**EXTINCT SUBFAMILIES OF FORMICIDAE: \*BROWNIMECIINAE, \*FORMICIINAE, \*SPHECOMYRMINAE, and \*ARMANIIDAE**

**SUBFAMILY \*SPHECOMYRMINAE**

**Subfamily \*SPHECOMYRMINAE**

\***Sphecomyrminae** Wilson & Brown, in Wilson, Carpenter & Brown, 1967: 6. Type-genus: \**Sphecomyrma*.

**Taxonomic history**

\*Sphecomyrminae as family: Dlussky, 1983: 77 [\*Sphecomyrmidae]; Dlussky, 1987: 132 [\*Sphecomyrmidae]; Dlussky & Fedoseeva, 1988: 77 [\*Sphecomyrmidae].

\*Sphecomyrminae as subfamily of Formicidae: Wilson, Carpenter & Brown, 1967: 6; Dlussky, 1975: 114; Wilson, 1987: 49; Hölldobler & Wilson, 1990: 9; Bolton, 1994: 184; Dlussky, 1996: 83; Grimaldi, Agosti & Carpenter, 1997: 7; Dlussky, 1999a: 63; Bolton, 2003: 74, 260; LaPolla, Dlussky & Perrichot, 2013: 618 (in text).

\*Sphecomyrminae as stem ant subfamily of Formicidae: Ward, 2007a: 555.

**Tribes of \*Sphecomyrminae**: \*Haidomyrmecini, \*Sphecomyrmini.

**Subfamily and tribes references**

Bolton, 2003: 74, 260 (diagnoses, comments, synopsis).

**Tribe \*HAIDOMYRMECINI**

\***Haidomyrmecini** Bolton, 2003: 74, 261. Type-genus: \**Haidomyrmex*.

**Taxonomic history**

\*Haidomyrmecini as tribe of \*Sphecomyrminae: Bolton, 2003: 74, 261; Perrichot, Nel, *et al*. 2008: 92.

**Genera (extinct) of \*Haidomyrmecini**: \**Haidomyrmex, \*Haidomyrmodes.*

**Genera of \*Haidomyrmecini**

**Genus \**HAIDOMYRMEX***

\****Haidomyrmex*** Dlussky, 1996: 84. Type-species: \**Haidomyrmex cerberus*, by original desgination.

**Taxonomic history**

\**Haidomyrmex* in \*Sphecomyrminae: Dlussky, 1996: 84; Grimaldi, Agosti & Carpenter, 1997: 7.

\**Haidomyrmex* in \*Sphecomyrminae, \*Haidomyrmecini: Bolton, 2003: 74.

**Genus \**Haidomyrmex* references**

Grimaldi, Agosti & Carpenter, 1997: 24 (notes); Engel & Grimaldi, 2005: 11 (diagnosis, comments).

**Genus \**HAIDOMYRMODES***

\****Haidomyrmodes*** Perrichot, Nel, *et al*. 2008: 92. Type-species: \**Haidomyrmodes mammuthus*, by original designation.

**Taxonomic history**

\**Haidomyrmodes* in \*Sphecomyrminae, \*Haidomyrmecini: Perrichot, Nel, *et al*. 2008: 92.

**Tribe \*SPHECOMYRMINI**

\***Sphecomyrminae** Wilson & Brown, in Wilson, Carpenter & Brown, 1967: 6. Type-genus: \**Sphecomyrma*.

**Taxonomic history**

\*Sphecomyrmini as tribe of \*Sphecomyrminae: Bolton, 1994: 187.

**Genera (extinct) of \*Sphecomyrmini**: \**Baikuris, \*Cretomyrma, \*Dlusskyidris, \*Sphecomyrma, \*Sphecomyrmodes, \*Zigrasimecia*.

**Subfamily and tribe Sphecomyrmini references**

Wheeler, G.C. & Wheeler, J. 1972a: 36 (diagnosis); Wilson, 1987: 44, 49 (review, synoptic classification); Bolton, 1995b: 15 (catalogue); Grimaldi, Agosti & Carpenter, 1997: 7 (review, diagnosis, phylogeny); Bolton, 2003: 74, 260 (diagnosis, synopsis); Perfilieva, 2011: 275 (venation); Barden & Grimaldi, 2013: 410 (comments).

**Genera of \*Sphecomyrmini**

**Genus \**BAIKURIS***

\****Baikuris*** Dlussky, 1987: 133. Type-species: \**Baikuris mandibularis*; by original designation.

**Taxonomic history**

\**Baikuris* in \*Sphecomyrmidae: Dlussky, 1987: 132; Dlussky & Fedoseeva, 1988: 77.

\**Baikuris incertae sedis* in Formicidae: Hölldobler & Wilson, 1990: 18.

\**Baikuris* in \*Sphecomyrminae: Bolton, 1994: 187; Grimaldi, Agosti & Carpenter, 1997: 7; all subsequent authors.

**Genus \**Baikuris* references**

Bolton, 1995b: 80 (catalogue); Grimaldi, Agosti & Carpenter, 1997: 15 (review of genus).

**Genus \**CRETOMYRMA***

\****Cretomyrma*** Dlussky, 1975: 115. Type-species: \**Cretomyrma arnoldii*, by original designation.

**Taxonomic history**

\**Cretomyrma* in \*Sphecomyrmidae: Dlussky, 1987: 132; Dlussky & Fedoseeva, 1988: 77.

\**Cretomyrma* in \*Sphecomyrminae: Dlussky, 1975: 115; Wilson, 1987: 49; Hölldobler & Wilson, 1990: 9; Bolton, 1994: 187; Grimaldi, Agosti & Carpenter, 1997: 7; all subsequent authors.

**Genus \**Cretomyrma* references**

Bolton, 1995b: 166 (catalogue); Grimaldi, Agosti & Carpenter, 1997: 9 (review of genus).

**Genus \**DLUSSKYIDRIS***

\****Dlusskyidris*** Bolton, 1994: 187.

**Taxonomic history**

[Replacement name for \**Palaeomyrmex* Dlussky, 1975: 118; junior homonym of \**Palaeomyrmex* Heer, 1865: 91 (Homoptera).]

\**Dlusskyidris* in \*Sphecomyrminae: Bolton, 1994: 187; Grimaldi, Agosti & Carpenter, 1997: 7; Bolton, 2003: 261.

**Homonym replaced by \**DLUSSKYIDRIS***

\****Palaeomyrmex*** Dlussky, 1975: 118. Type-species: \**Palaeomyrmex zherichini*, by original designation.

**Taxonomic history**

[Junior homonym of \**Palaeomyrmex* Heer, 1865: 91 (Homoptera).]

\**Palaeomyrmex* in \*Sphecomyrminae: Dlussky, 1975: 118; Dlussky, 1983: 66.

\**Palaeomyrmex* in \*Sphecomyrmidae: Dlussky, 1987: 132; Dlussky & Fedoseeva, 1988: 77.

\**Palaeomyrmex* Dlussky as junior synonym of \**Sphecomyrma*: Wilson, 1987: 49; Hölldobler & Wilson, 1990: 9.

\**Palaeomyrmex* Dlussky as genus: Dlussky & Fedoseeva, 1988: 77; Carpenter, 1992: 493.

**Genus \*Dlusskyidris references**

Bolton, 1995b: 172 (catalogue); Grimaldi, Agosti & Carpenter, 1997: 9 (review of genus).

**Genus \**SPHECOMYRMA***

\****Sphecomyrma*** Wilson & Brown, in Wilson, Carpenter & Brown, 1967: 8. Type-species: \**Sphecomyrma freyi*, by original designation.

**Taxonomic history**

\**Sphecomyrma* in \*Sphecomyrmidae: Dlussky, 1987: 132; Dlussky & Fedoseeva, 1988: 77.

\**Sphecomyrma* in \*Sphecomyrminae: Wilson, Carpenter & Brown, 1967: 6; Wilson, 1987: 49; Hölldobler & Wilson, 1990: 9; Bolton, 1994: 187; Grimaldi, Agosti & Carpenter, 1997: 7; Bolton, 2003: 261.

**Genus \**Sphecomyrma* references**

Wilson, Carpenter & Brown, 1967: 12 (phylogeny); Wilson, 1987: 49 (review of genus); Bolton, 1995b: 392 (catalogue); Grimaldi, Agosti & Carpenter, 1997: 9 (review of genus); Engel & Grimaldi, 2005: 7 (diagnosis, species key).

**Genus \**SPHECOMYRMODES***

\****Sphecomyrmodes*** Engel & Grimaldi, 2005: 5. Type-species: \**Sphecomyrmodes orientalis*, by original designation.

**Taxonomic history**

\**Sphecomyrmodes* in \*Sphecomyrminae: Engel & Grimaldi, 2005: 5.

**Genus \**ZIGRASIMECIA***

\****Zigrasimecia*** Barden & Grimaldi, 2013: 407. Type-species: \**Zigrasimecia tonsora*, by original designation.

**Taxonomic history**

\**Zigrasimecia* in \*Sphecomyrminae: Barden & Grimaldi, 2013: 410.

**SUBFAMILY \*BROWNIMECIINAE**

**Subfamily \*BROWNIMECIINAE**

\***Brownimeciinae** Bolton, 2003: 75, 262. Type-genus: \**Brownimecia*.

**Taxonomic history**

\*Brownimeciinae as subfamily of Formicidae: Bolton, 2003: 75, 262; LaPolla, Dlussky & Perrichot, 2013: 621 (in text).

\*Brownimeciinae as poneroid subfamily of Formicidae: Ward, 2007a: 555.

**Tribe**: \*Brownimeciini

**Subfamily and tribe \*Brownimeciini references**

Bolton, 2003: 75, 262 (diagnosis, comments, synopsis).

**Tribe \*BROWNIMECIINI**

\***Brownimeciinae** Bolton, 2003: 75, 262. Type-genus: \**Brownimecia*.

**Taxonomic history**

\*Brownimeciini as tribe of \*Brownimeciinae: Bolton, 2003: 75.

**Genus (extinct) of \*Brownimeciini**: \**Brownimecia*

**Genus of \*Brownimeciini**

**Genus \**BROWNIMECIA***

\****Brownimecia*** Grimaldi, Agosti & Carpenter, 1997: 20. Type-species: \**Brownimecia clavata*, by original designation.

**Taxonomic history**

\**Brownimecia incertae sedis* in Ponerinae: Grimaldi, Agosti & Carpenter, 1997: 20.

\**Brownimecia* in \*Brownimeciinae, \*Brownimeciini: Bolton, 2003: 75, 262.

**Genus \**Brownimecia* references**

Engel & Grimaldi, 2005: 12 (diagnosis, comments).

**SUBFAMILY \*FORMICIINAE**

**Subfamily \*FORMICIINAE**

\***Formiciinae** Lutz, 1986: 181. Type-genus: \**Formicium*.

**Taxonomic history**

\*Formiciinae as subfamily of Formicidae: Lutz, 1986: 181; Lutz, 1990: 1; Hölldobler & Wilson, 1990: 17; Baroni Urbani, Bolton & Ward, 1992: 317; Bolton, 1994: 187; Bolton, 2003: 262.

\*Formiciinae as formicoid subfamily of Formicidae: Ward, 2007a: 557.

**Tribe**: \*Formiciini.

**Tribe \*FORMICIINI**

\***Formiciinae** Lutz, 1986: 181. Type-genus: \**Formicium*.

**Taxonomic history**

\*Formiciini as tribe of \*Formiciinae: Bolton, 1994: 187.

**Genus (extinct) of \*Formiciini**: \**Titanomyrma*.

**Collective group name in \*Formiciini**: \**Formicium*.

**Subfamily, tribe \*Formiciini and collective group name \**Formicium* references**

Lutz, 1986: 182 (diagnosis, all species revision, key, phylogeny); Hölldobler & Wilson, 1990: 24 (diagnosis); Lutz, 1990: 61 (subfamily synopsis; review of genus); Bolton, 1995b: 206 (catalogue); Bolton, 2003: 75, 262 (diagnosis, synopsis); Archibald, *et al*. 2011: 3680 (synopsis).

**Genera of \*Formiciini**

**Collective group name \**FORMICIUM***

\****Formicium*** Westwood, 1854: 393.

**Taxonomic history**

\**Formicium* in \*Pseudosiricidae: Handlirsch, 1906: 577; Abe & Smith, 1991: 34 (in error).

\**Formicium* in Formicidae: Cockerell, 1920: 279.

\**Formicium* in Formicidae, \*Formiciinae: Lutz, 1986: 181; Lutz, 1990: 61; Bolton, 1994: 187.

\**Formicium* as junior synonym of \**Pseudosirex*: Handlirsch, 1906: 577 (in error).

\**Formicium* as senior synonym of \**Pseudosirex*: Hölldobler & Wilson, 1990: 17 (in error).

\**Formicium* as genus: Cockerell, 1920: 279; Lutz, 1986: 182; Lutz, 1990: 61, all subsequent authors.

\**Formicium* as collective group name: Archibald, *et al*. 2011: 3681.

**Junior synonyms of \**FORMICIUM***

\****Megapterites*** Cockerell, 1920: 278. Type-species: \**Megapterites mirabilis*, by monotypy.

**Taxonomic history**

\**Megapterites* in \*Pseudosiricidae: Cockerell, 1920: 278; Abe & Smith, 1991: 53.

\**Megapterites* in Formicidae, \*Formiciinae: Lutz, 1990: 61.

\**Megapterites* as junior synonym of \**Formicium*: Lutz, 1990: 61.

\****Eoponera*** Carpenter, 1929: 301. Type-species: \**Eoponera berryi*, by original designation.

**Taxonomic history**

\**Eoponera* as junior synonym of \**Formicium*: Lutz, 1986: 189.

**Collective group name \**Formicium* references**: see above.

**Genus \**TITANOMYRMA***

***\*Titanomyrma*** Archibald, *et al*. 2011: 3680. Type-species: \**Formicium giganteum*, by original designation.

**Taxonomic history**

**\****Titanomyrma* in \*Formiciinae: Archibald, *et al*. 2011: 3680.

**FAMILY \*ARMANIIDAE**

**Family \*ARMANIIDAE**

\***Armaniidae** Dlussky, 1983: 66. Type-genus: \**Armania*.

**Taxonomic history**

\*Armaniidae as junior synonym of Formicidae: Wilson, 1987: 49; Carpenter, 1992: 491.

\*Armaniinae as subfamily of Formicidae: Bolton, 1994: 187; Dlussky, 1996: 83; Bolton, 2003: 73.

\*Armaniidae as family: Dlussky, 1983: 66 [\*Armaniidae]; Dlussky & Fedoseeva, 1988: 77; Grimaldi, Agosti & Carpenter, 1997: 7; Dlussky, 1999a: 63; Rasnitsyn, 2002: 249; Engel & Grimaldi, 2005: 4; LaPolla, Dlussky & Perrichot, 2013: 618 (in text).

\*Armaniinae as stem ant subfamily of Formicidae: Ward, 2007a: 555.

**Genera (extinct) of \*Armaniidae**: \**Archaeopone, \*Armania, \*Dolichomyrma, \*Khetania, \*Orapia, \*Poneropterus, \*Pseudarmania*.

**Family \*Armaniidae references**

Dlussky, 1983: 67 (genera and species key); Bolton, 1995b: 9 (catalogue); Bolton, 2003: 73, 259 (diagnosis, synopsis); LaPolla, Dlussky & Perrichot, 2013: 618 (discussion).

**Genera of \*Armaniidae**

**Genus \**ARCHAEOPONE***

\****Archaeopone*** Dlussky, 1975: 120. Type-species: \**Archaeopone kzylzharica*, by original designation.

**Taxonomic history**

\**Archaeopone* in Ponerinae: Dlussky, 1975: 120.

\**Archaeopone* in \*Armaniidae: Dlussky, 1983: 67; Dlussky & Fedoseeva, 1988: 77; Grimaldi, Agosti & Carpenter, 1997: 7.

\**Archaeopone* in \*Sphecomyrminae: Wilson, 1987: 49.

\**Archaeopone* in \*Armaniinae: Bolton, 1994: 187; Bolton, 2003: 259.

\**Archaeopone* as junior synonym of \**Sphecomyrma*: Wilson, 1987: 49; Hölldobler & Wilson, 1990: 9.

\**Archaeopone* as genus: Dlussky, 1975: 120; Dlussky, 1983: 67; Dlussky & Fedoseeva, 1988: 77; Carpenter, 1992: 491; Bolton, 1994: 187; Grimaldi, Agosti & Carpenter, 1997: 7; all subsequent authors.

**Genus \**Archaeopone* references**

Bolton, 1995b: 75 (catalogue); Grimaldi, Agosti & Carpenter, 1997: 5 (notes).

**Genus \**ARMANIA***

\****Armania*** Dlussky, 1983: 67. Type-species: \**Armania robusta*, by original designation.

**Taxonomic history**

\**Armania* in \*Armaniidae: Dlussky, 1983: 67; Dlussky & Fedoseeva, 1988: 77; Grimaldi, Agosti & Carpenter, 1997: 7.

\**Armania* in \*Sphecomyrminae: Wilson, 1987: 49.

\**Armania* in \*Armaniinae: Bolton, 1994: 187; Bolton, 2003: 259.

\**Armania* as junior synonym of \**Sphecomyrma*: Wilson, 1987: 49; Hölldobler & Wilson, 1990: 9.

\**Armania* as genus: Dlussky, 1983: 67; Dlussky & Fedoseeva, 1988: 77; Carpenter, 1992: 491; Bolton, 1994: 187; Grimaldi, Agosti & Carpenter, 1997: 7; all subsequent authors.

**Junior synonym of \**ARMANIA***

\****Armaniella*** Dlussky, 1983: 71. Type-species: \**Armaniella curiosa*, by original designation.

**Taxonomic history**

\**Armaniella* in \*Armaniidae: Dlussky, 1983: 67; Dlussky & Fedoseeva, 1988: 77; Grimaldi, Agosti & Carpenter, 1997: 7.

\**Armaniella* in \*Sphecomyrminae: Wilson, 1987: 49.

\**Armaniella* in \*Armaniinae: Bolton, 1994: 187.

\**Armaniella* as junior synonym of \**Sphecomyrma*: Wilson, 1987: 49; Hölldobler & Wilson, 1990: 9.

\**Armaniella* as genus: Dlussky, 1983: 71; Dlussky & Fedoseeva, 1988: 77; Carpenter, 1992: 491; Bolton, 1994: 187; Grimaldi, Agosti & Carpenter, 1997: 7.

\**Armaniella* as junior synonym of \**Armania*: Dlussky, 1999a: 63; Bolton, 2003: 259.

**Genus \**Armania* references**

Bolton, 1995b: 75 (catalogue); Grimaldi, Agosti & Carpenter, 1997: 5 (notes).

**Genus \**DOLICHOMYRMA***

\****Dolichomyrma*** Dlussky, 1975: 121. Type-species: \**Dolichomyrma longiceps*, by original designation.

**Taxonomic history**

\**Dolichomyrma incertae sedis* in Formicidae: Dlussky, 1975: 121.

\**Dolichomyrma* in \*Armaniidae: Dlussky, 1983: 66; Dlussky & Fedoseeva, 1988: 77; Grimaldi, Agosti & Carpenter, 1997: 7.

\**Dolichomyrma* in \*Sphecomyrminae: Wilson, 1987: 49.

\**Dolichomyrma* in \*Armaniinae: Bolton, 1994: 187.

\**Dolichomyrma* as junior synonym of \**Sphecomyrma*: Wilson, 1987: 49; Hölldobler & Wilson, 1990: 9.

\**Dolichomyrma* as genus: Dlussky, 1975: 121; Dlussky & Fedoseeva, 1988: 77; Carpenter, 1992: 491; Grimaldi, Agosti & Carpenter, 1997: 7; all subsequent authors.

**Genus \**Dolichomyrma* references**

Bolton, 1995b: 177 (catalogue); Grimaldi, Agosti & Carpenter, 1997: 5 (notes).

**Genus \**KHETANIA***

\****Khetania*** Dlussky, 1999a: 65. Type-species: \**Khetania mandibulata*, by original designation.

**Taxonomic history**

\**Khetania* in \*Armaniidae: Dlussky, 1999a: 65.

\**Khetania* in \*Armaniinae: Bolton, 2003: 260.

**Genus \**ORAPIA***

\****Orapia*** Dlussky, Brothers & Rasnitsyn, 2004: 2. Type-species: \**Orapia rayneri*, by original designation.

**Taxonomic history**

\**Orapia* in \*Armaniinae: Dlussky, Brothers & Rasnitsyn, 2004: 2.

**Genus \**Orapia* references**

Archibald, Cover & Moreau, 2006: 510 (discussion of taxonomy).

**Genus \**PONEROPTERUS***

\****Poneropterus*** Dlussky, 1983: 73. Type-species: \**Poneropterus sphecoides*, by original designation.

**Taxonomic history**

\**Poneropterus* in \*Armaniidae: Dlussky, 1983: 67; Dlussky & Fedoseeva, 1988: 77; Grimaldi, Agosti & Carpenter, 1997: 7.

\**Poneropterus* in \*Sphecomyrminae: Wilson, 1987: 49.

\**Poneropterus* in \*Armaniinae: Bolton, 1994: 187; Bolton, 2003: 260.

\**Poneropterus* as junior synonym of \**Sphecomyrma*: Wilson, 1987: 49; Hölldobler & Wilson, 1990: 9.

\**Poneropterus* as genus: Dlussky & Fedoseeva, 1988: 77; Carpenter, 1992: 494; Grimaldi, Agosti & Carpenter, 1997: 7; all subsequent authors.

**Genus \**Poneropterus* references**

Bolton, 1995b: 363 (catalogue); Grimaldi, Agosti & Carpenter, 1997: 5 (notes).

**Genus \**PSEUDARMANIA***

\****Pseudarmania*** Dlussky, 1983: 69. Type-species: \**Pseudarmania rasnitsyni*, by original designation.

**Taxonomic history**

\**Pseudarmania* in \*Armaniidae: Dlussky, 1983: 67; Dlussky & Fedoseeva, 1988: 77; Grimaldi, Agosti & Carpenter, 1997: 7.

\**Pseudarmania* in \*Sphecomyrminae: Wilson, 1987: 49.

\**Pseudarmania* in \*Armaniinae: Bolton, 1994: 187.

\**Pseudarmania* as junior synonym of \**Sphecomyrma*: Wilson, 1987: 49; Hölldobler & Wilson, 1990: 9.

\**Pseudarmania* as genus: Dlussky, 1983: 69; Dlussky & Fedoseeva, 1988: 77; Carpenter, 1992: 494 [misspelled as \**Pseudoarmania*]; Grimaldi, Agosti & Carpenter, 1997: 7; all subsequent authors.

**Genus \**Pseudarmania* references**

Bolton, 1995b: 369 (catalogue); Grimaldi, Agosti & Carpenter, 1997: 5 (notes).