

Division SCHIZOPHORA – ACALYPTRATAE

Superfamily CONOPOIDEA

52. Family CONOPIDAE

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The Conopidae contains some 800 described world species, which are usually found in dry areas among flowers where their main hosts (aculeate Hymenoptera) abound. There appear to be mimetic associations between certain conopids and wasps (Nicholson 1927). This mimicry probably has a Batesian function. However, because it allows close access to a dangerous host for the purpose of oviposition, Vane-Wright (1976) suggested that antergic aggressive mimicry (of the cuckoo type) could also be involved. In addition, many species have a strong resemblance to certain Syrphidae [e.g., *Ceriana* (subgenera *Ceriana* and *Sphiximorpha*)] with which they probably coexist on flowers.

Conopid larvae are solitary internal parasites of aculeate Hymenoptera (Conopinae, Myopinae, Dalmaniinae), gryllid Orthoptera, Dictyoptera, and some, mostly calyptrate, Diptera (Stylogastrinae). Many species use several hosts from different families.

Smith (1966b) summarized the biology of Conopidae, and later studies were published by Howell (1967), Smith (1967, 1969b, 1979), and Smith &

Cunningham-van Someren (1970, 1985). Smith & Peterson (1987) included keys to genera for eggs and larvae. *Physocephala vittata* Fabricius and *Myopa picta* Panzer have been recorded as egg predators of Acrididae in the Palearctic Region. *Conops (Asiconops) australianus* has been reared from *Campsomeris* sp. (Hymenoptera: Scoliidae) in Australia (Camras 1961).

In the Australasian/Oceanian Regions, Conopidae have been recorded from Australia, Indonesia, Papua New Guinea, Lord Howe Island, the Loyalty Islands, and New Britain. Their absence elsewhere may be linked to restrictions of suitable hosts on the smaller Pacific islands and New Zealand. The Diptera of New Caledonia, Vanuatu, and the Solomons are too poorly known to be sure that conopids are truly absent (an unidentified species of *Myopa* from the Loyalty Islands suggests not). Several of the Australian genera are endemic, and it is likely that more species and genera await discovery.

Refs.: Kröber (1939b, 1940, keys), Camras (1957, 1961, keys), Smith (1979, key, rev.).

Subfamily CONOPINAE

Genus AUSTRALOCNOPS Camras

AUSTRALOCNOPS Camras, 1961: 64. Type species: *Conops splendidus* Kröber, 1916, orig. des.

aequatus Walker, 1849: 675 (*Conops*). "New Holland"; Australia (WA).

piceus Bigot, 1887b: 43 (*Conops*). Australia (WA).

aptatus Walker, 1849: 675 (*Conops*). Australia (WA).

aurosus Newman, 1841: 222 (*Conops*). Australia (NSW); Australia (?Tas).

bulbimus Walker, 1849: 674 (*Conops*). Australia (NSW).

aureorufa Macquart, 1851: 134(162) (*Conops*). Australia (Tas), [= ?error].

claviventris Thomson, 1869: 514 (*Conops*). Australia (NSW)

ocellata de Meijere, 1910a: 163 (*Conops*). Australia (NSW).

aureomaculatus, error for *aureorufa*.

ocellifer, error for *ocellata*.

- bridwelli** Camras, 1961: 65. Australia (Qld); Australia (NSW).
inglorior Walker, 1849: 676 (*Conops*). "New Holland."
perbellum Kröber, 1939b: 601 (*Conops*). Australia (WA).
picus Macquart, 1851: 134(161) (*Conops*). Australia (Tas).
pseudocellifer Kröber, 1939b: 601 (*Conops*). "Neuholland."
pulcher Camras, 1961: 67. Australia (NSW).
similis Camras, 1961: 67. Australia (Qld); Australia (NSW).
splendidus Kröber, 1916: 63 (*Conops*). Australia (Qld).
sydneyi Camras, 1961: 69. Australia (NSW).
unicinctus Kröber, 1939b: 603 (*Conops*). Australia (WA); Australia (NSW, Qld).

Genus CALLOSICONOPS Kröber

- CALLOSICONOPS** Kröber, 1940: 75. Type species: *Callosiconops hirsutus* Kröber, 1940, mon.
hirsutus Kröber, 1940: 75. Australia (WA).

Genus CHRYSIDIOMYIA Kröber

- CHRYSIDIOMYIA** Kröber, 1940: 73. Unavailable name; genus-group name proposed after 1930 without type-species designation.
CHRYSIDIOMYIA Kröber *in* Smith: present work. Type species: *Chrysidomyia rufa* Kröber, 1940, **pres. des.**
pulchella Kröber, 1940: 74. Australia (WA).
rufa Kröber, 1940: 73. Australia (WA).

Genus CONOPS Linnaeus

- CONOPS** Linnaeus, 1758: 604. Type species: *Conops flavipes* Linnaeus, 1758, des. Curtis, 1831: 377.
annulosus Bigot, 1887b: 36. Indonesia (Maluku); China, India, Indonesia, Malaysia.
rufifrons Doleschall, 1857: 412. Indonesia (Maluku); China.

Subgenus ASICONOPS Chen

- ASICONOPS** Chen, 1939: 171. Type species: *Conops aureomaculatus* Kröber 1933, orig. des.
aureofuscus Camras, 1957: 10. Indonesia (?Irian Jaya).
australianus Camras, 1961: 62. Australia (Qld).
nubeculosus, Kröber, 1916, not Bigot, 1887, ?misid.
demeijerei Kröber, 1939b: 599 (*seminiger* var.). Indonesia (Irian Jaya) & "Australien" [= Australia (NSW); PNG (PNG)].
metaxanthus Walker, 1864: 225. Indonesia (Irian Jaya); PNG (PNG); "Borneo," Indonesia (Sumatra).
nigrescens Camras, 1961: 64. Australia (Qld).
nubeculosus Bigot, 1887b: 36. Sri Lanka; ?Australia; Burma, India, Indonesia (Java), Malaysia (Pen), Philippines, Taiwan.
satanicus Bigot, 1887b: 43. "Australie."
seminiger de Meijere, 1910a: 162. Australia (NSW).
thoracicus Kröber, 1939b: 597. Australia (NSW).
valoka Smith, 1966c: 457. PNG (PNG); PNG (Bismarck Arch).

Genus DELKESKAMPOMYIA Kröber

- DELKESKAMPOMYIA** Kröber, 1940: 71. Type species: *Delkeskampomyia fasciata* Kröber, 1940, mon.
fasciata Kröber, 1940: 71. Australia (WA).

Genus HETEROCONOPS Kröber

HETEROCONOPS Kröber, 1915a: 80. Type species: *Heteroconops gracilis* Kröber, 1915, mon.
antennatus Kröber, 1940: 69. Australia (WA).
curticornis Kröber, 1940: 69. Australia (WA).
gracilis Kröber, 1915a: 81. Australia (NT).
minutus Kröber, 1940: 67. Australia (Vic).
tasmaniensis Kröber, 1940: 68. Australia (Tas).

Genus MICROCONOPS Kröber

MICROCONOPS Kröber, 1915a: 77. Type species: *Microconops ornatus* Kröber, 1915, **pres. des.**
ater Camras, 1961: 70. Australia (NSW).
atricornis Kröber, 1919a: 143. Australia (Qld).
brunnicornis Kröber, 1940: 78. Australia (WA); Australia (NSW).
fasciatus Kröber, 1915a: 79. Australia (NT); Australia (WA).
nigrithorax Kröber, 1940: 77. Australia (WA).
ornatus Kröber, 1915a: 78. Australia (Qld).
similis Kröber, 1940: 79. Australia (WA).
tasmaniensis Kröber, 1940: 79. Australia (Tas).

Genus NEOCONOPS Kröber

NEOCONOPS Kröber, 1915a: 75. Type species: *Neoconops longicornis* Kröber, 1915, mon.
longicornis Kröber, 1915a: 75. Australia (Qld).
robustus Kröber, 1940: 66. Australia (WA).

Genus PARACONOPS Kröber

PARACONOPS Kröber, 1915a: 74. Type species: *Paraconops longicornis* Kröber, 1915, mon.
aristalis Camras, 1961: 723. Australia (WA).
longicornis Kröber, 1915a: 74. Australia (Qld).
nigrifacies Kröber, 1940: 66. Australia (WA).
similis Kröber, 1940: 65. Australia (WA).
turneri Camras, 1961: 72. Australia (WA).

Genus PHYSOCEPHALA Schiner

PHYSOCEPHALA Schiner, 1861: 137. Type species: *Conops rufipes* Fabricius, 1782, orig. des.
aureopygia Kröber, 1915b: 123. India; Australia (Qld).
australiana Camras, 1961: 74. Australia (WA).
bipartita Doleschall, 1858: 100 (*Conops*). Indonesia (Maluku); Indonesia (Java, Sulawesi, Sumatra),
 Philippines.
fumosa Camras, 1957: 115. Indonesia (Maluku).
minuta Kröber, 1915b: 131. Australia (Qld).
nigrotestacea Macquart, 1851: 135(162) (*Conops*). Australia (Tas); Australia (Qld, SA).
sphegiformis Walker, 1853: 256 (*Conops*). Australia (Vic).
macer Bigot, 1887b: 17 (*Conops*). "Australie."

Genus SMARTIOMYIA Kröber

SMARTIOMYIA Kröber, 1940: 72. Type species: *Smartiomyia obscura* Kröber, 1940, mon.
obscura Kröber, 1940: 72. Australia (WA).

Genus STENOCONOPS Kröber

STENOCONOPS Kröber, 1939b: 606. Type species: *Stenoconops niger* Kröber, 1939, mon.
niger Kröber, 1939b: 606. Australia (WA).

Subfamily MYOPINAE

Genus MYOPA Fabricius

MYOPA Fabricius, 1775: 798. Type species: *Conops buccata* Linnaeus, 1758, des. Curtis, 1838: 677.
[Usage is maintained here following Camras, 1965: 630].
ornata Kröber, 1940: 80. Australia (Vic).

Genus THECOPHORA Rondani

THECOPHORA Rondani, 1845b: 15. Type species: *Myopa atra* Fabricius, 1782, mon.
OCCEMYA Robineau-Desvoidy, 1853: 130. Type species: *Myopa atra* Fabricius, 1782, orig. des.
OCCEMYA, **ONCOMYIA**, errors for *Occemya*.
australiana Camras, 1955: 124 (*Occemya*). Australia (NSW).
papuana Camras, 1961: 75. PNG (PNG).

Subfamily STYLOGASTRINAE

Genus STYLOGASTER Macquart

STYLOGASTER Macquart, 1835: 38. Type species: *Conops stylatus* Fabricius, 1805, mon.
crosskeyi Smith, 1966a: 7. PNG (PNG).
frauci Smith, 1979: 307. Australia (Qld).
liepae Smith, 1979: 304. Lord Howe I.
macalpini Smith, 1979: 307. Australia (Qld); Australia (NSW).
papuana Kröber, 1940: 81. PNG (PNG).