

Empididae (excl. Brachystomatidae, excl. Empidoidea *incertae sedis*)

Jean-Paul Haenni (1998 Checklist: Milan Chvála, Miroslav Barták, Paul. L. Th. Beuk, Bernhard Merz & Rüdiger Wagner)

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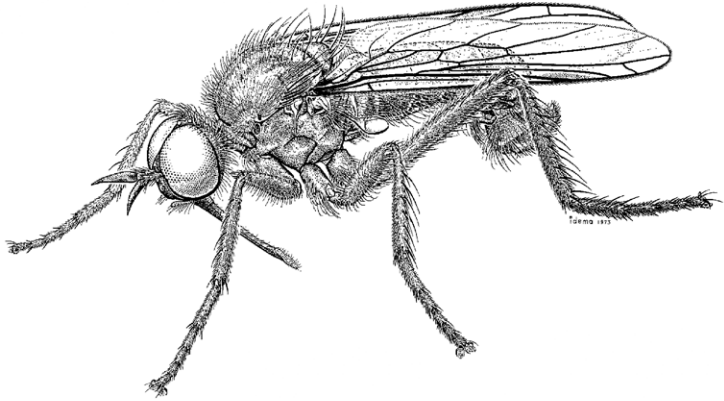
Diagnosis: Minute to medium flies (2-12 mm) of very diverse appearance; mouth-parts a more or less elongate, strong piercing rostrum, eyes large, antenna 3-segmented, with flagellum prolonged into an apical style. Thorax narrow, prosternum enlarged, forming a precoxal bridge; legs generally elongate, strong, sometimes modified for raptorial use; wings often with a well-developed discal cell, R_{4+5} forked or not. Genitalia much diversified, asymmetrical in some genera, with useful characters for identification. Larvae acephalous, head with a pair of buccal hooks used for killing preys, body generally white, abdominal segments with creeping welts. Terrestrial forms amphipneustic, anal segment with a single median lobe. Aquatic forms apneustic (without functional spiracles), abdominal segments with paired prolegs, anal segment with elongate caudal lobes.

Biology: Adult empidids are predacious, feeding on various insects, especially Diptera, that they catch actively. They can be found in all kinds of habitats, but are more diverse and numerous in moist, wooded or open environments. Aerial swarms can be observed in numerous species, with extremely diversified courtship behaviour involving gift of a present by the male to the female. The nuptial present is generally an insect killed by the male, which in some species can be then wrapped in a silk envelope, but it can also be a symbolic gift, e.g. a silken balloon containing no prey or a shiny white petal of flower in some species. The adults of some species can also be observed feeding on flowers (frequently on Apiaceae inflorescences). The known larvae are predacious, preying on various insects, especially diptera larvae; they are terrestrial (subfamilies Empidinae, Ragadinae), living in the soil, in leaf-litter, rotten wood, or semi-aquatic or aquatic (subfamilies Clinocerinae and Hemerodromiinae), mainly living in hygropetric habitats.

Nomenclature and classification: The family is understood here in the restricted sense of Sinclair & Cumming (2006), that is excluding some genera now assigned to Brachystomatidae (*Gloma*, *Heleodromia*, *Pseudoheleodromia*, *Trichopeza*) and to Empidoidea *incertae sedis* (*Anthepiscopus*, *Iteaphila*). Nomenclature according to Fauna Europaea (Chvála 2013).

Number of species: CH: 315 (1998 Checklist: 246 [255-5-4]), CZ: 295, DE: 172, GB 207, NL: 173, SK: 276, Europe: ~820, World: ~2500.

Level of faunistic knowledge in Switzerland: Poor to good, according to the subfamilies; additional species certainly occur in Switzerland, especially in Clinocerinae. The present list is largely based upon the one published in the preceding checklist (Chvála et al. 1998), complemented by the species added in the first, second and third published supplements (Merz et al. 2002, 2006, Bächli et al. 2014). Some changes concerning the Swiss fauna may have been overlooked or misinterpreted by the compiler of the present list - not a specialist of the family - who is responsible for any change from the initial 1998 list.



Empis browni,
male, not present in Switzerland (MND1, p. 607).

General references: Barták (1981, 1982, 1985, 2006, 2007a, 2007b), Barták & Kubík (2008, 2012) [all *Rhamphomyia*, identification keys], Barták & Kubík (2013) [*Bicellaria*], Chvála (1994) [*Empis*, identification keys, Fennoscandia], Chvála (1997a) [*Hilara*, identification key], Chvála (2012) [*Empis*, identification keys], Chvála (2013) [Fauna Europaea database], Chvála & Merz (2009) [*Hilara*], Chvála & Wagner (1989) [catalogue], Collin (1961) [identification keys, Britain], Engel & Frey (1938-56) [identification keys], Sinclair & Cumming (2006) [classification, key to families and groups], Shamshev (2016) [checklist, Russia], Wagner (1997) [general, identification key to aquatic genera].

References to the Swiss fauna: Artmann-Graf et al. (2003), Bächli et al. (2014), Chvála & Merz (2009), Merz et al. (2002, 2006, 2012), Vaillant & Vinçon (1998).

Checklist

Clinocerinae

Clinocera Meigen, 1803

- *appendiculata* (Zetterstedt, 1838) L
- *dimidiata* Loew, 1869 !
- *fontinalis* (Haliday, 1833) !
- *frigida* (Vaillant, 1964) L N1
- *nigra* Meigen, 1804 !
- *nudipes* Loew, 1858 ?
- *schremmeri* (Vaillant, 1964) !
- *stagnalis* (Haliday, 1833) !
- *tibiella* Mik, 1880 !

- *trinotata* Mik, 1869 !
- *wesmaeli* (Macquart, 1835) !
- Dolichocephala* Macquart, 1823
 - *austriaca* Vaillant, 1968 !
 - *engeli* Vaillant, 1978 !
 - *guttata* (Haliday, 1833) !
 - *irrorata* (Fallén, 1816) !
 - *ocellata* (Costa, 1854) !
- Kowarzia* Mik, 1881
 - *barbatula* Mik, 1880 !
 - *bipunctata* (Haliday, 1833) L
 - *madicola* (Vaillant, 1964) !
 - *tenella* (Wahlberg, 1844) !
- Wiedemannia* Zetterstedt, 1838
(*Chamaedipsia* Bezzi, 1899)
 - *beckeri* (Mik, 1889) L
 (*Eucelidia* Mik, 1881)
 - *zetterstedti* (Fallén, 1826) !
 (*Philolutra* Mik, 1881)
 - *bohemani* (Zetterstedt, 1838) !
 - *fallaciosa* (Loew, 1873) !
 - *hygrobica* (Loew, 1858) !
 (*Wiedemannia* s.str.)
 - *bistigma* (Curtis, 1834) L
 - *brevilamellata* Wagner, 1985 !
 - *oxystoma* (Bezzi, 1905) L
 - = *bilobata* Oldenberg, 1910

Empidinae

- Empis* Linnaeus, 1758
(*Anacrostichus* Bezzi, 1909)
 - *bistortae* Meigen, 1822 !
 - *lucida* Zetterstedt, 1838 !
 - *monticola* Loew, 1868 !
 - *nitida* Meigen, 1804 !
 (*Coptophlebia* Bezzi, 1909)
 - *abbreviata* Loew, 1869 !
 - *albinervis* Meigen, 1822 !
 - *hyalipennis* Fallén, 1816 !
 - *impennis* Strobl, 1902 !
 - *leptomorion* Bezzi, 1909 !
 (*Empis* s.str.)
 - *acinerea* Chvála, 1985 !
 - *aestiva* Loew, 1867 !
 - *alampra* Loew, 1873 !
 - *albohirta* Collin, 1926 ! N2

- *albopilosa* de Meijere, 1935 !
- *alpicola* Strobl, 1893 !
- *anfractuosa* Mik, 1884 !
- *atrosimulium* Chvála & Pont, 2016 L
- *bicuspidata* Collin, 1927 !
- *bohemica* Chvála & Syrovatka, 1989 !
- *brunohubli* Chvála & Pont, 2016 L
- *caudatula* Loew, 1867 !
- *chioptera* Meigen, 1804 !
- *ciliatopennata* Strobl, 1893 !
- *corvina* Loew, 1869 L
- *eupterota* Loew, 1873 ! N2
- *florisomna* Loew, 1856 L
- *galactoptera* Strobl, 1893 ! N2
- *genualis* Strobl, 1893 !
- *gymnopoda* Bezzi, 1908 L
- *hirta* Loew, 1865 L
- *hubli* Chvála & Pont, 2016 L
- *lepidopus* Meigen, 1822 !
- *levis* Loew, 1873 !
- *longipes* (Meigen, 1804) ! N2
- *maerens* Loew, 1867 L
- *malleola* Becker, 1887 !
- *nigricoma* Loew, 1867 !
- *nigripes* Fabricius, 1794 !
- *nuntia* Meigen, 1838 !
- *pennipes* Linnaeus, 1758 !
- *planetica* Collin, 1927 !
- *protarsalis* Collin, 1927 L
- *provincialis* Chvála, 2012 !
- *pseudomalleola* Strobl, 1893 ?
- *pseudonuntia* Syrovátka, 1991 !
- *pseudoprodromus* Collin, 1969 !
- *pusio* Egger, 1860 !
- *rufiventris* Meigen, 1838 !
- *scaura* Loew, 1867 L
- *simulium* (Nowicki, 1868) !
- *syrovatkai* Chvála, 1985 !
- *tanysphyra* Loew, 1873 L
- *umbripes* Becker, 1887 ! N2
- *woodi* Collin, 1927 !
- (*Euempis* Frey, 1953)
 - *ciliata* Fabricius, 1787 !
 - *sericans* Brullé, 1832 !
 - *tessellata* Fabricius, 1794 !
- (*Kritempis* Collin, 1926)

- *livida* Linnaeus, 1758 !

(*Leptempis* Collin, 1926)

- *alpina* Loew, 1867 L
- *cognata* Egger, 1860 !
- *confusa* Loew, 1865 !
- *dimidiata* Meigen, 1835 !
- *discolor* Loew, 1856 !
- *flavitarsis* von Roser, 1840 L
- *grisea* Fallén, 1816 !
- *nigricans* Meigen, 1804 !
- *rustica* Fallén, 1816 !
- *variegata* Meigen, 1804 !

(*Lissempis* Bezzi, 1909)

- *nigritarsis* Meigen, 1804 !

(*Pachymeria* Stephens, 1829)

- *femorata* Fabricius, 1798 !
- *mediterranea* (Loew, 1864) !
- *scotica* Curtis, 1835 !

(*Platyptera* Meigen, 1803)

- *borealis* Linnaeus, 1758 L

(*Polyblepharis* Bezzi, 1909) N3

- *crassa* Nowicki, 1868 !

(*Xanthempis* Bezzi, 1909)

- *aemula* Loew, 1873 !
- *aequalis* Loew, 1867 !
- *concolor* Verrall, 1872 !
- *digamma* Meigen, 1835 L
- *laetabilis* Collin, 1926 L
- *lagoensis* Chvála, 1996 !
- *lutea* Meigen, 1804 !
- *matilei* Daugeron & Charbonnel, 2000 !
- *punctata* Meigen, 1804 L
- *scutellata* Curtis, 1835 !
- *semicinerea* Loew, 1867 !
- *stercorea* Linnaeus, 1760 !
- *trigramma* Wiedemann in Meigen, 1822 !
- *unistriata* Becker, 1887 L

Hilara Meigen, 1822

- *aartseni* Chvála, 1997 !
- *aeronetha* Mik, 1892 !
- *albipennis* von Roser, 1840 !
- *albitarsis* von Roser, 1840 !
- *albiventris* von Roser, 1840 !
- *allogastra* Chvála, 2001 !
- *alpicola* Chvála, 2001 !
- *andermattensis* Strobl, 1892 !

- *anglodanica* Lundbeck, 1913 !
- *angustifrons* Strobl, 1892 !
- *barbipes* Frey, 1908 !
- *beckeri* Strobl, 1892 !
- *biseta* Collin, 1927 !
- *bohemica* Straka, 1976 !
- *borealis* Oldenberg, 1916 !
- *brevistriata* Chvála & Merz, 2009 !
- *brevistyla* Collin, 1927 !
- *brevivittata* Macquart, 1827 !
- *caerulescens* Oldenberg, 1916 !
= *chvalai* Straka, 1976
- *calinota* Collin, 1969 !
- *campinosensis* Niesiolowski, 1986 !
- *canescens* Zetterstedt, 1849 !
- *chorica* (Fallén, 1816) !
- *cilipes* Meigen, 1822 !
- *clavipes* (Harris, 1776) !
= *spinimana* (Zetterstedt, 1838)
- *clypeata* Meigen, 1822 L
- *coracina* Oldenberg, 1916 !
- *cornicula* Loew, 1873 !
- *crossleyi* Chvála & Merz, 2009 !
- *cuneata* Loew, 1873 !
= *strobliana* Bezzi, 1899
- *curtisi* Collin, 1927 !
- *dimidiata* Strobl, 1892 !
- *discalis* Chvála, 1997 !
- *discoidalis* Lundbeck, 1910 !
- *discolor* Strobl, 1892 !
- *diversipes* Strobl, 1892 !
- *eviana* Straka, 1976 !
- *femorella* Zetterstedt, 1842 !
- *fuscipes* (Fabricius, 1794) !
- *galactoptera* Strobl, 1910 !
- *gallica* (Meigen, 1804) !
- *goetzei* Chvála, 2005 !
- *griseifrons* Collin, 1927 !
- *griseola* Zetterstedt, 1838 !
- *helvetica* Chvála, 1999 !
- *heterogastra* Nowicki, 1868 !
- *hirta* Strobl, 1892 !
- *hirtipes* Collin, 1927 !
- *hybrida* Collin, 1961 !
- *hystrix* Strobl, 1892 !
- *implicata* Collin, 1927 !

- *intermedia* (Fallén, 1816) !
- *interstincta* (Fallén, 1816) !
- *lasiochira* Strobl, 1892 !
- *lasiopa* Strobl, 1892 !
- *leukensis* Chvála & Merz, 2009 !
- *litorea* (Fallén, 1816) !
- *longifurca* Strobl, 1892 !
= *monedula* Collin, 1927
- *longivittata* Zetterstedt, 1842 !
- *lugubris* (Zetterstedt, 1819) !
- *lurida* (Fallén, 1816) !
- *luteihalterata* Chvála & Merz, 2009 !
- *maior* Strobl, 1910 !
- *manicata* Meigen, 1822 !
- *maura* (Fabricius, 1776) !
- *media* Collin, 1927 !
- *merula* Collin, 1927 !
- *merzi* Chvála, 1999 !
- *morata* Collin, 1927 !
- *morenae* Strobl, 1899 !
- *nigrita* Chvála, 2005 !
- *nigrocincta* de Meijere, 1935 !
- *nigrohirta* Collin, 1927 !
- *nitidorella* Chvála, 1997 !
- *nitidula* Zetterstedt, 1838 !
- *parvimaior* Chvála & Merz, 2009 !
- *pilosoplectinata* Strobl, 1892 !
= *longesetosa* Strobl, 1910
- *planti* Chvála & Merz, 2009 !
- *platyura* Loew, 1873 !
- *ponti* Chvála, 1981 !
- *pruinosa* Wiedemann in Meigen, 1822 !
- *pseudochorica* Strobl, 1892 !
= *woodi* Collin, 1927
- *pseudosartrix* Strobl, 1892 !
- *quadrifaria* Strobl, 1892 !
- *quadrola* Chvála, 2002 !
- *sartor* Becker, 1888 !
- *scrobiculata* Loew, 1873 !
- *splendida* Straka, 1976 !
- *strakai* Chvála, 1981 !
- *sturmii* Meigen, 1822 !
- *styriaca* Strobl, 1910 !
- *sulcitorsis* Strobl, 1982 !
- *tenella* (Fallén, 1816) !
- *ternovenssis* Strobl, 1898 !

- *tetragramma* Loew, 1873 !
- *thoracica* Macquart, 1827 !
- *tiefii* Strobl, 1892 !
- *triseta* Chvála, 2005 !
- *zermattensis* Chvála, 1999 !

Rhamphomyia Meigen, 1822*(Amydroneura* Collin, 1926)

- *claripennis* Oldenberg, 1922 !
- *crassicauda* Strobl, 1893 !
- *erythrophthalma* Meigen, 1830 !
- *gibba* (Fallén, 1816) !
- *hirsutipes* Collin, 1926 !
- *rampazzii* Barták, 2006 !

(Holoclera Schiner, 1860)

- *bistriata* Strobl, 1910 !
- *bohemica* Barták & Kubík, 2012 !
- *caliginosa* Collin, 1926 !
- *culicina* (Fallén, 1816) !
- *flava* (Fallén, 1816) !
- *flaviventris* Macquart, 1827 !
- *helvetica* Barták & Kubík, 2012 !
- *heterochroma* Bezzi, 1898 !
- *lamellata* Collin, 1926 !
- *nigripennis* (Fabricius, 1794) !
- *sciarina* (Fallén, 1816) !
- *trigemina* Oldenberg, 1927 !
- *umbripennis* Meigen, 1822 !

(Lundstroemiella Frey, 1922)

- *aterrima* Frey, 1922 !
- *australis* Frey, 1922 !
- *dudai* Oldenberg, 1927 !
- *hybotina* (Zetterstedt, 1838) !
- *magellensis* Bezzi in Frey, 1922 !
- *rupestris* Oldenberg, 1927 !
- *strobli* Barták, 1985 !

(Megacyttarus Bigot, 1880) N3

- *crassirostris* (Fallén, 1816) !
- *poissoni* (Trehen, 1966) !

(Pararhamphomyia Frey, 1922)

- *amoena* Loew, 1840 !
- *anfractuosa* Bezzi, 1904 !
- *atra* Meigen, 1822 !
- *barbata* Macquart, 1823 !
- *caudata* (Zetterstedt, 1838) !
= *aethiops* Zetterstedt, 1838
- *curvula* Frey, 1913 !

- *dentata* Oldenberg, 1910 !
- *geniculata* Meigen, 1830 !
- *marginata* (Fabricius, 1787) !
- *micropyga* Collin, 1926 !
- *modesta* Wahlberg, 1844 !
- *obscura* (Zetterstedt, 1838) !
- *obscuripennis* Meigen, 1830 !
- *pilifer* Meigen, 1838 !
- *praestans* Frey, 1913 !
- *tibiella* Zetterstedt, 1842 !
- *tipularia* (Fallén, 1816) !
- *unguiculata* Frey, 1913 !
- (*Rhamphomyia* s.str.) N3
- *albosegmentata* Zetterstedt, 1838 !
- *anthracina* Meigen, 1822 !
- *argentata* von Röder, 1887 !
- *aucta* Oldenberg, 1917 !
- *brevipila* Oldenberg, 1922 !
- *chionoptera* Bezzi, 1904 !
- *cinerascens* (Meigen, 1804) !
- *crassimana* Strobl, 1898 !
- *crinita* Becker, 1887 !
- *curvinervis* Oldenberg, 1915 !
- *discoidalis* Becker, 1889 !
- *hercynica* Oldenberg, 1927 !
- *hirtimana* Oldenberg, 1922 !
- *hungarica* (Wéber, 1969) !
- *janovensis* Barták, 1981 !
- *laevipes* (Fallén, 1816) !
- *loewi* Nowicki, 1868 !
- *luridipennis* Nowicki, 1868 !
- *melania* Becker, 1887 !
- *montana* Oldenberg, 1915 !
- *nigromaculata* von Roser, 1840 !
- *nitidula* Zetterstedt, 1842 !
- *nubigena* Bezzi, 1904 !
- *parvicellulata* Frey, 1922 !
- *plumipes* (Meigen, 1804) !
- *sanctimauricii* Becker, 1887 !
- *sellacrinita* Barták, 2007 !
- *serpentata* Loew, 1856 !
- *siebecki* Strobl, 1898 !
- *spinipes* (Fallén, 1816) !
- *stigmosa* Macquart, 1827 !
- *sulcanda* Barták & Kubik, 2008 !
- *sulcata* (Meigen, 1804) !

- *sulcatella* Collin, 1926 !
- *tibialis* Meigen, 1822 !
- *trilineata* Zetterstedt, 1859 !
= *sulcatina* Collin, 1926
- *tristriolata* Nowicki, 1868 !
- *vesiculosa* (Fallén, 1816) !

Hemerodromiinae

Chelifera Macquart, 1823

- *concinnicauda* Collin, 1927 !
- *flavella* (Zetterstedt, 1838) !
- *precabunda* Collin, 1961 !
- *precatoria* (Fallén, 1816) !
- *pyrenaica* Vaillant, 1981 !
- *serraticauda* Engel, 1939 L
- *stigmatica* (Schiner, 1862) !
- *trapezina* (Zetterstedt, 1838) !

Chelipoda Macquart, 1823

- *vocatoria* (Fallén, 1816) !

Hemerodromia Meigen, 1822

- *oratoria* (Fallén, 1816) !
- *raptoria* Meigen, 1830 !
- *unilineata* Zetterstedt, 1842 !

Phyllodromia Zetterstedt, 1837

- *melanocephala* (Fabricius, 1794) !

Ragadinae

Ragas Walker, 1837

- *unica* Walker, 1837 !

incertae sedis

Dryodromia Rondani, 1856

- *testacea* Rondani, 1856 !

Oreogeton Schiner, 1860

- *basalis* (Loew, 1856) !

Excluded species

Empis albiventris Meigen, 1822

Hilara abdominalis (Zetterstedt, 1842)

Hilara quadrivittata Meigen, 1822

Notes

- N1 *Clinocera frigida* (Vaillant, 1964) was recorded from Switzerland (as *Bergentammia frigida* Vaillant, 1964) by Vaillant & Vinçon (1998).
- N2 The species previously placed in subgenus *Aclonempis* of genus *Rhamphomyia* are placed now in *Empis* (*Empis* s.str.) according to Chvála & Pont (2015, 2016).

- N3 *Empis (Polyblepharis) gravipes* (Loew, 1856), *Rhamphomyia (Megacyttarus) maculipennis* Zetterstedt, 1842 and *Rhamphomyia (Rhamphomyia) pokornyi* Bezzi, 1904 have been cited from Switzerland by Shamshev (2016) but no Swiss record or literature reference was found for these species.

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