

'Spheciformes', within Superfamily Apoidea

AFD

- Order HYMENOPTERA
 - Superfamily APOIDEA (s. l.)
 - APIFORMES
 - Family APIDAE
 - Family MEGACHILIDAE
 - Family COLLETIDAE
 - Family HALICTIDAE
 - Family STENOTRITIDAE
 - SPHECIFORMES
 - Family AMPULICIDAE
 - Family CRABRONIDAE
 - Subfamily Bembicinae
 - Subfamily Crabroninae
 - Subfamily Pemphredoninae
 - Subfamily Philanthinae
 - Family SPHECIDAE (s. str.)
 - Subfamily Ammophilinae
 - Ammophila* Kirby, 1798
 - Parapsammophila* Taschenberg,
 - Podalonia* Fernald, 1927
 - Subfamily Sceliphrinae
 - Chalybion* Dahlbom, 1843
 - Sceliphron* Klug, 1801
 - Subfamily Sphecinae
 - Isodontia* Patton, 1881
 - Palmodes* Kohl, 1890
 - Prionyx* van der Linden, 1827
 - Sphex* Linnaeus, 1758

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- ↳ Infraorder Aculeata (Ants, Bees, and Stinging Wasps)
 - ↳ Superfamily Apoidea (Bees and Apoid Wasps)
 - ↳ Family Crabronidae (Crabronid Wasps)
 - ↳ Subfamily Astatinae
 - ↳ Subfamily Bembicinae
 - ↳ Subfamily Crabroninae (Square-headed Wasps)
 - ↳ Subfamily Dinetinae
 - ↳ Subfamily Eremiasphecinae
 - ↳ Subfamily Mellininae
 - ↳ Subfamily Pemphredoninae (Aphid Wasps)
 - ↳ Subfamily Philanthinae
 - ↳ Genus *Mohavena*
 - ↳ Genus *Riparena*

- ↳ Infraorder Aculeata (Ants, Bees, and Stinging Wasps)
 - ↳ Superfamily Apoidea (Bees and Apoid Wasps)
 - ↳ Family Sphecidae (Thread-waisted Wasps)
 - ↳ Subfamily Ammophilinae
 - ↳ Subfamily Chloriontinae
 - ↳ Subfamily Sceliphrinae (Mud-dauber Wasps and Allies)
 - ↳ Subfamily Sphecinae

CRABRONIDAE (Aus 45 genera, 805spp)
pronotum shape, with posterolateral angle dorsal to spiracle cover not reaching tegula ... spiracle cover lobe sometimes reaches tegula (see diagrams)

Crabroninae (Aus = 559 spp)
 - highly diverse subfamily, few defining features
 - head cuboidal in many Crabronini
 - ocelli modified in many Larrini
 - eyes not strongly emarginate, converging ventrally or distinctly emarginate (*Pison* & *Trypoxylon*)
 - forewing with 1 submarginal cell (many Crabronini) or 2 or 3 (e.g. *Pison*)

Bembicinae (Aus = 157spp)
 - forewing with 3 submarginal cells (except *Acanthostethus*, which has 2)
 - 1st submarginal cell long, prestigmatically

Pemphredoninae (Aus = 39 spp)
 - head cuboidal and may be sculptured
 - pterostigma large
 - small (2-9mm)

Philanthinae (Aus = 50spp)
 - single genus, *Cerceris*
 - 1st metasoma forms petiole
 - metasoma constricted between segments
 - head wide
 - hind femora apically expanded
 - burrow in bare, solid ground

SPHECIDAE (Aus ~ 50 spp)
 - elongate petiole of entirely S2
 - many are black & yellow or black & red

Sphecinae (47 spp)
 - robust, fossorial
 - generally dark, some with golden hairs or marks
 - burrow (in sand) or use existing cavities

Sceliphrinae (4 spp)
 - most are black and yellow
 - most use mud

Ammophilinae (4 spp)
 - fossorial
 - burrow in sand

AMPULICIDAE (Aus = 14 spp, mainly tropical)
 - females paralyse cockroaches
 - some have banded forewings
 - 4-14mm

Taxonomies from Australian Faunal Directory and iNaturalist as at October 2020