: 208; Wheeler, G.C. & Wheeler, J. 1977b: 15 (in key); Wheeler, G.C. & Wheeler, J. 1978: 396; Francoeur & Snelling, 1979: 4; Smith, D.R. 1979: 1455; Allred, 1982: 477; Wheeler, G.C. & Wheeler, J. 1986g: 92; DuBois & LaBerge, 1988: 148; Deyrup, *et al.* 1989: 99; Wheeler, G.C., *et al.* 1994: 307; Bolton, 1995b: 204; Deyrup, 2003: 45; Coovert, 2005: 144; MacGown & Forster, 2005: 66; Ellison, *et al.* 2012: 175; Deyrup, 2017: 205.

**Senior synonym of *lecontei*:** Francoeur, 1973: 172; Smith, D.R. 1979: 1455; Bolton, 1995b: 204; Coovert, 2005: 144.

***subsericeoneorufibarbis*.** *Formica subsericeoneorufibarbis* Wheeler, W.M. 1901b: 519. *Nomen nudum* (attributed to Emery).

[Misspelled as *subsericeorufibarbis* by Emery, 1925b: 250. *Nomen nudum*.]

Material referred to *gnava* by Wheeler, W.M. 1913f: 518.]

***subspinosa*.** *Formica (Hypochira) subspinosa* Buckley, 1866: 169 (w.) U.S.A. (Texas).

Status as species: Cresson, 1887: 257; Dalla Torre, 1893: 213.

Unidentifiable taxon; *incertae sedis* in Dolichoderinae: Smith, M.R. 1951a: 838; Smith, D.R. 1979: 1422;

unidentifiable taxon; *incertae sedis* in *Formica*: Bolton, 1995b: 204.

[Note: may possibly be a dolichoderine: Emery, 1895c: 338; Wheeler, W.M. 1902f: 24; Emery, 1925b: 271.]

***subterranea*** Latreille, 1798; see under **APHAENOGASTER**.

***subtilis*** Smith, F. 1860; see under **CAMPONOTUS**.

***succinea*.** *Formica pallidefulva* var. *succinea* Wheeler, W.M. 1904f: 369 (diagnosis in key) (w.) U.S.A. (no state data).

[Note: Wheeler, W.M. 1913f: 551, records *succinea* from Texas and Oklahoma.]

Wheeler, W.M. 1913f: 551 (q.m.).

As unavailable (infrasubspecific) name: Wheeler, W.M. 1913f: 551.

Subspecies of *pallidefulva*: Wheeler, W.M. 1910g: 570; Emery, 1925b: 245; Smith, M.R. 1928c: 278; Dennis, 1938: 298; Smith, M.R. 1951a: 860.

Junior synonym of *pallidefulva*: Creighton, 1950a: 550; Smith, M.R. 1958c: 153; Smith, D.R. 1979: 1451; Bolton, 1995b: 205; Coovert, 2005: 137; Trager, MacGown & Trager, 2007: 624.

***sudetica*.** *Formica exsecta* var. *sudetica* Scholz, 1924: 48 (w.) POLAND.

Subspecies of *exsecta*: Novák & Sadil, 1941: 104 (in key).

Junior synonym of *exsecta*: Dlussky, 1967a: 100; Dlussky & Pisarski, 1971: 194; Pisarski, 1975: 51; Bolton, 1995b: 205; Seifert, 2000a: 526; Czechowski, *et al.* 2002: 89; Czechowski, *et al.* 2012: 228; Radchenko, 2016: 309.

***suecica*.** *Formica suecica* Adlerz, 1902: 263 (w.q.m.) SWEDEN.

[Misspelled as *suecia* by Petrov, 2006: 111 (in key).]

**Subspecies of *exsecta*:** Ruzsky, 1905b: 372; Wheeler, W.M. 1908f: 641; Wheeler, W.M. 1908g: 408; Emery, 1909b: 193; Wolf, 1915: 48 (footnote).

**Status as species:** Wheeler, W.M. 1913f: 492 (redescription); Emery, 1925b: 258; Karavaiev, 1931e: 218; Stitz, 1939: 314; Holgersen, 1943b: 175 (in key); Holgersen, 1944: 184; Forsslund, 1947: 70; Dlussky, 1964: 1035 (redescription); Bernard, 1967: 326 (redescription); Dlussky, 1967a: 107; Kutter, 1968b: 206; Collingwood, 1971: 167; Dlussky & Pisarski, 1971: 200 (redescription); Arnol'di & Dlussky, 1978: 552 (in key);

Collingwood, 1979: 133; Agosti & Collingwood, 1987b: 285 (in key); Nilsson & Douwes, 1987: 77; Douwes, 1995: 97; Bolton, 1995b: 205; Seifert, 2000a: 557 (redescription); Petrov, 2006: 111 (in key); Borowiec, L. 2014: 79; Seifert, 2018: 343.

*suffusa* Smith, F. 1858; see under **CAMPONOTUS**.

*sulci*. *Formica fusca* r. *lemani* var. *sulci* Samšiňák, 1951: 126 (m.) CZECH REPUBLIC; unavailable (infrasubspecific) name.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 205.

*superba*. *Formica pratensis* var. *superba* Wheeler, W.M. 1933c: 65 (w.) CHINA (Beijing).

Status as species: Santschi, 1941: 278.

Subspecies of *pratensis*: Chapman & Capco, 1951: 201.

Junior synonym of *uralensis*: Wu, J. 1990: 4; Bolton, 1995b: 205; Radchenko, 2016: 307.

\**surinamensis*. \**Formica surinamensis* Berendt, 1830: 37 (no sex/caste indicated) BALTIC AMBER (Eocene). *Nomen nudum*.

[*Formica surinamensis* Berendt: Scudder, 1891: 709. *Nomen nudum*.]

[(Formicidae) \**surinamensis* Berendt: Handlirsch, 1907: 881. *Nomen nudum*.]

Status as species: Bolton, 1995b: 205 (error). *Nomen nudum*.

*suzukii*. *Formica rufa* subsp. *dusmeti* var. *suzukii* Teranishi, 1940: 23 (w.) KOREA; unavailable (infrasubspecific) name.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 205.

*sylvicola* Jerdon, 1851 [original spelling *syloicola*]; see under **POLYRHACHIS**.

*sylvatica* Olivier, 1792; see under **CAMPONOTUS**.

*syrdariana* Santschi, 1928; see under **PROFORMICA**.

*tahoensis*. *Formica rufa* subsp. *tahoensis* Creighton, 1940a: 1, 7 (in key).

[First available use of *Formica truncicola* subsp. *integroides* var. *tahoensis* Wheeler, W.M. 1917a: 538 (w.q.) U.S.A. (California, Nevada); unavailable (infrasubspecific) name.]

[Misspelled as *takoensis* by Emery, 1925b: 254.]

Cole, 1956g: 260 (q.m.).

As unavailable (infrasubspecific) name: Emery, 1925b: 254.

Subspecies of *rufa*: Smith, M.R. 1951a: 870.

Subspecies of *integra*: Creighton, 1950a: 488; Cole, 1956g: 260; Smith, M.R. 1958c: 156.

Status as species: Yensen, et al. 1977: 185 (error).

Junior synonym of *haemorrhoidalis*: Brown, 1965d: 181; Smith, D.R. 1979: 1458.

Junior synonym of *ravida*: Bolton, 1995b: 205.

*talbotae*. *Formica talbotae* Wilson, 1977: 277, fig. 1 (q.m.) U.S.A. (Michigan, Iowa, North Dakota).

**Status as species**: Talbot, 1977: 282; Wheeler, G.C., et al. 1994: 307; Bolton, 1995b: 205; Covert, 2005: 155.

*tamarae*. *Formica (Coptoformica) tamarae* Dlussky, 1964: 1033, figs. 1(5), 2(4), 3(4) (w.q.m.) GEORGIA, RUSSIA.

Status as species: Dlussky, 1965a: 27 (in key); Dlussky, 1967a: 104.

Junior synonym of *pressilabris*: Arakelian, 1994: 97; Bolton, 1995b: 205.

Junior synonym of *foreli*: Seifert, 2000a: 543; Gratiashvili & Barjadze, 2008: 133; Radchenko, 2016: 312.

*taprobane* Smith, F. 1858; see under **DOLICHODERUS**.

***tarimica***. *Formica tarimica* Seifert & Schultz, 2009: 266, fig. 7 (w.) CHINA (Xinjiang “Tarim Basin”).

**Status as species:** Guénard & Dunn, 2012: 32.

***tarsata*** Fabricius, 1798; see under ***PALTOTHYREUS***.

***tejonia*** Buckley, 1866; see under ***CAMPONOTUS***.

***tenuipes*** Smith, F. 1857; see under ***CAMPONOTUS***.

***tenuis*** Fabricius, 1804; see under ***PSEUDOMYRMEX***.

***tenuissima***. *Formica tenuissima* Buckley, 1866: 162 (w.) U.S.A. (Texas).

Status as species: Mayr, 1886d: 432 (perhaps *Forelius*); Cresson, 1887: 257; Dalla Torre, 1893: 213; Emery, 1895c: 338; Wheeler, W.M. 1902f: 21 (perhaps *Brachymyrmex*).

Unidentifiable taxon; *incertae sedis* in Formicinae: Smith, M.R. 1951a: 875; Smith, D.R. 1979: 1467;

unidentifiable taxon; *incertae sedis* in *Formica*: Bolton, 1995b: 205.

***terebrans*** Lowne, 1865; see under ***CAMPONOTUS***.

***terricola*** Buckley, 1866; see under ***NYLANDERIA***.

***testacea***. *Formica testacea* Gmelin, 1790: 2804 (w.) Europe (no state data, “Habitat in Europa”).

**Status as species:** Olivier, 1792; 504; Dalla Torre, 1893: 213.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 205.

***testacea*** Fabricius, 1804; see under ***POLYERGUS***.

***testaceipes***. *Formica testaceipes* Leach, 1825: 290 (w.) FRANCE.

**Status as species:** Dalla Torre, 1893: 213.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 205.

***testaceipes*** Smith, F. 1858; see under ***CAMPONOTUS***.

***theryi*** Santschi, 1936; see under ***BAJCARIDRIS***.

***thoracica***. *Formica thoracica* Olivier, 1792: 503 (q.m.) FRANCE.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 205.

[Note: Olivier, 1792; 503, states, “M. Geoffroy soupçonne que cette espèce est la même que la Fourmi Hercule” (*Camponotus herculeanus*).]

***thoracica*** Fabricius, 1804; see under ***CAMPONOTUS***.

***thyssei***. *Formica thyssei* Betrem, 1955: 392 (q.) NETHERLANDS.

[First available use of *Formica pratensis* ab. *thyssei* Stärcke, 1942b: 43 (footnote); unavailable (infrasubspecific) name.]

Junior synonym of *nigricans*: Yarrow, 1955a: 4.

Junior synonym of *pratensis*: Dlussky, 1967a: 84; Kutter, 1977c: 272; Seifert, 1992a: 225; Bolton, 1995b: 201; Radchenko, 2016: 291.

***tianshanica***. *Formica tianshanica* Seifert & Schultz, 2009: 267, figs. 9, 16 (w.) KYRGYZSTAN, CHINA, KAZAKHSTAN.

**Status as species:** Guénard & Dunn, 2012: 32.

***timida*** Foerster, 1850; see under ***LASIUS***.

***timida*** Jerdon, 1851; see under ***CAMPONOTUS***.

***tincta*** Smith, F. 1858; see under ***CAMPONOTUS***.

***tir***. *Formica rufa* subsp. *rufa* ab. *tir* Stärcke, 1942a: 22 (q.) NORWAY; unavailable (infrasubspecific) name.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 205.

Material referred to *lugubris* by Yarrow, 1955a: 5.

***tombeuri***. *Formica tombeuri* Bondroit, 1917b: 187 (w.) PORTUGAL.

As unavailable (infrasubspecific) name: Emery, 1925b: 247.

**Status as species:** Schmitz, 1950: 14.

**Subspecies of fusca:** Santschi, 1925g: 352; Bolton, 1995b: 205.

**tomentosa.** *Formica tomentosa* Reich, 1793: 132 (no sex/caste indicated) FRENCH GUIANA.

Status as species: Dalla Torre, 1893: 213.

*Incertae sedis* in Formicinae: Kempf, 1972a: 261.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 205.

**torrentium.** *Formica torrentium* Bernard, 1967: 300 (w.q.m.) FRANCE.

[Note: Bernard, 1967: 300, indicated that Bernard, 1960: 108, contained the original description of *torrentium*; but the name *torrentium* is not mentioned in the 1960 publication (Bolton, 1995b: 205).]

Status as species: Bolton, 1995b: 205.

Junior synonym of *selysi*: Seifert, 2002b: 259; Casevitz-Weulersse & Galkowsky, 2009: 483.

**transcaucasica.** *Formica transcaucasica* Nasonov, 1889: 21 (w.) GEORGIA.

[Misspelled as *transcaucasica* by Nasonov, 1889: 62 (in key), Emery, 1893i: 662, Ruzsky, 1905b: 384, and others; misspelled as *transkaukasica* by Wheeler, W.M. 1913f: 512, Donisthorpe, 1918a: 9, and others.]

[Note: Nasonov's original description in Russian is translated into German by Emery, 1893i: 662 (footnote), and into English by Yarrow, 1954a: 234.]

Subspecies of *gagates*: Ruzsky, 1902d: 13.

Subspecies of *fusca*: Ruzsky, 1904b: 5; Ruzsky, 1905b: 384.

Junior synonym of *picea* Nylander: Emery, 1909b: 195; Wheeler, W.M. 1913f: 512; Donisthorpe, 1915d: 325; Donisthorpe, 1918a: 9; Emery, 1925b: 249; Donisthorpe, 1927b: 374; Karavaiev, 1936: 231; Dlussky, 1965a: 31; Bernard, 1967: 299; Dlussky, 1967a: 61; Kutter, 1968a: 61; Tarbinsky, 1976: 183; Czechowski, *et al.* 2012: 210.

First available replacement name for *picea* Nylander: Donisthorpe, 1918a: 9; Yarrow, 1954a: 233; Bernard, 1967: 299; Atanassov & Dlussky, 1992: 263.

Status as species: Emery, 1893i: 662; Yarrow, 1954a: 232; Bernard, 1967: 299 (redescription); Baroni Urbani, 1971c: 241; Collingwood, 1971: 170; Bolton & Collingwood, 1975: 6 (in key); van Boven, 1977: 162; Collingwood, 1978: 73, 94 (in key); Collingwood, 1979: 124; Onoyama, 1980: 200; Agosti & Collingwood, 1987a: 60; Agosti & Collingwood, 1987b: 287 (in key); Nilsson & Douwes, 1987: 80; Wu, J. 1990: 5 (in key); Morisita, *et al.* 1991: 35; Arakelian, 1994: 102; Radchenko, 1994b: 113 (in key); Douwes, 1995: 98; Poldi, *et al.* 1995: 9; Wu, J. & Wang, 1995: 143; Zhang, W. & Zheng, 2002: 218; Petrov, 2006: 114 (in key).

Junior synonym of *candida*: Bolton, 1995b: 205; Imai, *et al.* 2003: 57; Gratiashvili & Barjadze, 2008: 132.

Unidentifiable taxon, *incertae sedis* in *Formica*: Seifert, 2004: 32.

**transcaucasicogagates.** *Formica fusca* subsp. *gagates* var. *transcaucasicogagates* Ruzsky, 1905b: 379 (in text) (w.) RUSSIA; unavailable (infrasubspecific) name.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 205.

Material referred to *picea* Nylander by Dlussky, 1965a: 31; Dlussky, 1967a: 61; Dlussky & Pisarski, 1971: 153.

**transmontanis.** *Formica transmontanis* Francoeur, 1973: 135, figs. 220-232 (w.q.m.) CANADA (British Columbia, Alberta), U.S.A. (California, Idaho, Montana).

**Status as species:** Wheeler, G.C. & Wheeler, J. 1977b: 15 (in key); Yensen, *et al.* 1977: 185; Smith, D.R. 1979: 1455; Allred, 1982: 477; Wheeler, G.C. & Wheeler, J. 1986g: 88 (in key); Bolton, 1995b: 205; Ward, 2005: 64.

*transversa*. *Formica (Serviformica) rufibarbis* st. *montivaga* var. *transversa* Santschi, 1928b: 45; unavailable (infrasubspecific) name.

Unnecessary replacement name for *clara* Kuznetsov-Ugamsky; unavailable (infrasubspecific) name.

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 205.

Material referred to *clara* Forel by Dlussky, 1967a: 77.

*triangularis*. *Formica triangularis* Say, 1836: 288 (q.m.) U.S.A. (Indiana).

Status as species: Smith, F. 1858b: 53; Mayr, 1863: 421; Cresson, 1887: 257; Dalla Torre, 1893: 213.

Unidentifiable taxon; *incertae sedis* in Formicidae: Smith, M.R. 1951a: 875; Smith, D.R. 1979: 1467;

unidentifiable taxon; *incertae sedis* in *Formica*: Bolton, 1995b: 205.

*tridentata* Fabricius, 1804; see under **ECTATOMMA**.

*trifasciata* Smith, F. 1858; see under **ANOPLOLEPIS**.

\**trigona*. \**Formica trigona* Presl, 1822: 198 (no sex/caste indicated) BALTIC AMBER (Eocene).

Status as species: Scudder, 1891: 709; Dalla Torre, 1893: 213; Bolton, 1995b: 205.

Unidentifiable taxon; *incertae sedis* in Formicidae: Handlirsch, 1907: 882; unidentifiable to genus; *incertae sedis* in *Formica*.

\**tripartita*. \**Formica tripartita* Théobald, 1937b: 214, pl. 15, figs. 4-8 (q.m.) GERMANY (Oligocene).

**Status as species:** Burnham, 1979: 115; Bolton, 1995b: 205.

*tristis*. *Formica tristis* Christ, 1791: 513, pl. 60, fig. 13 (m.) (no state data).

Junior synonym of *fusca*: Emery, 1892b: 162; Dalla Torre, 1893: 196; Forel, 1915d: 63 (in key); Donisthorpe, 1915d: 304; Emery, 1925b: 247; Donisthorpe, 1927b: 349; Karavaiev, 1936: 228; Bolton, 1995b: 205; Radchenko, 2016: 294.

*tristis*. *Formica (Raptiformica) sanguinea* var. *tristis* Karavaiev, 1929b: 217 (w.) UZBEKISTAN.

[Unresolved junior primary homonym of *Formica tristis* Christ, 1791: 513 (Bolton, 1995b: 205).]

Junior synonym of *sanguinea*: Dlussky, 1965a: 16; Dlussky, 1967a: 97; Dlussky & Pisarski, 1971: 189; Bolton, 1995b: 205; Radchenko, 2016: 292.

*tropica* Smith, F. 1861; see under **CALOMYRMEX**.

*truncata* Spinola, 1808; see under **COLOBOPSIS**.

*truncicola*. *Formica truncicola* Nylander, 1846a: 907 (w.q.) FINLAND.

[Misspelled as *aruncicola* by Krausse, 1926c: 336.]

Nylander, 1849: 29 (m.).

Subspecies of *rufa*: Forel, 1874: 52; Emery, 1878a: ix (in list); Emery & Forel, 1879: 450; Lameere, 1892: 63; Emery, in Dalla Torre, 1893: 206 (footnote); Forel, 1894c: 403; Forel, 1895e: 457; Ruzsky, 1896: 68; André, 1903: 128; Ruzsky, 1905b: 330; Forel, 1906b: 85; Viehmeyer, 1906: 55; Wheeler, W.M. 1906c: 323; Wheeler, W.M. 1908g: 406; Emery, 1909b: 187; Bondroit, 1910: 483; Yano, 1910: 421; Karavaiev, 1912b: 588; Wheeler, W.M. 1913f: 434 (redescription); Stitz, 1914: 92; Ruzsky, 1915b: 8; Forel, 1915d: 57 (in key); Emery, 1916b: 256; Escherich, 1917: 335 (in key); Nadig, 1918: 341; Kulmatycki, 1922: 81; Soudek, 1922: 80; Kuznetsov-Ugamsky, 1923: 244; Lomnicki, 1925a: 15 (in key); Santschi, 1925f: 96; Krausse, 1926b: 114; Kuznetsov-Ugamsky,

1926b: 96; Kuznetsov-Ugamsky, 1928b: 12; Kuznetsov-Ugamsky, 1929b: 38; Teranishi, 1940: 23; Chapman & Capco, 1951: 197.

Status as species: Nylander, 1849: 29; Foerster, 1850a: 21; Schenck, 1852: 33; Mayr, 1855: 334 (redescription); Gredler, 1858: 7; Smith, F. 1858b: 4; Motschoulsky, 1860b: 500; Mayr, 1861: 46 (in key); Meinert, 1861: 314; Mayr, 1863: 421; Roger, 1863b: 13; André, 1874: 184 (in key); Mayr, 1877: 6; Emery, 1878b: 49; Mayr, 1880: 26; André, 1882b: 183 (in key); Cresson, 1887: 257; Nasonov, 1889: 18; Dalla Torre, 1893: 213; Ruzsky, 1902d: 10; Bingham, 1903: 334; Forel, 1904b: 385; Viehmeyer, 1906: 55; Wasmann, 1906: 112 (in key); Wheeler, W.M. 1913f: 434 (redescription); Wheeler, W.M. 1917a: 537; Müller, 1923b: 141; Ruzsky, 1925a: 287; Ruzsky, 1926: 110; Ruzsky, 1946: 69.

Synonym of *truncorum*: Roger, 1863b: 13; Emery & Forel, 1879: 450.

[Note: Roger, 1863b: 13, and Emery & Forel, 1879: 450, give *truncicola* as senior synonym, but *truncorum* has priority.]

Junior synonym of *truncorum*: Bondroit, 1918: 60; Emery, 1925b: 255; Betrem, 1926: 213; Stärcke, 1926: 148; Lomnicki, 1928: 8; Arnol'di, 1933b: 603; Karavaiev, 1936: 247; Betrem, 1960a: 130 (in text); Bernard, 1967: 307; Dlussky, 1967a: 81; Baroni Urbani, 1971c: 223; Dlussky & Pisarski, 1971: 174; Pisarski, 1975: 45; Tarbinsky, 1976: 192; Kutter, 1977c: 274; Onoyama, 1980: 200; Bolton, 1995b: 205; Gallé, *et al.* 1998: 217; Czechowski, *et al.* 2002: 76; Radchenko, 2007: 36; Casevitz-Weulersse & Galkowsky, 2009: 483; Czechowski, *et al.* 2012: 199; Radchenko, 2016: 289.

*truncicoloides*. *Formica pratensis truncicoloides* Forel, 1874: 16 (in text). *Nomen nudum*.

*truncicolopratensis*. *Formica rufa* var. *truncicolopratensis* Forel, 1874: 53 (w.q.m.)  
SWITZERLAND.

[Misspelled as *truncicoropratensis* by Teranishi, 1934: 38.]

As unavailable (infrasubspecific) name: Emery & Forel, 1879: 450; Lameere, 1892: 63; Ruzsky, 1905b: 348; Emery, 1909b: 187; Wheeler, W.M. 1913f: 391 (in key), 429; Forel, 1915d: 57 (in key); Ruzsky, 1915b: 8; Emery, 1916b: 256; Emery, 1925b: 255; Krausse, 1926b: 114; Krausse, 1926d: 264; Teranishi, 1940: 22.

Subspecies of *pratensis*: Dalla Torre, 1893: 205; Ruzsky, 1903c: 205; Stärcke, 1926: 149 (in key).

Subspecies of *rufa*: André, 1882b: 184; Ruzsky, 1896: 68; Karavaiev, 1912b: 589; Teranishi, 1932: 53; Teranishi, 1934: 38.

Subspecies of *truncicola*: Holgersen, 1940: 186.

Subspecies of *truncorum*: Stitz, 1939: 346; Holgersen, 1942: 14; Holgersen, 1943b: 176 (in key).

Status as species: Bondroit, 1918: 61.

Junior synonym of *nigricans*: Bernard, 1967: 314 (error).

Junior synonym of *lugubris*: Collingwood, 1971: 169.

Junior synonym of *truncorum*: Bernard, 1967: 307; Dlussky, 1967a: 81; Dlussky & Pisarski, 1971: 174; Pisarski, 1975: 45; Bolton, 1995b: 205; Czechowski, *et al.* 2002: 76; Imai, *et al.* 2003: 58; Czechowski, *et al.* 2012: 199; Radchenko, 2016: 289.

*truncorum*. *Formica truncorum* Fabricius, 1804: 403 (q.) CZECH REPUBLIC (“Habitat in .... Moraviae”).

Subspecies of *rufa*: Emery & Forel, 1879: 450; Emery, 1925b: 255; Santschi, 1925g: 351; Karavaiev, 1927c: 282 (in key); Karavaiev, 1927d: 346; Kuznetsov-Ugamsky,

1929a: 21; Karavaiev, 1930b: 149; Karavaiev, 1931e: 217; Arnol'di, 1933b: 604 (in key); Stitz, 1934: 9; Karavaiev, 1936: 247 (redescription); Ceballos, 1956: 320.

**Status as species:** Smith, F. 1858b: 4; Roger, 1863b: 13; Dalla Torre, 1893: 214; Bondroit, 1917a: 174 (in key); Bondroit, 1918: 60; Bondroit, 1920a: 146; Bondroit, 1920b: 300; Betrem, 1926: 213 (in key); Stärcke, 1926: 148 (in key); Lomnicki, 1928: 8; Teranishi, 1932: 53; Teranishi, 1934: 38; Stärcke, 1935: 269; Stitz, 1939: 344; Menozzi, 1939a: 321 (in key); Novák & Sadil, 1941: 105 (in key); Eidmann, 1941: 31; Eidmann, 1942: 253; Holgersen, 1942: 13; Holgersen, 1943b: 176 (in key); Holgersen, 1944: 185; Rößler, 1950: 214; Azuma, 1955: 80; Betrem, 1960a: 130; Betrem, 1960b: 76 (in key); Dlussky, 1965a: 28; Bernard, 1967: 307 (redescription); Dlussky, 1967a: 81; Kutter, 1968a: 61; Kutter, 1968b: 206; Pisarski, 1969b: 313; Dlussky & Pisarski, 1970: 89; Baroni Urbani, 1971c: 223; Collingwood, 1971: 168; Dlussky & Pisarski, 1971: 174 (redescription); Banert & Pisarski, 1972: 355; Pisarski, 1975: 45; Tarbinsky, 1976: 192 (redescription); Kutter, 1977c: 274; Arnol'di & Dlussky, 1978: 554 (in key); Collingwood, 1979: 139; Kupyanskaya, 1980: 105; Onoyama, 1980: 200; Kupyanskaya, 1986b: 98; Agosti & Collingwood, 1987a: 60; Agosti & Collingwood, 1987b: 286 (in key); Nilsson & Douwes, 1987: 82; Gösswald, 1989: 21; Kupyanskaya, 1990: 192; Morisita, *et al.* 1991: 34; Atanassov & Dlussky, 1992: 270; Radchenko, 1994b: 114 (in key); Douwes, 1995: 97; Bolton, 1995b: 205; Poldi, *et al.* 1995: 8; Gallé, *et al.* 1998: 217; Collingwood & Heatwole, 2000: 15; Czechowski, *et al.* 2002: 76; Imai, *et al.* 2003: 58; Karaman, M.G. & Karaman, 2003: 52; Radchenko, 2005b: 164; Csösz, & Markó, 2005: 232; Bračko, 2006: 148; Markó, Sipos, *et al.* 2006: 68; Petrov, 2006: 112 (in key); Schultz, R. *et al.* 2006: 205; Bračko, 2007: 20; Radchenko, 2007: 36; Seifert, 2007: 317; Werner & Wiezik, 2007: 144; Zryanin & Zryanina, 2007: 233; Casevitz-Weulersse & Galkowsky, 2009: 483; Lapeva-Gjonova, *et al.* 2010: 55; Boer, 2010: 27; Csösz, *et al.* 2011: 59; Czechowski, *et al.* 2012: 199; Guénard & Dunn, 2012: 32; Kiran & Karaman, 2012: 11; Borowiec, L. 2014: 79 (see note in bibliography); Bračko, *et al.* 2014: 19; Bharti, Guénard, *et al.* 2016: 27; Lebas, *et al.* 2016: 178; Radchenko, 2016: 289; Seifert, 2018: 330.

**Senior synonym of menozzii:** Dlussky, 1967a: 81; Dlussky & Pisarski, 1971: 174; Bolton, 1995b: 205; Imai, *et al.* 2003: 58; Radchenko, 2016: 290.

**Senior synonym of rufotruncicola:** Dlussky, 1967a: 81; Dlussky & Pisarski, 1971: 174; Tarbinsky, 1976: 192; Bolton, 1995b: 205; Imai, *et al.* 2003: 58; Radchenko, 2016: 290.

**Senior synonym of simulata:** Imai, *et al.* 2003: 58.

**Senior synonym of staegeri:** Dlussky, 1967a: 81; Dlussky & Pisarski, 1971: 174; Bolton, 1995b: 205; Radchenko, 2016: 290.

Synonym of *truncicola*: Roger, 1863b: 13; Emery & Forel, 1879: 450.

[Note: Roger, 1863b: 13, and Emery & Forel, 1879: 450, give *truncicola* as senior synonym, but *truncorum* has priority.]

**Senior synonym of truncicola:** Bondroit, 1918: 60; Emery, 1925b: 255; Betrem, 1926: 213; Stärcke, 1926: 148; Lomnicki, 1928: 8; Arnol'di, 1933b: 603; Karavaiev, 1936: 247; Betrem, 1960a: 130 (in text); Bernard, 1967: 307; Dlussky, 1967a: 81; Baroni Urbani, 1971c: 223; Dlussky & Pisarski, 1971: 174; Pisarski, 1975: 45; Tarbinsky, 1976: 192; Kutter, 1977c: 274; Onoyama, 1980: 200; Bolton, 1995b: 205; Gallé, *et al.* 1998: 217; Czechowski, *et al.* 2002: 76; Radchenko, 2007: 36; Casevitz-Weulersse & Galkowsky, 2009: 483; Czechowski, *et al.* 2012: 199; Radchenko, 2016: 289.

**Senior synonym of *truncicolopratensis*:** Dlussky, 1967a: 81; Bernard, 1967: 307; Dlussky & Pisarski, 1971: 174; Pisarski, 1975: 45; Bolton, 1995b: 205; Czechowski, *et al.* 2002: 76; Imai, *et al.* 2003: 58; Czechowski, *et al.* 2012: 199; Radchenko, 2016: 289. Material of the unavailable name *stitzii* referred here by Dlussky, 1967a: 81; Dlussky & Pisarski, 1971: 174; Imai, *et al.* 2003: 58.

Current subspecies: nominal plus *finzii*, *frontalis*.

***tshugunovi*.** *Formica rufa* var. *tshugunovi* Ruzsky, 1914b: 102 (w.) RUSSIA.

As unavailable (infrasubspecific) name: Ruzsky, 1925a: 287.

**Subspecies of *rufa*:** Ruzsky, 1926: 110; Ruzsky, 1946: 69; Bolton, 1995b: 205.

*tuberculata* Olivier, 1792; see under **ECTATOMMA**.

*tuberosa* Latreille, 1802; see under **TEMNOTHORAX**.

*tuberum* Fabricius, 1775; see under **TEMNOTHORAX**.

***typhlos*.** *Formica typhlos* Lund, 1831a: 135 (w.) BRAZIL. *Nomen nudum*.

***ulkei*.** *Formica ulkei* Emery, 1893i: 653, pl. 22, fig. 7 (w.) U.S.A. (South Dakota).

Wheeler, W.M. 1913f: 486 (q.m.); Wheeler, G.C. & Wheeler, J. 1953c: 168 (l.); Hung, 1969: 456 (k.).

**Status as species:** Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 485 (redescription); Wheeler, W.M. 1917a: 545; Wheeler, W.M. 1917i: 464; Emery, 1925b: 258; Wheeler, G.C. & Wheeler, E.W. 1944: 267; Buren, 1944a: 307; Creighton, 1950a: 515; Smith, M.R. 1951a: 873; Gregg, R.E. 1952b: 18 (in text); Smith, M.R. 1958c: 160; Smith, M.R. 1967: 373; Kutter, 1968b: 207; Francoeur, 1977b: 208; Yensen, *et al.* 1977: 185; Smith, D.R. 1979: 1456; DuBois & LaBerge, 1988: 149; Wheeler, G.C., *et al.* 1994: 307; Bolton, 1995b: 205; Coovert, 2005: 146; Ellison, *et al.* 2012: 176.

**Senior synonym of *hebescens*:** Creighton, 1950a: 515; Smith, D.R. 1979: 1456; Bolton, 1995b: 205; Coovert, 2005: 146.

*umbrata* Nylander, 1846; see under **LASIUS**.

**\**ungeri*.** \**Formica ungeri* Heer, 1849: 128, pl. 10, fig. 1 (q.) CROATIA (Miocene).

[Also described as new by Heer, 1850: 128.]

**Status as species:** Giebel, 1856: 168; Heer, 1867: 13; Mayr, 1867b: 53; Scudder, 1891: 709; Dalla Torre, 1893: 214; Handlirsch, 1907: 862; Bolton, 1995b: 205; Dlussky & Putyatina, 2014: 256 (redescription).

**Senior synonym of \**acuminata*:** Dlussky & Putyatina, 2014: 256.

**Senior synonym of \**aemula*:** Dlussky & Putyatina, 2014: 256.

**Senior synonym of \**elongatula*:** Dlussky & Putyatina, 2014: 256.

**Senior synonym of \**kollari*:** Dlussky & Putyatina, 2014: 256.

**Senior synonym of \**oblita*:** Dlussky & Putyatina, 2014: 256.

**Senior synonym of \**redtenbacheri*:** Dlussky & Putyatina, 2014: 256.

Current subspecies: nominal plus \**neutra*.

***unicolor*.** *Formica pratensis* subsp. *unicolor* Ruzsky, 1926: 110.

[First available use of *Formica rufa* subsp. *pratensis* var. *unicolor* Ruzsky, 1914b: 102 (w.) RUSSIA; unavailable (infrasubspecific) name.]

Subspecies of *pratensis*: Ruzsky, 1946: 69.

Junior synonym of *lugubris*: Dlussky, 1967a: 91; Dlussky & Pisarski, 1971: 180; Bolton, 1995b: 205; Radchenko, 2016: 287.

***unifasciata*** Latreille, 1798; see under **TEMNOTHORAX**.

***unispinosa*** Fabricius, 1793; see under **ODONTOMACHUS**.

*uralensis*. *Formica uralensis* Ruzsky, 1895: 13 (w.q.m.) RUSSIA, KAZAKHSTAN.

[Also described as new by Ruzsky, 1896: 69.]

[Misspelled as *uratensis* by Bernard, 1967: 307.]

**Status as species:** Ruzsky, 1903c: 206; Ruzsky, 1905b: 348; Emery, 1909b: 189; Wheeler, W.M. 1913f: 448 (redescription); Ruzsky, 1915b: 9; Emery, 1925b: 255; Ruzsky, 1925a: 287; Ruzsky, 1925b: 43; Ruzsky, 1926: 111; Kuznetsov-Ugamsky, 1928b: 12; Kuznetsov-Ugamsky, 1929a: 21; Karavaiev, 1931c: 114; Arnol'di, 1933b: 604 (in key); Karavaiev, 1936: 249 (redescription); Ruzsky, 1936: 91; Stitz, 1939: 325; Forsslund, 1947: 74; Betrem, 1960b: 76 (in key); Dlussky, 1965a: 28; Bernard, 1967: 307 (redescription); Dlussky, 1967a: 79; Kutter, 1968a: 61; Kutter, 1968b: 206; Pisarski, 1969a: 233; Pisarski, 1969b: 312; Dlussky & Pisarski, 1970: 88; Collingwood, 1971: 168; Dlussky & Pisarski, 1971: 170 (redescription); Pisarski, 1975: 45; Kutter, 1977c: 274; Arnol'di & Dlussky, 1978: 553 (in key); Collingwood, 1979: 135; Kupyanskaya, 1980: 100; Pisarski & Krzysztofiak, 1981: 164; Agosti & Collingwood, 1987b: 286 (in key); Nilsson & Douwes, 1987: 84; Wu, J. 1990: 5 (in key); Kupyanskaya, 1990: 189; Radchenko, 1994b: 113 (in key); Douwes, 1995: 97; Bolton, 1995b: 205; Wu, J. & Wang, 1995: 144; Czechowski, *et al.* 2002: 87; Radchenko, 2005b: 164; Petrov, 2006: 112 (in key); Seifert, 2007: 306; Zryanin & Zryanova, 2007: 233; Casevitz-Weulersse & Galkowsky, 2009: 483; Boer, 2010: 28; Czechowski, *et al.* 2012: 223; Guénard & Dunn, 2012: 32; Borowiec, L. 2014: 80; Lebas, *et al.* 2016: 182; Radchenko, 2016: 307; Seifert, 2018: 315.

**Senior synonym of superba:** Wu, J. 1990: 4; Bolton, 1995b: 205; Radchenko, 2016: 307.

*vaga* Scopoli, 1763; see under **CAMPONOTUS**.

*vagans* Olivier, 1792; see under **ECITON**.

*vagans*. *Formica vagans* Fabricius, 1793: 358 (w.) GERMANY.

Zetterstedt, 1838: 451 (q.m.).

[Unresolved junior primary homonym of *Formica vagans* Olivier, 1792: 501 (Bolton, 1995b: 206).]

Combination in *Myrmica*: Stephens, 1829: 356; Zetterstedt, 1838: 451; Curtis, 1854: 213.

Junior synonym of *Myrmica rubra*: Stephens, 1829: 356.

Status as species: Fabricius, 1804: 407; Zetterstedt, 1838: 451; Curtis, 1854: 213; Smith, F. 1855b: 117; Mayr, 1855: 407; Dalla Torre, 1893: 118.

Unidentifiable taxon; *incertae sedis* in *Formica*: Bolton, 1995b: 206.

[Note: Latreille, 1802c: 250 (in text), suspected that *vagans* Fabricius may be *Myrmica rubra* (Linnaeus, 1758). Curtis, 1854: 213, Roger, 1863b: 28, Forel, 1874: 101 (in list), Emery & Forel, 1879: 460, regarded *vagans* Fabricius as a synonym of *Myrmica ruginodis* Nylander, 1846a: 929.]

*vagans* Jerdon, 1851; see under **PARATRECHINA**.

*variegata* Smith, F. 1858; see under **CAMPONOTUS**.

*velox* Jerdon, 1851; see under **CAMPONOTUS**.

*venosa*. *Formica venosa* Gmelin, 1790: 2804 (q.) (no state data, "Habitat - - - -").

Status as species: Olivier, 1792: 504; Dalla Torre, 1893: 214.

Unidentifiable to genus; *incertae sedis* in *Formica*: Bolton, 1995b: 206.

*ventralis* Smith, F. 1858; see under **CAMPONOTUS**.

*vestita* Smith, F. 1858; see under **CAMPONOTUS**.

*vetula*. *Formica lasiooides* var. *vetula* Wheeler, W.M. 1912c: 90.

Replacement name for *Formica lasiooides* var. *picea* Emery, 1895c: 335. [Junior primary homonym of *Formica picea* Leach, 1825: 292.]

Wheeler, W.M. 1913f: 540 (q.m.).

Combination in *F. (Proformica)*: Wheeler, W.M. 1913f: 540.

As unavailable (infrasubspecific) name: Wheeler, W.M. 1913f: 540; Wheeler, W.M. 1917a: 554; Emery, 1925b: 243; Cole, 1936a: 38; Cole, 1937b: 138; Wing, 1939: 164; Cole, 1942: 384; Weber, 1943c: 343 (in list); Smith, M.R. 1951a: 857.

Subspecies of *neogagates*: Wheeler, W.M. 1917a: 554; Buren, 1944a: 308; Wheeler, G.C. & Wheeler, E.W. 1944: 268.

Junior synonym of *lasioides*: Creighton, 1950a: 457; Smith, M.R. 1958c: 152; Francoeur & Snelling, 1979: 3; Smith, D.R. 1979: 1449; Bolton, 1995b: 206.

*viatica* Fabricius, 1787; see under *CATAGLYPHIS*.

*vidua*. *Formica (Proformica) neogagates* subsp. *lasioides* var. *vidua* Wheeler, W.M. 1913f: 400 (in key); unavailable (infrasubspecific) name.

Declared as unavailable (infrasubspecific) name: here (not previously recorded).

*vigilans* Smith, F. 1858; see under *CAMPONOTUS*.

*villiscapa*. *Formica villiscapa* Chang & He, 2002a: 55, figs. 27, 28, 65 (w.) CHINA (Gansu).

**Status as species:** Guénard & Dunn, 2012: 32.

*villosa* Fabricius, 1804; see under *NEOPONERA*.

*vinculans*. *Formica (Proformica) neogagates* var. *vinculans* Wheeler, W.M. 1913f: 400 (in key).

[*Formica (Proformica) neogagates* subsp. *neogagates* var. *vinculans* Wheeler, W.M. 1913f: 539 (w.q.) U.S.A. (Illinois); unavailable (infrasubspecific) name.]

As unavailable (infrasubspecific) name: Smith, M.R. 1951a: 858.

**Subspecies of neogagates:** Emery, 1925b: 243; Buren, 1944a: 309.

Junior synonym of *neogagates*: Creighton, 1950a: 459; Smith, M.R. 1958c: 153; Smith, D.R. 1979: 1450.

**Status as species:** Yensen, et al. 1977: 185; Snelling, R.R. & Buren, 1985: 76; Wheeler, G.C., et al. 1994: 307; Bolton, 1995b: 206; Coovert, 2005: 135.

*vinosa* Smith, F. 1858; see under *CAMPONOTUS*.

*vinsonnella* Dufour, 1864; see under *LEPTOGENYS*.

*virescens* Fabricius, 1775; see under *OECOPHYLLA*.

*virginiana*. *Formica virginiana* Buckley, 1866: 159 (w.) U.S.A. (District of Columbia).

Status as species: Cresson, 1887: 257; Dalla Torre, 1893: 214.

Unidentifiable taxon; *incertae sedis* in Formicinae: Smith, M.R. 1958c: 162; Smith, D.R. 1979: 1467;

unidentifiable taxon; *incertae sedis* in *Formica*: Emery, 1895c: 337; Wheeler, W.M. 1902f: 20; Smith, M.R. 1951a: 873; Bolton, 1995b: 206.

[Note: Wheeler, W.M. 1902f: 20, suggests, "Perhaps a variety of *pallidefulva*."]

*viridis* Kirby, W. 1819; see under *OECOPHYLLA*.

*virulens* Smith, F. 1861; see under *CAMPONOTUS*.

*visitatrix* Christ, 1791; see under *ATTA*.

*vitrea* Smith, F. 1860; see under *COLOBOPSIS*.

*vivida* Smith, F. 1858; see under *CAMPONOTUS*.

*vividula* Nylander, 1846; see under *NYLANDERIA*.

*volgensis*. *Formica rufibarbis* subsp. *volgensis* Ruzsky, 1914c: 323, fig. (w.) RUSSIA.

Junior synonym of *glauca*: Dlussky, 1967a: 74; Bolton, 1995b: 206.

Junior synonym of *cunicularia*: Atanassov & Dlussky, 1992: 267.

Unidentifiable taxon; *incertae sedis* in *Formica*: Seifert & Schultz, 2009: 271.

*volitans*. *Formica volitans* Christ, 1791: 518 (no sex/caste indicated) INDIA. *Nomen nudum*.

*vorax* Fabricius, 1804; see under **PHEIDOLE**.

*wallacei* Guerrero, 2018; see under **TAPINOMA**.

*wasmanni*. *Formica dacotensis* var. *wasmanni* Forel, 1904a: 153 (footnote) (w.q.m.) U.S.A. (Wisconsin).

Synonym of *specularis*: Wheeler, W.M. 1908f: 642 (in text); Wheeler, W.M. 1913f: 464; Emery, 1925b: 252; Smith, M.R. 1951a: 862.

[Note: Wheeler, Emery, and Smith, give *specularis* as senior synonym, but *wasmanni* has priority].

Junior synonym of *dakotensis*: Creighton, 1950a: 484; Smith, D.R. 1979: 1457; Bolton, 1995b: 206.

**wheeleri**. *Formica wheeleri* Creighton, 1935: 1, fig. 1 (w.q.) U.S.A. (Utah).

Combination in *F. (Raptiformica)*: Creighton, 1950a: 472.

**Status as species**: Cole, 1942: 378; Creighton, 1950a: 472; Smith, M.R. 1951a: 873; Cole, 1954c: 164; Wilson & Brown, 1955: 125; Smith, M.R. 1958c: 160; Smith, M.R. 1967: 373; Buren, 1968a: 31 (redescription); Kutter, 1968b: 207; Hunt & Snelling, 1975: 23; Smith, D.R. 1979: 1466; Allred, 1982: 477; Snelling, R.R. & Buren, 1985: 72 (in key); Wheeler, G.C. & Wheeler, J. 1986g: 94; Mackay, Lowrie, *et al.* 1988: 113 (in key); Bolton, 1995b: 206; Mackay & Mackay, 2002: 373.

*wheeleri*. *Formica exsecta* var. *wheeleri* Stitz, 1939: 311.

[First available use of *Formica exsecta* subsp. *exsecta* var. *wheeleri* Krausse, 1926d: 264 (w.) GERMANY; unavailable (infrasubspecific) name.]

[Unresolved junior primary homonym of *Formica wheeleri* Creighton, 1935: 1.]

Unidentifiable taxon; *incertae sedis* in *Formica*: Seifert, 2000a: 562.

Junior synonym of *exsecta*: Dlussky, 1967a: 100; Dlussky & Pisarski, 1971: 194; Bolton, 1995b: 206; Radchenko, 2016: 309.

**whymperi**. *Formica whymperi* Wheeler, W.M. 1917a: 544.

[First available use of *Formica rufa* r. *obscuripes* var. *whymperi* Forel, 1904a: 152 (w.) CANADA (British Columbia); unavailable (infrasubspecific) name.]

As unavailable (infrasubspecific) name: Wheeler, W.M. 1910g: 570; Wheeler, W.M. 1913f: 392 (in key), 434; Emery, 1925b: 254.

**Status as species**: Creighton, 1950a: 508; Smith, M.R. 1951a: 873; Smith, M.R. 1958c: 161; Kutter, 1968b: 207; Francoeur, 1977b: 208; Yensen, *et al.* 1977: 185; Smith, D.R. 1979: 1463; Allred, 1982: 477; Wheeler, G.C. & Wheeler, J. 1986g: 86; Mackay, Lowrie, *et al.* 1988: 112 (in key).

[Note: Wheeler, W.M., Creighton, Smith, M.R., and Smith D.R. all give *adamsi* as subspecies of *whymperi*, but *adamsi* has priority (Bolton, 1995b: 191).]

**Subspecies of adamsi**: Bolton, 1995b: 206; Ward, 2005: 63.

**Senior synonym of californica**: Wheeler, G.C. & Wheeler, J. 1986g: 15; Bolton, 1995b: 206.

Material of the unavailable name *pullula* referred here by Creighton, 1950a: 509; Smith, M.R. 1958c: 160; Smith, D.R. 1979: 1464.

*wialensis*. *Formica wialensis* Ruzsky, 1946: 69 RUSSIA. *Nomen nudum*.

*wichita* Buckley, 1866; see under **PRENOLEPIS**.

**wongi**. *Formica wongi* Wu, J. 1990: 2, 5 (in key), figs. 10, 18 (w.) CHINA (Jilin).

**Status as species**: Bolton, 1995b: 206; Wu, J. & Wang, 1995: 144; Guénard & Dunn, 2012: 32.

**xerophila**. *Formica (Neoformica) moki* subsp. *xerophila* Smith, M.R. 1939f: 583 (w.) U.S.A. (Washington).

**Subspecies of moki:** Creighton, 1950a: 550; Smith, M.R. 1951a: 858.

**Status as species:** Francoeur, 1973: 259 (redescription); Hunt & Snelling, 1975: 23; Wheeler, G.C. & Wheeler, J. 1977b: 16 (in key); Smith, D.R. 1979: 1455; Snelling, R.R. & George, 1979: 250; Allred, 1982: 478; Wheeler, G.C. & Wheeler, J. 1986g: 92; Bolton. 1995b: 206; Mackay & Mackay, 2002: 374; Ward, 2005: 64.

**Senior synonym of grundmanni:** Francoeur, 1973: 259; Smith, D.R. 1979: 1455; Snelling, R.R. & George, 1979: 250; Bolton, 1995b: 206.

*yatsuensis*. *Formica fusca* subsp. *picea* var. *yatsuensis* Teranishi, 1940: 80 (w.) JAPAN; unavailable (infrasubspecific) name.

[*Formica transkaucasica* var. *yatsuensis* Onoyama, 1980: 200; unavailable name (variety proposed after 1960).]

Declared as unavailable (infrasubspecific) name: Bolton, 1995b: 206.

*yessensis*. *Formica truncicola* var. *yessensis* Wheeler, W.M. 1913f: 391 (in key).

[First available use of *Formica rufa* r. *truncicola* var. *yessensis* Forel, 1901h: 66 (w.) JAPAN; unavailable (infrasubspecific) name.]

[Misspelled as *yessoensis* by Teranishi, 1940: 23.]

Kupyanskaya, 1984: 103 (q.m.); Imai, 1966: 119 (k.).

As unavailable (infrasubspecific) name: Ruzsky, 1905b: 335; Wheeler, W.M. 1906c: 323; Emery, 1909b: 188; Yano, 1910: 422; Wheeler, W.M. 1913f: 437; Ruzsky, 1915b: 8; Emery, 1925b: 255; Ruzsky, 1925b: 43; Santschi, 1925f: 96; Kuznetsov-Ugamsky, 1928b: 12; Karavaiev, 1929b: 217; Kuznetsov-Ugamsky, 1929a: 21; Karavaiev, 1931c: 110; Stitz, 1934: 9; Ruzsky, 1936: 95; Teranishi, 1940: 23; Chapman & Capco, 1951: 197.

**Subspecies of truncicola:** Wheeler, W.M. 1913f: 391 (in key); Ruzsky, 1926: 110; Wheeler, W.M. 1928d: 124.

**Subspecies of truncorum:** Wheeler, W.M. 1933c: 66; Teranishi, 1934: 38; Morisita, 1945: 22; Azuma, 1955: 80; Onoyama, 1980: 200.

Junior synonym of *lugubris*: Dlussky, 1965a: 42 (in key); Dlussky, 1967a: 91.

**Status as species:** Collingwood, 1976: 304; Collingwood, 1981: 27; Kupyanskaya, 1984: 98; Wu, J. 1990: 5 (in key); Kupyanskaya, 1990: 194; Morisita, *et al.* 1991: 34; Bolton. 1995b: 206; Wu, J. & Wang, 1995: 144; Imai, *et al.* 2003: 58; Radchenko, 2005b: 164; Lin & Wu, 2003: 61; Terayama, 2009: 221; Guénard & Dunn, 2012: 32.

*yoshiokae*. *Formica yoshiokae* Wheeler, W.M. 1933c: 66 (w.) JAPAN.

**Status as species:** Chapman & Capco, 1951: 201; Onoyama, 1980: 200; Bolton. 1995b: 206.

*zealandica* Smith, F. 1878; see under **PROLASIUS**.

\**zherikhini*. \**Formica zherikhini* Dlussky, 2008a: 56, figs. 4h-i (w.) BALTIC AMBER (Eocene).

[Misspelled as *zerichini* by Dlussky & Rasnitsyn, 2009: 1030.]

**Status as species:** Dlussky & Rasnitsyn, 2009: 1030; Perkovsky, 2016: 114.

*zonata* Guérin-Méneville, 1838; see under **OECOPHYLLA**.