

FAMILY GROUP NAMES AND CLASSIFICATION

and taxa excluded from Sphecidae sensu lato

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Compiled by

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The family and tribe level classification used below follows the findings of Brothers (1999), Melo (1999), and Prentice (1998, unpublished Ph.D. thesis, validated by Hanson and Menke, 2006). Their systems differ at the tribal level, and that of Prentice is accepted here as it is based on a much larger data set, but his one new tribe and one new subtribe are not included since they were not published. The classification of Ampulicidae is as proposed by Ohl and Spahn, 2009, the classification of Bembicinae follows Nemkov and Lelej, 2013, and the authorship of Palarini and Xenosphecini is as corrected by Menke and Pulawski (2002). Because Dinetinae have a single tribe I am not using this category for them. The names, authorship, dates, stems, and other pertinent information, are from Menke (1997), who was advised by Don Cameron, a Latin and Greek scholar at the University of Michigan, about the proper formation of names. All genera described subsequent to Bohart and Menke (1976) have been added (both extant and fossil), and recently established synonymies are indicated.

The recent cladistic analyses of Hymenoptera by Branstetter et al (2017) and by Peters and al. (2017) are not considered here, as they took into account only a limited representation of Sphecidae s.l., and they have not changed the established classification. On the other hand, Sann, Niehuis, Peters, Mayer, Kozlov, Podsiadlowski, Bank, Meusemann, Misof, Bleidorn, and Ohl (2018) proposed a radically new classification of the traditional Sphecidae s.l. They recognized the following 10 families: Ammoplanidae, Ampulicidae, Astatidae, Bembicidae, Crabronidae, Mellinidae, Pemphredonidae, Philanthidae, Psenidae, and Sphecidae (with Heterogynaidae included into Bembicidae, and Entomosericini and Eremiasphecinae omitted from the analysis). The last two tribes were raised to families by Sann, Meusemann, Niehuis, Escalona, Mokrousov, Ohl, Paul, and Schmid-Egger, 2021. This classification is not accepted here because: 1. it was based on molecular characters only, to the exclusion of morphological characters, 2. it is likely to change with the next phylogenetic/phylogenomic analysis, 3. recognition of so many families is an exaggeration, and 4. stability of nomenclature has been threatened.

Menke (1997) commented that “Ammophilomorpha, Sphecinomorpha, and Palmodomorpha could be construed as valid [correctly: available] since they are based on generic names with -morpha endings”. Article 11.7.1.3 of the Code (Fourth Edition) leaves no doubt that these names are available, with their original authorship and date, but with a correct suffix (as specified in Article 29.2).

Engel (2005) reviewed all the family group names of Apoidea (including Sphecidae sensu lato treated here) (Family-group names for bees (Hymenoptera: Apoidea). American Museum Novitates 3476:33 pp.).

Extant families are listed below in the presumed phylogenetic order, whereas subfamilies and tribes are listed alphabetically within each family, as are the subtribes within each tribe. The dagger symbol (†) indicates fossil taxa.

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Superfamily: Apoidea

Apoidea Latreille, 1802a:425 (April), as Apiariae. Based on *Apis* Linnaeus, 1758 (stem: *Ap-*).

Sphecoidea Latreille, 1802b:331 (November). Based on *Sphex* Linnaeus, 1758 (stem: *Sphec-*).

Family: Heterogynaidae

Ohl's and Bleidorn's (2006) molecular cladistic analysis suggests that Heterogynaidae are members of Crabronidae. Sann et al., 2018 in their molecular cladistic analysis, confirm this opinion.

Heterogynaidae Nagy, 1969:7. Based on *Heterogyna* Nagy, 1969 (stem: *Heterogyna-*). Originally spelled Heterogynidae (stem: *Heterogyn-*), a junior homonym of Heterogynidae Rambur, 1866, based on *Heterogynis* Rambur, 1837. Both family name and stem emended by International Commission on Zoological Nomenclature, 1987:150, in Opinion 1445, as proposed by Day, 1985b:385.

Subfamily: †Apodolichurinae Antropov, 2000. Based on *Apodolichurus* Antropov, 2000 (stem: *Apodolichur-*). Originally described as tribe Apodolichurini in Ampulicidae, transferred to Heterogynaidae and raised to subfamily by B. Rosa and Melo, 2021:28.

Included genus: †*Apodolichurus* Antropov, 2000.

Subfamily: Heterogynainae Nagy, 1969:7. Based on *Heterogyna* Nagy, 1969 (stem: *Heterogyna-*). Originally spelled Heterogynidae (stem: *Heterogyn-*), a junior homonym of Heterogynidae Rambur, 1866, based on *Heterogynis* Rambur, 1837. Both family name and stem emended by International Commission on Zoological Nomenclature, 1987:150, in Opinion 1445, as proposed by Day, 1985b:385.

Included genus: *Heterogyna* Nagy, 1969 (= *Daycatinca* Argaman, 1985, = *Daya* Antropov and Gorbatovskiy, 1992).

Subfamily: †Ptilocosminae B. Rosa and Melo, 2021:29. Based on *Ptilocosmus* B. Rosa and Melo, 2021:29 (stem: *Ptilocosm-*).

Included genera: †*Aulacosmus* B. Rosa and Melo, 2021, †*Ptilocosmus* B. Rosa and Melo, 2021, †*Thigmocosmus* B. Rosa and Melo, 2021.

Family: Ampulicidae

Ampulicidae Shuckard, 1840:178, 180. Based on *Ampulex* Jurine, 1807 (stem: *Ampulic-*).

Subfamily: Ampulicinae Shuckard, 1840:178, 180. Based on *Ampulex* Jurine, 1807 (stem: *Ampulic-*).

Tribe: Ampulicini Shuckard, 1840:178, 180. Based on *Ampulex* Jurine, 1807 (stem: *Ampulic-*).

Included genera: *Ampulex* Jurine, 1807, *Trirogma* Westwood, 1841

Tribe: †**Cretampulicini** Antropov, 2000a. Based on *Cretampulex* Antropov, 2000a (stem: *Cretampulic-*).

Included genus: †*Cretampulex* Antropov, 2000.

Tribe: †**Mendampulicini** Antropov, 2000. Based on *Mendampulex* Antropov, 2000 (stem: *Mendampulic-*).

Included genus: †*Mendampulex* Antropov, 2000.

Subfamily: **Dolichurinae** Dahlbom, 1842:3. Based on *Dolichurus* Latreille, 1809 (stem: *Dolichur-*). Originally spelled Dolichuridae. Menke (1997:250) incorrectly attributed authorship to Lepeletier de Saint Fargeau, 1845.

Tribe: **Aphelotomini** Ohl and Spahn, 2009. Based on *Aphelotoma* Westwood, 1841 (stem: *Aphelotom-*).

Included genera: *Aphelotoma* Westwood, 1841, *Riekefella* Özdikmen, 2005 (= *Austrotoma* Riek, 1955 nec *Austrotoma* Finlay, 1924, fossil Mollusca).

Tribe: **Dolichurini** Dahlbom, 1842:3. Based on *Dolichurus* Latreille, 1809 (stem: *Dolichur-*). Originally spelled Dolichuridae. Menke (1997:250) incorrectly attributed authorship to Lepeletier de Saint Fargeau, 1845.

Included genera: *Dolichurus* Latreille, 1809, *Paradolichurus* F. Williams, 1960, †*Protodolichurus* Nemkov, 1988.

Tribe unknown within Ampulicidae

†*Cariridris* Brandão and Martins-Neto, 1990:201, †*Longivenula* Zhang, 1989.

Family: Sphecidae (sensu stricto)

Sphecidae Latreille, 1802b:331 (November). Based on *Sphex* Linnaeus, 1758 (stem: *Sphec-*). Originally spelled Sphegimes, latinized to Sphegineae by Fallén, 1812:129, to Sphecida and Sphecides by Leach, 1812 (Edinb. Encycl.), and to Sphegidae by Westwood, 1840 (Introd. Class. Ins.). Fernald (1905:166) and Tillyard (1926:300) first demonstrated the proper stem.

The molecular cladistic analysis by Sann et al., 2018 suggests that Sphecidae are members of Crabronidae.

Subfamily: **Ammophilinae** André, 1886:50 (originally spelled Ammophilidae). Based on *Ammophila* Kirby, 1798 (stem: *Ammophil-*).

= *Acutoclypeata* Ohl, 1996:32. Not available: not based on any of the included genera (Article 11.7.1). Genera of *Acutoclypeata*: *Eremnophila*, *Hoplammophila*.

= *Ammophilomorpha* Ohl, 1996:35 (correct spelling: Ammophilinae). Based on *Ammophila* Kirby, 1798 (stem: *Ammophil-*). Synonym and junior homonym of Ammophilinae André, 1886. Genera of *Amophilomorpha*: *Ammophila*, *Eremochares*, *Parapsammophila*, *Podalonia*.

Included genera: *Ammophila* W. Kirby, 1798, *Eremnophila* Menke, 1964, *Eremochares* Gribodo, 1883, *Hoplammophila* de Beaumont, 1960, *Parapsammophila* Taschenberg, 1869, *Podalonia* Fernald, 1927.

Subfamily: **Chloriontinae** Fernald, 1905:166. Based on *Chlorion* Latreille, 1802 (stem: *Chloriont-*). Originally spelled Chlorioninae.

Included genus: *Chlorion* Latreille, 1802.

Subfamily: Sceliphrinae Ashmead, 1899:349 (1815). Based on *Sceliphron* Klug, 1801 (stem: *Sceliph-*). Originally spelled Sceliphroninae. Menke (1997) retained the name, a junior synonym of Pelopeini Leach, 1815, as valid because of its nearly universal use (Article 40.2.1 of the Code).

= Pelopoeinae Leach, 1815:150. Based on *Pelopoeus* Latreille, 1802. Originally spelled Pelopaeida.

= Lutifera Ohl, 1996:19. Not available: not based on any of the included genera (Article 11.7.1). Include Podiini + Sceliphriini.

Tribe: Podiini de Saussure, 1892. Based on *Podium* Fabricius, 1804 (stem: *Podi-*). Originally spelled *Podiites*, latinized to Podiinae by Ashmead, 1899:348.

Included genera: *Dynatus* Lepeletier de Saint Fargeau, 1845, *Penepodium* Menke in R. Bohart and Menke, 1976, *Podium* Fabricius, 1804, *Trigonopsis* Perty, 1833.

Tribe: †Protosceliphriini Antropov, 2014. Based on *Protosceliphron* Antropov, 2014 (stem: Protosceliph-).

Included genus: †*Protosceliphron* Antropov, 2014

Tribe: Sceliphriini Ashmead, 1899 (1815).

Included genera: *Chalybion* Dahlbom, 1843, †*Hoplisia* Cockerell, 1906, *Sceliphron* Klug, 1801.

Subfamily: Sphecinae Latreille, 1802b:331. Based on *Sphex* Linnaeus, 1758.

= *Sphecinomorpha* Ohl, 1996:24 (correct spelling: *Sphecini*). Based on *Sphex* (stem: *Sphex-*). Synonym and junior homonym of Sphecini Latreille, 1802. Include *Stangeella* + *Eusphecinomorpha* Ohl, 1996:26 (the latter is not available: not based on any of the included genera; Article 11.7.1).

Tribe: Prionychini Bohart and Menke, 1963:94, 141. Based on *Prionyx* Vander Linden, 1827 (stem: *Prionych-*). Originally spelled Prionyxina.

= *Palmodomorpha* Ohl, 1996:29 (correct spelling: *Palmodini*). Based on *Palmodes* Kohl, 1890 (stem: *Palmod-*). Genera of *Palmodomorpha*: *Chilosphex*, *Palmodes*.

Included genera: *Chilosphex* Menke in R. Bohart and Menke, 1976, *Palmodes* Kohl, 1890, *Prionyx* Vander Linden, 1827.

Tribe: Sphecini Latreille, 1802b: 331. Based on *Sphex* Linnaeus, 1758.

= *Ammobiini* Krombein in Krombein and Burks, 1967. Based on *Ammobia* Billberg, 1820, a junior synonym of *Sphex* (stem: *Ammobi-*). A junior homonym of *Ammobiini* Desbrochers des Loges, 1903 (which is a synonym of *Opatrini* Brullé, 1832), a tribe in Tenebrionidae.

= *Eusphecinomorpha* Ohl, 1996:26. Not available: not based on any of the included genera (Article 11.7.1). Include Ohl's Sphecini + *Ammophilini*.

Included genera: *Isodontia* Patton, 1880, *Sphex* Linnaeus, 1758.

Tribe: Stangeellini Bohart and Menke, 1976:87. Based on *Stangeella* Menke, 1962 (stem: *Stangeell-*).

Included genus: *Stangeella* Menke, 1962.

Family: Crabronidae

Crabronidae Latreille, 1802b:340. Based on *Crabro* Fabricius, 1775 (stem: *Crabron-*). Originally spelled Crabronites, latinized to Crabronida by Leach, 1812 (Edinb. Encycl.). Four other names of Latreille (1802b) were available for this family, but Acloque (1897:80) used Crabronidi acting as first reviser.

= Thyreopidae J.Ch. Bradley, 1919a:69. Based on *Thyreopus* Lepeletier de Saint Fargeau and Brullé, 1835 (stem : *Thyreop-*). Omitted from Menke, 1997.

Subfamily: Astatinae Lepeletier de Saint Fargeau, 1845:231. Based on *Astata* Latreille, 1796 (stem: *Astat -*). Originally spelled Astatites, latinized to Astatii by de Saussure, 1867:65.

= Diploplectrini W. Fox, 1894:302. Based on *Diploplectron* W. Fox, 1893 (stem: *Diploplectr-*).

= Dimorphini Brues and Melander, 1932:503. Based on *Dimorpha* Panzer, 1806 (stem: *Dimorph-*)

Tribe: Astatini Lepeletier de Saint Fargeau, 1845:231. Based on *Astata* Latreille, 1796 (stem: *Astat -*). Originally spelled Astatites, latinized to Astatii by de Saussure, 1867:65.

Included genera: *Astata* Latreille, 1796 (= *Dimorpha* Panzer, 1806), *Diploplectron* W. Fox, 1893, *Dryudella* Spinola, 1843, *Uniplectron* F. Parker, 1966.

Tribe: †Cretastatini B. Rosa and Melo, 2021:8. Based on *Cretastatus* B. Rosa and Melo, 2021:9 (stem *Cretastat-*).

Included genus: †*Cretastatus* B. Rosa and Melo, 2021:9.

Subfamily: Bembicinae Latreille, 1802b:365. Based on *Bembex* Fabricius, 1777 [correctly *Bembix* Fabricius, 1775] (stem: *Bembi-*). Originally spelled Bembiciles, latinized to Bembecinae by Fallén, 1813.

Tribe: Alyssontini Dalla Torre, 1897:562. Based on *Alysson* Panzer, 1806 (stem: *Alyssont-*). Originally spelled Alysoninae, based on *Alyson* Jurine, 1807.

Included genera: *Alysson* Panzer, 1806, *Analysson* Krombein, 1985, *Didineis* Wesmael, 1852.

Tribe: Bembicini Latreille, 1802b:365. Based on *Bembex* Fabricius, 1777 [correctly *Bembix* Fabricius, 1775] (stem: *Bembi-*).

Subtribe: Bembicina Latreille, 1802b:365. Based on *Bembex* Fabricius, 1777 [correctly *Bembix* Fabricius, 1775] (stem: *Bembi-*).

Included genera: *Bembix* Fabricius, 1775, *Bicyrtes* Lepeletier de Saint Fargeau, 1845, *Carlobembix* Willink, 1958, *Editha* J. Parker, 1929, *Hemidula* Burmeister, 1874, *Microbembex* Patton, 1979c, *Rubrica* J. Parker, 1929, *Selman* J. Parker, 1929, *Stictia* Illiger, 1807, *Trichostictia* J. Parker, 1929, *Zyzzyx* Pate, 1937.

Subtribe: Exeirina de Dalla Torre, 1897:534. Based on *Exeirius* Shuckard, 1838 (stem: *Exeir-*).

Prentice (1998) recognized the subtribe Clitemnestrina, which is a junior synonym of *Exeirina*, with the following genera included: *Clitemnestra*, *Olgia*, and *Exeirius*. I regard this as synonymizing *Exeirina* with *Clitemnestrina* and *Olgiina*.

= *Exirina* W. Schulz, 1906:199. Based on *Exirus* W. Schulz, 1906 (stem: *Exir-*). Unjustified emendation of *Exeirina* de Dalla Torre.

- = Clitemnestrina Nemkov and Lelej, 1996:11. Based on *Clitemnestra* Spinola, 1851 (stem: *Clitemnestr-*). Synonymy resulting from Prentice's classification of 1998.
- = Olgina Nemkov and Lelej, 1996:11. Based on *Olgia* Radoszkowski, 1877 (stem: *Olgi-*). Synonymy resulting from Prentice's classification of 1998.
- = Argogorytina Nemkov and Lelej, 1996:11. Based on *Argogorytes* Ashmead, 1899 (stem: *Argogoryt-*). Synonymized with *Exeirina* by Nemkov and Ohl, 2011:39.

Included genera: *Argogorytes* Ashmead, 1899 (= *Malaygorytes* Nemkov, 1999), *Clitemnestra* Spinola, 1851 (= *Ochleroptera* Holmberg, 1903), *Exeirina* Shuckard, 1838, *Neogorytes* R. Bohart in R. Bohart and Menke, 1976, *Olgia* Radoszkowski, 1877, *Paraphilanthus* Vardy, 1995.

Subtribe: Gorytina Lepeletier de Saint Fargeau, 1845. Based on *Gorytes* Latreille, 1805 (stem: *Goryt-*). Originally spelled Gorytites, latinized to Gorytinae by Dalla Torre, 1897:535. Spelled Goritini by A. Costa, 1859:3, 26, 53 (Italian vernacular), and Gorytesii by Acloque, 1897:80.

- = Arpactini R. Turner, 1915:67. Based on *Arpactus* Panzer, 1805 (stem: *Arpact-*).
- = Hoplisini Rohwer, 1916:654,656. Based on *Hoplisus* Lepeletier de Saint Fargeau, 1832 (stem: *Hoplis-*).
- = Trichogorytina Nemkov and Pulawski, 2009. Based on *Trichogorytes* Rohwer, 1912 (stem: *Trichogoryt-*). Synonymized with Gorytina by Nemkov and Ohl, 2011:39.

Included genera: *Afrogorytes* Menke, 1967, *Allogorytes* R. Bohart, 2000, *Arigorytes* Rohwer, 1912, *Aroliagorytes* R. Bohart, 2000, *Austrogorytes* R. Bohart, 1967, †*Biamogorytes* Nemkov, 1990, *Eogorytes* R. Bohart in Bohart and Menke, 1976, *Epigorytes* R. Bohart, 2000, *Gorytes* Latreille, 1805 (= *Pseudoplisus* Ashmead, 1899, = *Leiogorytes* R. Bohart, 2000), *Hapalomellinus* Ashmead, 1899, *Harpactostigma* Ashmead, 1899, *Harpactus* Shuckard, 1837, *Hoplisoides* Gribodo, 1884, *Lestiphorus* Lepeletier de Saint Fargeau, 1832, *Leurogorytes* R. Bohart, 2000, *Liogorytes* R. Bohart, 1967, *Megistommum* W. Schulz, 1906, *Oryttus* Spinola, 1836, *Psammaecius* Lepeletier de Saint Fargeau, 1832, *Psammaletes* Pate, 1936, *Sagenista* R. Bohart, 1967, *Saygorytes* Nemkov, 2007, *Stenogorytes* Schrottky, 1911 (= *Neoplisus* R. Bohart, 1967), *Stethogorytes* R. Bohart, 2000, *Tretogorytes* R. Bohart, 2000, *Trichogorytes* Rohwer, 1912, *Xerogorytes* R. Bohart in Bohart and Menke, 1976.

Subtribe: Handlirschiina Nemkov and Lelej, 1996:12. Based on *Handlirschia* Kohl, 1897 (stem: *Handlirschi-*).

Included genera: *Handlirschia* Kohl, 1897, *Pterygorytes* R. Bohart, 1967.

Subtribe: Spheciina Nemkov and Ohl, 2011:39. Based on *Sphecius* Dahlbom, 1843 (stem: *Spheci-*).

Included genera: *Ammatomus* A. Costa, 1859, *Kohlia* Handlirsch, 1895, *Sphecius* Dahlbom, 1843, *Tanyoprymnus* Cameron, 1905.

Subtribe Stictiellina R. Bohart and Horning, 1971. Based on *Stictiella* Parker, 1917 (stem: *Stictiell-*). Synonymized with Bembicini by R. Bohart and Menke, 1976:534, resurrected as valid tribe by Nemkov and Ohl, 2011:40.

Included genera: *Chilostictia* Gillaspy, 1983, *Glenostictia* Gillaspy in Gillaspy, Evans, and Lin, 1962, *Microstictia* Gillaspy, 1963, *Steniolia* Say, 1837, *Stictiella* J. Parker, 1917, *Xerostictia* Gillaspy, 1963.

Subtribe: Stizina A. Costa, 1859:2, 4, 55. Based on *Stizus* Latreille, 1802 (stem: *Stiz-*).

Included genera: *Bembecinus* A. Costa, 1859, *Stizoides* Guérin-Méneville, 1844, *Stizus* Latreille, 1802.

Tribe: †**Discoscapi** Poinar, 2020:2. Based on *Discoscapa* (stem: *Discoscap-*). Described as family, downgraded to tribe within Crabroninae by B. Rosa and Melo, 2021:3

Included genus: *Discoscapa* Poinar, 2020.

Tribe: **Heliocausini** Handlirsch, 1925:807. Based on *Heliocausus* Kohl, 1892 (stem: *Heliocaus-*).

Included genera: *Acanthocausus* Fritz and Toro, 1977, *Heliocausus* Kohl, 1892, *Tiguipa* Fritz and Toro, 1976.

Tribe: **Nyssonini** Latreille, 1804:180. Based on *Nysson* Latreille, 1802 (stem: *Nysson-*, ruled to be *Nysson-* by International Commission on Zoological Nomenclature, 1979, Opinion 1115). Originally spelled *Nyssonii*, corrected to *Nyssoninae* by Dalla Torre, 1897:566.

Subtribe: **Nurseina** Nemkov and Lelej, 2013. Based on *Nursea* Cameron, 1902 (stem: *Nurse-*).

Included genera: *Nippononysson* Yasumatsu and Maidl, 1936, *Nursea* Cameron, 1902,

Subtribe: **Nyssonina** Latreille, 1804:180. Based on *Nysson* Latreille, 1802 (stem: *Nysson-*, ruled to be *Nysson-* by International Commission on Zoological Nomenclature, 1979, Opinion 1115). Originally spelled *Nyssonii*, corrected to *Nyssoninae* by Dalla Torre, 1897:566.

Included genera: *Acanthostethus* Smith, 1869, *Antomartinezius* Fritz, 1955, *Brachystegus* A. Costa, 1859, *Cresson* Pate, 1938, *Epinysson* Pate, 1935, *Foxia* Ashmead, 1898, *Hovanysson* Arnold, 1945, *Hyponysson* Cresson, 1882, *Idionysson* Pate, 1940, *Losada* Pate, 1940, *Metanysson* Ashmead, 1899, *Neonysson* R. Bohart, 1968, *Nysson* Latreille, [1802] (= *Symevrus* A. Costa, 1859), *Perisson* Pate, 1938, *Zanysson* Rohwer, 1921.

Tribe: †**Megaroliini** B. Rosa and Melo, 2021:12. Based on *Megarolium* B. Rosa and Melo, 2021:13 (stem: *Megaroli-*).

Included genus: †*Megarolium* B. Rosa and Melo, 2021:13.

Tribe: †**Pristinopterini** B. Rosa and Melo, 2021:14. Based on *Pristinopterus* B. Rosa and Melo, 2021:15 (stem: *Pristinopter-*).

Included genus: †*Pristinopterus* B. Rosa and Melo, 2021:15.

Subfamily: **Crabroninae** Latreille, 1802. Based on *Crabro* Fabricius, 1775 (stem: *Crabron-*). Originally spelled *Crabronites*.

Tribe: **Bothynostethini** W. Fox, 1894:302. Based on *Bothynostethus* Kohl, 1884 (stem: *Bothynosteth-*).

Subtribe: **Bothynostethina** W. Fox, 1894. Based on *Bothynostethus* Kohl, 1894 (stem: *Bothynosteth-*).

Included genera: *Bothynostethus* Kohl, 1894, *Sanaviron* Vardy, 1987, *Willinkiella* Menke, 1968.

Subtribe: **Scapheutina** Menke, 1968:91. Based on *Scapheutes* Handlirsch, 1887 (stem: *Scapheut-*).

Included genera: *Bohartella* Menke, 1968, *Scapheutes* Handlirsch, 1887.

Tribe: **Crabronini** Latreille, 1802. Based on *Crabro* Fabricius, 1775 (stem: *Crabron-*). Originally spelled *Crabronites*.

Subtribe: **Anacrabronina** Ashmead, 1899:163. Based on *Anacrabro* Packard, 1866 (stem: *Anacrabron-*).

= *Karossiina* Pate, 1936:151. Based on *Karossia* Arnold, 1929 (stem: *Karossi-*).

Included genera: *Anacrabro* Packard, 1866, *Encopognathus* Kohl, 1897, *Entomocrabro* Kohl, 1905, *Entomognathus* Dahlbom, 1844.

Subtribe: Crabronina Latreille, 1802.

- = Lindeniina Ashmead, 1899:163. Based on *Lindenius* Lepeletier de Saint Fargeau and Brullé, 1834 (stem: *Lideni*-).
- = Thyreopodina Ashmead, 1899:164. Based on *Thyreopus* Lepeletier de Saint Fargeau and Brullé, 1845 (stem: *Thyreopod*-). Originally spelled Thyreopinae. Thyreocopidae of Strickland, 1947:127 is probably a misspelling.
- = Rhopalina Ashmead, 1899:164. Based on *Rhopalum* Stephens, 1829 (stem: *Rhopal*-). Junior homonym of Rhopalidae Amyot and Serville, 1843, based on *Rhopalus* Schilling, 1827 (Heteroptera).
- = Soleniina Bradley, 1926:1029. Based on *Solenius* Lepeletier de Saint Fargeau and Brullé, 1835 (stem: *Soleni*-).
- = Pemphilidina Pate, 1935:246. Based on *Pemphilis* Risso, 1826 (stem: *Pemphilid*-). Originally spelled Pemphilidae.

Included genera: *Alinia* Antropov, 1993, *Arnoldita* Pate, 1948, *Chimila* Pate, 1944, *Chimiloides* Leclercq, 1951, *Crabro* Fabricius, 1775, *Crorhopalum* Tsuneki, 1984, *Crossocerus* Lepeletier de Saint Fargeau and Brullé, 1835 (= *Towada* Tsuneki, 1970), *Dasyproctus* Lepeletier de Saint Fargeau and Brullé, 1835, *Echucoides* Leclercq, 1957, *Ectemnius* Dahlbom, 1845 (= *Spadicocrabro* Tsuneki, 1990), *Enoplolindenius* Rohwer, 1911, *Eupliloides* Pate, 1946, *Foxita* Pate, 1942 (= *Taruma* Pate, 1944), *Hingstoniola* Turner and Waterston, 1926, *Holcorhopalum* Cameron, 1904, *Huacrabro* Leclercq, 2000, *Huavea* Pate, 1948, *Isorhopalum* Leclercq, 1963, *Krombeinictus* Leclercq, 1996, *Leclercqia* Tsuneki, 1968, *Lecrenierus* Leclercq, 1977, *Lestica* Billberg, 1820, *Lindenius* Lepeletier de Saint Fargeau and Brullé, 1835, †*Lindocerus* Antropov, 2016, *Minicrabro* Leclercq, 2003, *Moniaecera* Ashmead, 1899, *Neodasyproctus* Arnold, 1926, *Notocrabro* Leclercq, 1951, *Odontocrabro* Tsuneki, 1971, *Pae* Pate, 1944 (= *Lamocrabro* Leclercq, 1951), *Papurus* Tsuneki, 1983, *Parataruma* Kimsey, 1982, *Pericrabro* Leclercq, 1954, *Piyuma* Pate, 1944b, *Piyumoides* Leclercq, 1963, *Podagritoides* Leclercq, 1957, *Podagritus* Spinola, 1851, *Pseudoturneria* Leclercq, 1954, *Quexua* Pate, 1942, *Rhopalum* Stephens, 1829, *Tracheliodes* A. Morawitz, 1866, *Tsunekiola* Antropov, 1986, *Vechtia* Pate, 1944, *Williamsita* Pate, 1947, *Zutrhopalum* Leclercq, 1998.

Tribe: Larrini Latreille, 1810:289, 438. Based on *Larra* Fabricius, 1793 (stem: *Larr*-).

= Larradini de Saussure, 1892:471. Based on *Larrada* F. Smith, 1856 (stem: *Larrad*-).

Subtribe: Gastrosericina André, 1886:51. Based on *Gastrosericus* Spinola, 1838 (stem: *Gastroseric*-). Originally spelled Gasteroserididae, corrected to Gastrosericidae by André, 1888:211.

= Tachytina G. Bohart, 1951:945. Based on *Tachytes* Panzer, 1806 (stem: *Tachyt*-).

Included genera: *Gastrosericus* Spinola, 1839, *Holotachysphex* de Beaumont, 1940, *Kohliella* Brauns, 1910, *Larropsis* Patton, 1892, *Parapiagetia* Kohl, 1897, *Prosopigastra* A. Costa, 1867, *Tachysphex* Kohl, 1883, *Tachytella* Brauns, 1906, *Tachytes* Panzer, 1806.

Subtribe: Larrina Latreille, 1810. Based on *Larra* Fabricius, 1793 (stem: *Larr*-).

Included genera: *Dalara* Ritsema, 1884, *Dicranorhina* Shuckard, 1840, *Larra* Fabricius, 1793, *Liris* Fabricius, 1804, *Megalara* Kimsey and Ohl, 2012, *Paraliris* Kohl, 1884.

Tribe: †Megaroliini B. Rosa and Melo, 2021:12. Based on *Megarolium* B. Rosa and Melo, 2021 (stem: *Megaroli*-).

Included genus: †*Megarolium* B. Rosa and Melo, 2021.

- Tribe: Miscophini** W. Fox, 1894:302. Based on *Miscophus* Jurine, 1807 (stem: *Miscoph-*).
= Lyrodini W. Fox, 1895:302. Based on *Lyroda* Say, 1837 (stem: *Lyrod-*).
= Sericophorini Dalla Torre, 1897:577. Based on *Sericophorus* F. Smith, 1851 (stem: *Sericophor-*).
= Nitelini Dalla Torre, 1897:697. Based on *Nitela* Latreille, 1809 (stem: *Nitel-*).
= Paranyssontini R. Turner, 1914:337. Based on *Paranysson* Guérin-Méneville, 1844 (stem: *Paranyssont-*). Originally spelled Paranyssoninae.

Included genera: *Aha* Menke, 1977, *Auchenophorus* R. Turner, 1907, *Larrissa* Pulawski, 2012, *Larrisson* Menke, 1967, *Lyroda* Say, 1837, *Miscophoidellus* Menke in Bohart and Menke, 1976, *Miscophoides* Brauns in Kohl, 1897, *Miscophus* Jurine, 1807, *Namiscophus* Lomholdt, 1985, *Nitela* Latreille, 1809, *Paranysson* Guérin-Méneville, 1844, *Plenoculus* W. Fox, 1893, *Saliostethoides* Arnold, 1924, *Saliostethus* Brauns in Kohl, 1897, *Sericophorus* F. Smith, 1851, *Solierella* Spinola, 1851, *Sphodrotes* Kohl, 1889.

- Tribe: Oxybelini** Leach, 1815:152. Based on *Oxybelus* Latreille, 1796 (stem: *Oxybel-*). Originally spelled Oxybellida.

Included genera: *Belarnoldus* Antropov, 2007, *Belokohlus* Antropov, 2007, *Belomicrinus* Antropov, 2000, *Belomicroides* Kohl, 1899, *Belomicrus* A. Costa, 1871, *Brimocelus* Arnold, 1927, *Enchemicrum* Pate, 1929, *Gessus* Antropov, 2001, *Guichardus* Antropov, 2007, *Minimicroides* Antropov, 2000, *Nototis* Arnold, 1927, *Oxybelochardus* Hamodee and Shafeeq, 2023, *Oxybelomorpha* Brauns, 1897, *Oxybelus* Latreille, 1797, *Pseudomicroides* Antropov, 2001, *Wojus* Antropov, 1999.

- Tribe: Palarini** Schrottky, 1909:249. Based on *Palarus* Latreille, 1802 (stem: *Palar-*). Originally spelled Palaridae, also used by Ruiz Pereira, 1924:102.
= Palarini Börner, 1919:185. Based on *Palarus* Latreille, 1802 (stem: *Palar-*).
= Mesopalarini Lomholdt, 1985:22. Based on *Mesopalarus* Brauns, 1899 (stem: *Mesopalar-*). Synonymized with Palarini by Pulawski and Prentice (2008:311).

Included genera: *Mesopalarus* Brauns, 1899, *Palarus* Latreille, 1802.

- Tribe: †Pristinopterini** B. Rosa and Melo, 2021:14. Based on *Pristinopterus* B. Rosa and Melo, 2021 (stem: *Pristinopter-*).

Included genus: †*Pristinopterus* B. Rosa and Melo, 2021.

- Tribe: †Protomicroidini** Antropov, 2010b:66. Based on *Protomicroides* Antropov, 2010 (stem: *Protomicroid-*).

Included genus: †*Protomicroides* Antropov, 2010b and 2010c.

- Tribe: Trypoxylini** Lepeletier de Saint Fargeau, 1845:224. Based on *Trypoxylon* Latreille, 1796 (stem: *Trypoxyl-*). Originally spelled Trypoxylites, latinized to Trypoxylidae by Thomson, 1870:207, and incorrectly to Trypoxylonidae in subsequent publications.
= Pisini Ashmead, 1899:241 (originally spelled Pisoninae). Based on *Pison* Jurine, 1808, Greek for pea, and also one of the river in the Garden of Eden (stem: *Pis-*). May have been based on the Roman family name *Pison*, in which case the stem would be *Pison-*.

Included genera: *Aulacophilinus* Lomholdt, 1980, *Aulacophilus* F. Smith, 1869, *Entomopison* Menke, 1968, †*Eopison* Nel, 2005, †*Megapison* Zhang, 1989, *Pison* Jurine in Spinola, 1808, *Pisonopsis* W. Fox, 1893, *Pisoxylon* Menke, 1968, *Trypoxylon* Latreille, 1796.

Subfamily: Dinetinae W. Fox, 1895:305. Based on *Dinetus* Panzer, 1806 (stem: *Dinet-*).

Included genus: *Dinetus* Panzer, 1806.

Subfamily: Eremiasphecinae Menke, 1967:148. Based on *Eremiasphecium* Kohl, 1897 (stem: *Eremiasphec-*). Originally treated as tribe *Eremiasphecini*.

Tribe: Eremiasphecini Menke, 1967. Based on *Eremiasphecium* Kohl, 1897 (stem: *Eremiasphec-*).

Included genera: †*Ammosphecium* B. Rosa and Melo, 2021, *Eremiasphecium* Kohl, 1897 (= *Taukumia* Kazenas, 1991, = *Xanthosphecium* Simon Thomas, 1994).

Subfamily: Laphyragoginae

Tribe: Laphyragogini R. Bohart and Menke, 1976:217. Based on *Laphyragogus* Kohl, 1889 (stem: *Laphyragog-*). Treated as a synonym of Eremiasphecinae by Prentice, 1998 (manuscript) and Roche, 2007, resurrected from synonymy by Mokrousov and Proshchalykin, 2025a.

Included genera: *Asphaleia* Mokrousov, 2025 *Laphyragogus* Kohl, 1889.

Subfamily: Mellininae Latreille, 1802b:337. Based on *Mellinus* Fabricius, 1790 (stem: *Mellin-*). Originally spelled Melliniores, latinized to Mellinii by Fallén, 1812:130.

Tribe: Mellinini Latreille, 1802. Based on *Mellinus* Fabricius, 1790 (stem: *Mellin-*).

Included genus: *Mellinus* Fabricius, 1790 (= *Trachogorytes* R. Bohart, 2000).

Tribe: Xenosphecini F. Parker, 1966:195. Based on *Xenosphex* F. Williams, 1954 (stem: *Xenosphex-*).

= Xenosphecini R. Bohart and Menke, 1976:437. Based on *Xenosphex* F. Williams, 1794 (stem: *Xenosphex-*).

Included genus: *Xenosphex* F. Williams, 1954.

Subfamily: Pemphredoninae Dahlbom, 1835:2, 6, 8. Based on *Pemphredon* Latreille, 1796 (stem: *Pemphredon-*). Nomen protectum (Article 23.9). Originally spelled Pemphredonides, corrected to Pemphredonides in Isis von Oken, 1836, Heft 4:col. 288, and spelled Pemphredonidae by Dahlbom, 1842:1.

= Cemoninae Fallén, 1812:131. Based on *Cemonus* Panzer, 1806 (stem: *Cemon-*), a junior synonym of *Pemphredon*. Nomen oblitum (Article 23.9). Originally spelled Cemonii. Not listed by Menke, 1997.

Tribe: Entomosericiini Dalla Torre, 1897:557. Based on *Entomosericus* Dahlbom, 1845 (stem: *Entomoseric-*).

Included genus: *Entomosericus* Dahlbom, 1845.

Tribe: Odontosphecini Menke, 1967:144. Based on *Odontosphex* Arnold, 1951 (stem: *Odontosphex-*).

Included genus: *Odontosphex* Arnold, 1951.

Tribe: †Palangini Antropov, 2011b:235. Based on *Palanga* Budrys, 1993 (stem: Palang-).

Included genus: †*Palanga* Budrys, 1993.

Tribe: Pemphredonini Dahlbom, 1835:2, 6, 8. Based on *Pemphredon* Latreille, 1796 (stem: *Pemphredon*-).

Subtribe: Ammoplanina Evans, 1959:182, 189. Based on *Ammoplanus* Giraud, 1869 (stem: *Ammoplan*-).

Included genera: *Ammoplanellus* Gussakovskij, 1931, *Ammoplanops* Gussakovskij, 1931, *Ammoplanus* Giraud, 1869, *Ammostigmus* Antropov, 2010, *Andrewsena* N. Smith, 2020, *Mohavena* Pate, 1939, *Parammoplanus* Pate, 1939, *Protostigmus* Turner, 1918 (= *Anomiopteryx* Gussakovskij, 1935), *Pulverro* Pate, 1937, *Riparena* Pate, 1939, *Timberlakena* Pate, 1939.

Subtribe: Pemphredonina Dahlbom, 1835. Based on *Pemphredon* Latreille, 1796 (stem: *Pemphredon*-).

Included genera: †*Cretoecus* Budrys, 1993, *Diodontus* Curtis, 1834, †*Eopinoecus* Budrys, 1993, †*Eoxyloecus* Budrys, 1993, †*Iwestia* Rasnitsyn and Jarzembowski in Rasnitsyn, Jarzembowski, and Ross, 1998, †*Palarpactophilus* Ohl and Bennett, 2009, *Passaloecus* Shuckard, 1837, *Pemphredon* (= †*Sinostigma* Hong, 1984), †*Pittoecus* Evans, 1973, *Polemistus* de Saussure, 1892, †*Prolemistus* Antropov, 2000, †*Rovnoecus* Antropov, 2009, †*Succinoecus* Budrys, 1883.

Subtribe: Spilomenina Menke, 1989:740. Based on *Spilomena* Shuckard, 1838 (stem: *Spilomen*-).

Included genera: *Arpactophilus* F. Smith, 1863, *Australomena* B. Rosa and Melo, 2024b, †*Cretospilomena* Antropov, 2000, †*Florimena* Antropov, 2017, †*Lisponema* Evans, †*Menopsila* Bennett, Perrichot, and Engel, 2014 (tribal assignment according to A.V. Antropov, pers. comm. of 29 Dec 2014), *Microstigmus* Ducke, 1907, †*Plisomena* Antropov, 2014, †*Psolimena* Antropov, 2000, *Spilomena* Shuckard, 1838, *Xysma* Pate, 1937.

Subtribe: Stigmina R. Bohart and Menke, 1976:175, 185. Based on *Stigmus* Panzer, 1804 (stem: *Stigm*-).

Included genera: *Allostigmus* Melo and Naumann, 1999, *Araucastigmus* Finnamore, 1995, *Aykhustigmus* Finnamore, 1995, *Ceratostigmus* Melo and Naumann, 1999, *Carinostigmus* Tsuneki, 1954, *Incastigmus* Finnamore, 1995, *Llaqhastigmus* Finnamore, 1995, *Paracrabro* Turner, 1907, *Parastigmus* Antropov, 1992, *Stigmus* Panzer, 1804, *Tzustigmus* Finnamore, 1995.

Genus that cannot be confidently placed in Spilomenina or Stigmina:

†*Colmepsiterona* Cockx and Mc Keller, 2018.

Tribe: Psenini A. Costa, 1858:4, 21. Based on *Psen* Latreille, 1796 (stem: *Psen*-).

= Mimesini E. Saunders, 1880:261. Based on *Mimesa* Shuckard, 1837 (stem: *Mimes*-). Originally spelled Mimesidae.

= Psenulini Gittins, 1969:50. Based on *Psenulus* Kohl, 1897 (stem: *Psenul*-). Originally spelled Psenuli.

Subtribe: †Helosericina B. Rosa and Melo, 2021:18. Based on *Helosericus* B. Rosa and Melo, 2021:19 (stem: *Heloseric*-).

Included genus: †*Helosericus* B. Rosa and Melo, 2021:19.

Subtribe: †Odontosericina B. Rosa and Melo, 2021:16. Based on *Odontosericus* B. Rosa and Melo, 2021:17 (stem: *Odontoseric*-).

Included genus: †*Odontosericus* B. Rosa and Melo, 2021:17.

Subtribe: Psenina A. Costa, 1858:4, 21. Based on *Psen* Latreille, 1796 (stem: *Psen*-).

Included genera: *Ammopsen* Krombein, 1959, *Deinomimesa* Perkins, 1899, †*Eomimesa* Budrys, 1993, *Lithium* Fennimore, 1987, *Mimesa* Shuckard, 1937, *Mimumesa* Malloch, 1933, *Nesomimesa* R. Perkins, 1899, *Odontopsen* Tsuneki, 1964, *Pluto* Pate, 1937, †*Pristopsen* B. Rosa and Melo, 2021, *Psen* Latreille, 1796, *Pseneo* Malloch, 1933, *Psenulus* Kohl, 1897, †*Tythopsen* Antropov, 2014.

Tribe: †Rasnitsynapini Antropov, 2011b:230. Based on *Rasnitsynapus* Antropov, 2011 (stem: *Rasnitsynap*-).

Included genus: †*Rasnitsynapus* Antropov, 2011:232.

Subfamily: Philanthinae Latreille, 1802b:365. Based on *Philanthus* Fabricius, 1790 (stem: *Philanth*-). Originally spelled Philanthores, spelled *Philanthoidae* by Agassiz, 1847:284.

Tribe: Aphilanthopini R. Bohart, 1966. Based on *Aphilanthops* Patton, 1881 (stem: *Aphilanthop*-). Originally spelled Aphilanthopsina.

Included genera: *Aphilanthops* Patton, 1881, *Clypeadon* Patton, 1897 (= *Listropygia* R. Bohart, 1959).

Tribe: Cercerini Lepeletier de Saint Fargeau, 1845:1. Based on *Cerceris* Latreille, 1802 (stem: *Cercer*-). Originally spelled Cercérites, latinized to Cerceridae by A. Costa, 1860:6.

Included genera: *Cerceris* Latreille, 1802, *Eucerceris* Cresson, 1865.

Tribe: Philanthini Latreille, 1802b:365. Based on *Philanthus* Fabricius, 1790 (stem: *Philanth*-). Originally spelled Philanthores, spelled *Philanthoidae* by Agassiz, 1847:284.

Subtribe: Philanthina Latreille, 1802 b:365. Based on *Philanthus* Fabricius, 1790 (stem: *Philanth*-). Originally spelled Philanthores, spelled *Philanthoidae* by Agassiz, 1847:284.

Included genera: *Philanthus* Fabricius, 1790, †*Prophilanthus* Cockerell, 1906 (placed here tentatively), *Trachypus* Klug, 1810.

Subtribe: Philanthinina Menke, 1967:148. Based on *Philanthinus* de Beaumont, 1949 (stem: *Philanthin*-).

Included genus: *Philanthinus*, de Beaumont, 1949.

Tribe: Pseudoscoliini Menke, 1967:148. Based on *Pseudoscolia* Radoszkowski, 1876 (stem: *Pseudoscoli*-).

Included genus: *Pseudoscolia* Radoszkowski, 1876.

Tribe that cannot be confidently placed in any subfamily of Crabroninae:

Tribe: †Exallopterini B. Rosa and Melo in B. Rosa, Melo, and Ribeiro, 2022:2. Based on *Exallopterus* B. Rosa and Melo, 2022 (stem: *Exallopter*-).

Included genus: †*Exallopterus* B. Rosa and Melo in B. Rosa, Melo, and Ribeiro, 2022:2

Family: Apidae (sensu lato) =

= Apoidea of bee workers

See: C.D. Michener. 2000. The bees of the world. The John Hopkins University Press, Baltimore and London. 913 pp. Second edition: 2007, 953 pp.

Fossil Families and Subfamilies of Uncertain Position Within Apoidea

Family: Angarosphecidae

†Angarosphecidae Rasnitsyn, 1975:109 Based on *Angarosphech* Rasnitsyn, 1975 (stem: *Angarosphec*-).

= Baissodidae Rasnitsyn, 1975:122 Based on *Baissodes* Rasnitsyn, 1975 (stem: *Baissod*-). Synonymized with Angarosphecidae by Rasnitsyn in Rasnitsyn, Pulawski, and Martínez-Delclòs, 1999:24.

Subfamily: †Angarosphecinae Rasnitsyn, 1975:109. Based on *Angarosphech* Rasnitsyn, 1975 (stem: *Angarosphec*-).

Included genera: †*Angarosphech* Rasnitsyn, 1975 (= *Paleapis* Hong, 1984, = *Mateosphech* J.F. Zhang, 1985, = *Calobaissodes* J.F. Zhang, 1992), †*Archisphech* Evans, 1969 (= *Cretosphech* Rasnitsyn, 1975.), †*Baissodes* Rasnitsyn, 1975, †*Cretobestiola* Pulawski and Rasnitsyn, 2000 (= *Bestiola* Pulawski and Rasnitsyn, 1999, junior homonym of *Bestiola* Nikol'skaya, 1963, and of *Bestiola* Andronov, 1972), †*Cretosphecium* Pulawski and Rasnitsyn, 2000, †*Eosphecium* Pulawski and Rasnitsyn, 2000, †*Eubaissodes* Zhang, 1992, †*Ilerdosphech* Rasnitsyn, 2000, †*Mesosirex* Hong, 1984, †*Montsecosphech* Rasnitsyn and Martínez-Delclòs, 2000, †*Oryctobaissodes* Rasnitsyn, 1975, †*Pompilopterus* Rasnitsyn, 1975, †*Trichobaissodes* Rasnitsyn, 1975, and †*Vitimosphech* Rasnitsyn, 1975. Transferred to Burmasphecidae: *Decasphech* Y. Zheng, H. Zhang, and Rasnitsyn, 2021. Excluded from Angarosphecidae and Aculeata: †*Jibaissodes giganteus* Ren, 1995 and †*Shandongodes necrodes* J.F. Zhang.

Subfamily: †Burmastatinae Antropov, 2000:60. Based on *Burmastatus* Antropov, 2000 (stem: *Burmastat*-).

Included genus: †*Burmastatus* Antropov, 2000:60.

Fossil genera incertae sedis.

†*Gallosphech* Schlüter, 1978:83, †*Prosceliphron* Frenguelli, 1946, †*Trigampulex* Antropov, 2000:70.

Genus and species unknown.

Rasnitsyn, Jarzembowski, and Ross, 1998:379 (England, body without head or wings); Rasnitsyn and Martínez-Delclòs, 2000:85, 86 (Spain: Lérida Province: Montsec Range).

Family: Allommatonidae

†Allommatonidae B. Rosa and Melo, 2021:4. Based on *Allommaton* B. Rosa and Melo, 2021 (termination: Article 29.4 of the Code).

Included genus: †*Allommaton* B. Rosa and Melo, 2021.

Family: Burmasphecidae

†Burmasphecidae B. Rosa and Melo, 2023:405. Based on *Burmasphech* Melo and B. Rosa, 2023 (stem: *Burmasphec*-).

Included genera: †*Burmasphech* Melo and B. Rosa, 2018, †*Callisphech* B. Rosa and Melo, 2023, †*Decasphech* Y. Zheng, H. Zhang, and Rasnitsyn, 2021, †*Simplisphech* B. Rosa and Melo, 2023.

Family: Cirrosphecidae

†Cirrosphecidae Antropov, 2000:61. Based on *Cirrosphecx* Antropov, 2000 (stem: *Cirrosphec-*). Originally spelled Cirrosphecinae, raised to full family status by B. Rosa and Melo, 2021:22.

Subfamily: †Cirrosphecinae Antropov, 2000:61. Based on *Cirrosphecx* Antropov, 2000 (stem: *Cirrosphec-*).

Included genera: †*Cirrosphecx* Antropov, 2000:62, †*Haptodiocetes* B. Rosa and Melo, †*Heterosphecx* L. Li, B. Rosa, Melo, and Shih, 2022:2.

Subfamily: †Glenocephalinae B. Rosa and Melo, 2021:27. Based on *Glenocephalus* B. Rosa and Melo, 2021 (stem: *Glenocephal-*).

Included genus: †*Glenocephalus* B. Rosa and Melo.

Family: Spheciellidae

†Spheciellidae B. Rosa and Melo, 2021:33. Based on *Spheciellus* B. Rosa and Melo, 2021 (stem: *Spheciell-*).

Included genus: †*Spheciellus* B. Rosa and Melo, 2021.

Family: Temnogynidae

†Temnogynidae Rosa and Melo, 2024c:2. Based on *Temnogyna* Rosa and Melo, 2024 (stem: *Temnogyn-*).

Included genera: †*Temnogyna* B. Rosa and Melo, 2024c, †*Rhapidogyna* B. Rosa and Melo, 2024c (= *Rhapidogyna* Rosa and Melo, 2024b nec *Rhapidogyna* Millidge, 1985).

FOSSIL TAXA DESCRIBED IN SPHECIDAE (sensu lato) AND TRANSFERRED TO OTHER FAMILIES

†*Didineis solidescens* Scudder, 1890:620. Holotype: USA: Wyoming: Green River (MCZ). Age: Eocene. – Dalla Torre, 1897:566 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Evans, 1966d:393 (study of holotype, transferred to Eumeninae near *Alastor*); R. Bohart and Menke, 1976:31 (in checklist of world Sphecidae, reference to Evans, 1966d).

†*Jibaissodes* Ren in Ren, Lu, Guo, and Ji, 1995:120 (Chinese) and 196 (English). Type species: *Jibaissodes giganteus* Ren in Ren, Lu, Guo, and Ji, 1995, by original designation and monotypy. Described in Baissodidae (now Angarosphecidae), transferred to Megalomontesidae by Rasnitsyn. Testing cladograms by fossil record: the ghost range test. Contributions to Zoology 2000:252 (caption for Fig. 1, line 8).

†*Nysson rottensis* Meunier, 1915:... Transferred to Eumeninae by Evans, 1966d:396.

†*Philoponites* Cockerell, 1915b:482. Type species: *Philoponites clarus* Cockerell, 1915, by monotypy. Transferred to Tiphidae by Antropov in Antropov, Belokobylskij, Compton, Dlussky, Khalaim, Kolyada, Kozlov, Perfilieva, and Rasnitsyn, 2014:64.

†*Shandongodes necrodes* J.F. Zhang, 1985:35. Holotype: ♀, China: Shandong Province: Laiyang District: Tuanwang (Shandong Provincial Museum, Shandong, China). Age: Lower Cretaceous (as Upper Jurassic), Laiyang Formation. Originally assigned to Baissodidae (now Angarosphecidae). – Rasnitsyn, Jarzembowski, and Ross, 1998:370 (excluded from Aculeata because of external ovipositor; ovipositor invisible on the original illustration, but detected by Rasnitsyn on the photograph received from J.F. Zhang; personal communication of A.P. Rasnitsyn of 6 August 2020).

†*Taimyrisphex* Evans, 1973d. Type species: *Taimyrisphex pristinus* Evans, 1973, by original designation and monotypy. Included species: *Taimyrisphex pristinus* Evans, 1973d:168, ♂. Holotype: Russia, Taimyr Peninsula:

Yantardagh Hill 3 km south from mouth of Maimetcha River (PIN). Age: Upper Cretaceous amber. Transferred to Falsiformicidae (Scolioidea) by Rasnitsyn, 1980:28.