

Conopidae

Christian Monnerat & Jens-Hermann Stuke (1998 Checklist: Bernhard Merz & David K. Clements)

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Diagnosis: Small to large (3-20 mm) but usually 5-15 mm, slender to stout flies, often lustrous with a black and yellow (or golden, orange, reddish) pattern and wasp-like shape (e.g. *Conops*, *Leopoldius*, *Physocephala*) or more typical flies with reddish brown, grey or blackish colouration (e.g. *Myopa*, *Sicus*, *Thecophora*). Proboscis typically sclerotised and slender, bent once at base and often also in the middle, usually elongated and often longer than head (except *Abrachyglossum*, *Leopoldius*). Head with ocelli (Myopinae, Zodioninae, Dalmanninae) or ocelli absent (Conopininae), setation reduced in most species. Antenna sometimes elongated, with bare arista. Wing generally hyaline to slightly infuscated, or with distinct markings (*Myopa*, *Physocephala*). Venation characterised by a continuous costa, complete vein Sc, presence of crossvein BM-Cu and closed cell cup. Tibiae with dorsal preapical bristle in Myopinae. Sexual dimorphism mainly concerns shape and colouration of the abdomen (see e.g. *Conops*, *Leopoldius*, *Physocephala*), female abdomen of many species characterised by a peculiar ventral structure, the theca. Three subfamilies present in Switzerland, i.e. all those represented in Europe.

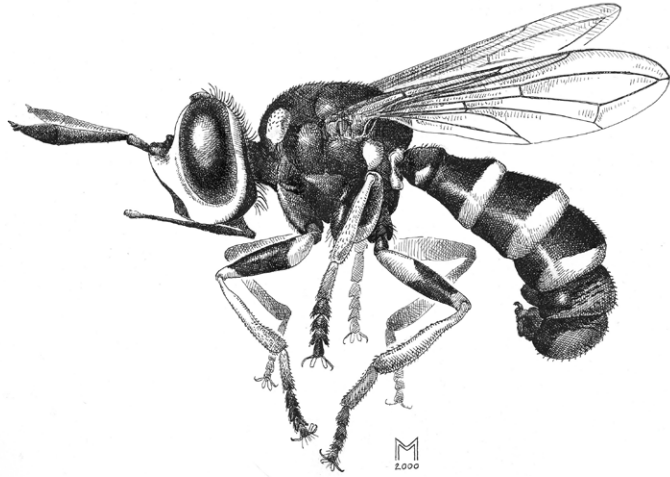
Biology: Conopidae develop as endoparasitoids, chiefly of adult bumblebees, bees and wasps. The female conopid deposits a single egg into the host's abdominal cavity using the special structures of her abdomen, including the theca, where present. The larva develops inside the host's body, to the detriment of the host, pupating when the host dies. Adult conopids feed on nectar and frequently visit flowers (for mating purposes as well). Species with very long mouthparts can exploit flowers with deep-lying nectar, such as Caprifoliaceae, Lamiaceae. Adults of most species prefer sunlit, warm and dry areas and can be found flying amongst flowers that are visited by their hosts, such as Asteraceae, Ericaceae, Salicaceae... Many Conopininae show a striking resemblance to bees, wasps and their allies, and are likely to be mimetic. Conopid adults are active from March to October, with different species peaking at differing times.

Nomenclature and classification: According to World Catalogue (Stuke 2017), with some minor changes.

Number of species: CH: 48 (1998 Checklist: 44),
BE: 40, CZ: 54, DE: 52, FR: 58, GB: 23, HU: 40, IT: 62, NL: 38, SK: 48, Europe: ~83, World: ~780.

Level of faunistic knowledge in Switzerland: Good.

General references: Chvála (1961, 1965) [keys, Czech and Slovak Republics], Martinez (2022a, 2022b, 2023) [keys, France], Stuke (2006) [keys, genera *Thecophora*], Stuke (2016) [key, genera *Physocephala*], Stuke (2017) [world catalogue], Stuke & Clements (2008) [key, genera *Myopa*].



Conops flavipes,
male (Maurizio Mei)

References to the Swiss fauna: Am Stein (1857), Bächli et al. (2014), Becker (1922), Blöchliger (1990), Durrer & Schmid-Hempel (1995), Hüttinger (1978), Kröber (1915a, 1915b, 1915c, 1915d, 1915e, 1916a, 1916b, 1927, 1939), Meier & Suter (1989) Merz et al. (2002, 2006), Merz & Clements (1998), Merz & Monnerat (2012), Monnerat (2009), Müller & Schmid-Hempel (1992), Ringdahl (1957), Schmid-Hempel & Schmid-Hempel (1989, 1990), Schmid-Hempel & Stauffer (1998), Schoch (1889), Stuke (2016, 2017), Stuke & Clements (2008), Stuke & van Ecke (2009), Stuke & Kehlmaier (2008), Stuke et al. (2006), Tóth (1995, 1996a, 1996b), Tóth & Rezbanyai-Reser (1997, 1999, 2000, 2003, 2004), Tournier (1890), Villeneuve (1909), Warncke et al. (1993), Zimina (1975).

Checklist

Conopinae

Abrachyglossum Kröber, 1919

- *capitatum* (Loew, 1847) !

Conops Linnaeus, 1758

(*Conops* s.str.)

- *ceriaeformis* Meigen, 1824 !

- *flavipes* Linnaeus, 1758 !

- *quadrifasciatus* De Geer, 1776 !

- *scutellatus* Meigen, 1804 !

- *strigatus* Wiedemann in Meigen, 1824 !

- *vesicularis* Linnaeus, 1761 !

Leopoldius Rondani, 1843

- *brevirostris* (Germar, 1827) !

- *calceatus* (Rondani, 1857) !
- *coronatus* (Rondani, 1857) !
- *diadematus* Rondani, 1845 !
- *signatus* (Wiedemann in Meigen, 1824) !
- *valvatus* (Kröber, 1914) !

Physocephala Schiner, 1861

- *chrysorrhoea* (Meigen, 1824) !
- *nigra* (De Geer, 1776) !
- *pusilla* (Meigen, 1804) !
 - = *lacera* (Meigen, 1824)
- *rufipes* (Fabricius, 1781) !
 - = *laticincta* (Brullé, 1832)
- *vittata* (Fabricius, 1794) !
 - = *fraterna* (Loew, 1847)

Dalmanniinae

Dalmannia Robineau-Desvoidy, 1830

- *aculeata* (Linnaeus, 1761) !
- *dorsalis* (Fabricius, 1794) !
- *marginata* (Meigen, 1824) !
- *punctata* (Fabricius, 1794) !

Myopinae

Melanosoma Robineau-Desvoidy, 1853

- *bicolor* (Meigen, 1824) !

Myopa Fabricius, 1775

- *buccata* (Linnaeus, 1758) !
- *dorsalis* Fabricius, 1794 !
- *fasciata* Meigen, 1804 !
- *hirsuta* Stuke & Clements, 2008 !
 - = *strandii* auct. nec Duda, 1940
- *morio* Meigen, 1804 !
- *occulta* Wiedemann in Meigen, 1824 !
- *pellucida* Robineau-Desvoidy, 1830 !
 - = *extricata* Collin, 1960
- *picta* Panzer, 1798 !
- *polystigma* Rondani, 1857 !
- *stigma* Meigen, 1824 !
- *tessellatipennis* Motschulsky, 1859 !
- *testacea* (Linnaeus, 1767) !
- *variegata* Meigen, 1804 !
- *vicaria* Walker, 1849 !

Myopotta Zimina, 1969

- *rubripes* (Villeneuve, 1909) !

Sicus Scopoli, 1763

- *abdominalis* Kröber, 1915 !

- *ferrugineus* (Linnaeus, 1760) !

- *nigritarsis* Zimina, 1975 !

Thecophora Rondani, 1845

- *atra* (Fabricius, 1775) !

- *bimaculata* (Preysslner, 1791) !

- *cinerascens* (Meigen, 1804) !

= *pusilla* (Meigen, 1824)

- *distincta* (Wiedemann in Meigen, 1824) !

= *melanopa* Rondani, 1857

- *fulvipes* (Robineau-Desvoidy, 1830) !

Zodion Latreille, 1796

- *cinereum* (Fabricius, 1794) !

= *notatum* (Meigen, 1804)

- *kroeberi* Szilády, 1926 !

= *carceli* auct. nec Robineau-Desvoidy, 1830

Excluded species

Conops silaceus Wiedemann in Meigen, 1824 N1

Physocephala truncata (Loew, 1847) N2

Physocephala variegata (Meigen, 1824) N3

Notes

- N1 *Conops silaceus* was mentioned by Escher-Kündig from Promontogno in Val Bregaglia (Schoch 1889). In the absence of a reference specimen, this species has not been included in the list pending confirmation.
- N2 *Physocephala truncata* was mentioned by Frey-Gessner from Valais [Wallis] and by Killias from Flims (Schoch 1889). In the absence of a reference specimen, this species has not been included in the list pending confirmation.
- N3 *Physocephala variegata* was mentioned by Frey-Gessner from Geneva [Genf] (Schoch 1889). In the absence of a reference specimen, this species has not been included in the list pending confirmation.

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