

Rhagionidae

Theo Zeegers (1998 Checklist: Josef. M. Majer)

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Diagnosis: Generally small to large flies (4-18 mm), sometimes very small (*Spania*: 2 mm). Antenna short, with an arista on third segment, usually long. Apex of each tarsus with three lappets. Wing with an elongated discal cell, the fourth branch of radial vein with a strong fork, anal cell long, either open or closed at wing margin. Venation tends to be variable, even within one species. Calypter small. Male with holoptic eyes (or nearly so: *Rhagio latipennis*, *Chrysopilus flaveolus*), in female eyes broadly separated by a linear or square frons.

Biology: Rhagionidae are seemingly univoltine, generally with a short period of flight, though some species have an extended period of flight. Many species can be found in the vegetation on leaves. *Rhagio scolopaceus* is well-known for its behaviour to sit on trunks (or similar objects) with the head downwards « down-looker fly ». Small species are generally found on windows, by sweeping with a net or with Malaise traps. Females of non-European species of *Symphoromyia* are known to suck blood. Mating is in « opposite heads » orientation. Larvae are terrestrial, living in moist soil, decaying wood (some *Chrysopilus*), moss (*Ptiolina*) or liverwort (*Spania*). Larvae are predators, though larvae of *Chrysopilus* are said to feed on decaying matter.

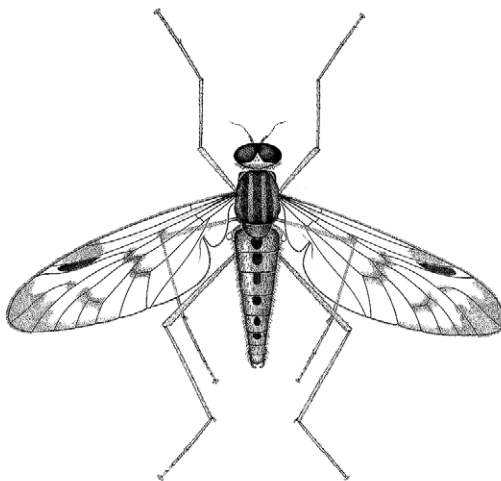
Nomenclature and classification: The boundaries of the family have been subject to some debate. It is now generally accepted, that Athericidae should not be included in Rhagionidae, but are the sister group of Tabanidae. Rhagionidae, as currently understood, is the sister of this couple. Discussions on which genera to include or exclude in Rhagionidae is not relevant for the western Palaearctic fauna. The nomenclatorial problems in the genus *Ptiolina* are discussed by Zeegers et al. (2021). Little taxonomical work has been done in Europe over the last fifty years and many old records, including types, need to be reexamined. On the one hand, variability seemed to be underestimated in the past, leading to oversplitting (for instance, in *Chrysopilus*). On the other hand, cryptic species can still be discovered, as shown by Zeegers & Álvarez Fidalgo (2018).

Number of species: CH: 28 (1998 Checklist: 31),

BE: 22, CZ: 24, DE: 25, DK: 19, ES: 15, GB: 15, NL: 21, PT: ~10, FI: 15-16, SK: 26, Europe: ~90, World: ~700.

Level of faunistic knowledge in Switzerland: Good, though some species are still to be expected. Contrary to many neighbouring countries, there is an apparent lack of modern data and records online.

General references: Majer (1997) [general introduction, key to genera], Szilády (1934) [key Palaearctic region], Van der Goot (1985) [key to Northwest Europe], Nartshuk (1969) [key to European part of USSR], Rozkošný & Spitzer (1965) [key Czechoslovakia], Stubbs & Drake (2001) [Great Britain], Zeegers & Álvarez Fidalgo (2018) [review *Rhagio*



Rhagio scolopaceus,
male (CMPD2, p. 434).

scolopaceus-group], Zeegers & Schulten (2022) [photographic guide, northwestern Europe], Krivosheina (2006) [taxonomy *Chrysopilus*], Lindner (1942) [taxonomy *Ptiolina*], Nartshuk (1995) [*Ptiolina*], Zeegers et al. (2021) [key *Chrysopilus luteolus*-group, review types *Chrysopilus* & *Ptiolina*], Schacht (1994) [checklist Bayern], Kahanpää et al. (2014) [checklist Finland].

References to the Swiss fauna: Majer & Bächli (1997), Merz et al. (2002).

Checklist

Chrysopilus Macquart, 1826

- *alpicola* (Pokorny, 1886) !
- *asiliformis* (Preyssler, 1791) !
 - = *aureus* (Meigen, 1804)
- *cristatus* (Fabricius, 1775) !
 - = *auratus* (Fabricius, 1805)
- *erythrophthalmus* Loew, 1840 !
- *flaveolus* (Meigen, 1820) L
 - = *helvolus* auct. nec (Meigen, 1820)
- *laetus* Zetterstedt, 1842 !
- *luteolus* (Fallén, 1814) !
- *nubecula* (Fallén, 1814) !
- *splendidus* (Meigen, 1820) !

Ptiolina Staeger in Zetterstedt, 1842

- *obscura* (Fallén, 1814) !

- *paradoxa* (Jaennicke, 1866) !

Rhagio Fabricius, 1775

- *annulatus* (De Geer, 1776) !
- *cingulatus* (Loew, 1856) !
- *conspicuus* Meigen, 1804 !
- *funnebris* Meigen, 1820 !
- *immaculatus* (Meigen, 1804) !
- *latipennis* (Loew, 1856) !
- *lineola* Fabricius, 1794 !
- *maculatus* (De Geer, 1776) !
- *notatus* (Meigen, 1820) !
- *scolopaceus* (Linnaeus, 1758) !
- *strigosus* (Meigen, 1804) !
- *subpilosus* (Becker, 1892) !
- *tringarius* (Linnaeus, 1758) !
- *vitripennis* (Meigen, 1820) !

Spania Meigen, 1830

- *nigra* Meigen, 1830 !

Symphoromyia Frauenfeld, 1867

- *crassicornis* (Panzer, 1806) !
- *immaculata* (Meigen, 1804) !

Excluded species

Chrysopilus helvolus (Meigen, 1820)

Chrysopilus palparis Loew, 1869 N1

Ptiolina cinereofasciata (Schummel, 1837) N2

Rhagio chrysostigma (Loew, 1857) N3

Rhagio perrisi (Gobert, 1877) N4

Notes

- N1 *Chrysopilus palparis* is so far only known from Corfu. Other records of this species are misidentifications of *Ch. asiliformis* (Zeegers & Pollet 2023).
- N2 *Ptiolina cinereofasciata*: there are no specimens mentioned from Switzerland (Nartshuk 1995) and the genus is known for its misidentifications (Zeegers et al. 2021).
- N3 *Rhagio chrysostigma* is a doubtful record, as this species is only known from NE Italy and Slovenia (Dvořák 2021). The species is thus removed from the list.
- N4 *Rhagio perrisi* is a doubtful record, as this species is only known from the Pyrenees and Iberia.

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