

## Polleniidae

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**Diagnosis:** The group, as currently circumscribed, has no clear autapomorphies. A pollenid specimen can be identified by the following combination of characters: Oestroid flies of small to medium size with dark colouration, but with various exceptions. The facial sclerite is typically carinate, although weakly so, with some exceptions such as *Pollenia griseotomentosa* (Jacentkovský). The stem vein lacks dorsal bristles. The anal vein does not reach the wing margin. The posterodorsal margin of the posterior coxa is bare. Both the prosternum and the proepisternal depression are bare. The postalar wall is usually bristly, although it may be bare in smaller *Morinia* Robineau-Desvoidy specimens. In females, the oviscapt sclerites are of moderate length, the eighth sternite is elongate with an intact apex, and the cerci are long and slender. In males, the distal parts of the distiphallus have a smooth ventral and ventrolateral surface.

**Biology:** The family Polleniidae, commonly known as «cluster flies» because some species congregate indoors in early autumn, is a group of flies that develop as endoparasitoids in earthworms (Rognes 1991, Szpila 2003). Despite being a locally abundant group, such as the genus *Pollenia* Robineau-Desvoidy, which is widespread in the Palaearctic region and has been accidentally introduced to various parts of the world, the biology of the Polleniidae is known only from a handful of species, all belonging to this genus. Nothing is known about the natural history of *Morinia*, which is less widespread but locally abundant, especially in the mountainous belt of mesophilous broadleaves, or of the rare *Alvamaja* Rognes, known from only a few specimens.

**Nomenclature and classification:** Historically classified by various authors as either a subfamily (Polleniinae) or a tribe (Polleniini) within the family Calliphoridae, they have recently been elevated to family status (Cerretti et al. 2019). Polleniids are recognised as the closest living relatives of the highly diverse parasitoid group Tachinidae (Cerretti et al. 2017, Kutty et al. 2019, Stireman et al. 2019, Yan et al. 2021), although their morphology does not explicitly support this relationship. The family Polleniidae currently comprises 147 species in eight genera, the majority of which are found in the Palaearctic region (Gisondi et al. 2020). Cluster flies are also widespread and abundant in the Oriental and Australasian regions. However, their presence is more restricted in the Nearctic (mainly the west coast of the USA) and in southern Africa within the Afrotropical region, and they are not found in the Neotropics. There are three genera in the western Palaearctic: *Alvamaja* Rognes, monotypic and known only from a few records from Italy (Schlüsslmayr and Cerretti, unpublished), Romania and Serbia; *Morinia* Robineau-Desvoidy, with 13 species identified, also present in the Afrotropical region, but with only one species recorded in Europe; and *Pollenia* Robineau-Desvoidy, with 95 recognised species, which occurs in almost all zoogeographical regions (Gisondi et al. 2020). A recent comprehensive review of the world's Polleniidae species is provided by Gisondi et al. (2020).

**Number of species:** CH: 11 (1998 Checklist: 11 [Calliphoridae, part]).

**Level of faunistic knowledge in Switzerland:** While such checklists often highlight new country records without acknowledging potential local extinctions, the overall faunal knowledge of Switzerland is good in a European context. Nevertheless, there is a gap in the detailed understanding of the local distribution of the species listed, and their conservation status remains unexamined. The next phase after the checklists should be the compilation of Red Lists according to IUCN guidelines.

**General references:** Dear (1986), Rognes (1991, 1998a), Szpila (2003), Grzywacz et al. (2012), Cerretti et al. (2019), Gisondi et al. (2020), Gisondi et al. (2023).

**References to the Swiss fauna:** Rognes (1998b), Pape et al. (2015).

## Checklist

### Moriniinae

*Morinia* Robineau-Desvoidy, 1830

- *melanoptera* (Fallén, 1817) !

### Polleniinae

*Pollenia* Robineau-Desvoidy, 1830

- *amentaria* (Scopoli, 1763) !
- *angustigena* Wainwright, 1940 !
- *atramentaria* (Meigen, 1826) !
- *fulvipalpis* Macquart, 1835 !
- *griseotomentosa* (Jacentkovský, 1944) !
- *hungarica* Rognes, 1987 !
- *labialis* Robineau-Desvoidy, 1863 !
- *pediculata* Macquart, 1834 !
- *rudis* (Fabricius, 1794) !
- *tenuiforceps* Séguy, 1928 !

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