

Sciomyzidae

Jean-Claude Vala (1998 Checklist: Bernhard Merz)

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Diagnosis: Adults (2,0-14 mm body length) can be mainly distinguished by the associated characters: lunula present; porrect antenna (3 articles), arista bare or plumose on dorsal of segment 3 (postpedicel) but sub-apical in *Tetanura* genus; no oral vibrissae; frons with 1-2 fronto-orbital setae; wing with muscoid venation type; small calypteres; female without ovipositor. (See Vala 1989: 37 and Knutson & Vala 2011: 199-212, and figs. 15.2, 15.3 for more details).

Biology: The Sciomyzidae were called snail-killing flies by Berg (1953) following his first developmental experiments showing that the larvae attacked and consumed specifically small aquatic freshwater snails. Subsequently, larval cycles were discovered at the expense of small terrestrial molluscs, diplopodes (by *Pelidnoptera nigripennis*), and small freshwater oligochaetes (some African *Sepedon*).

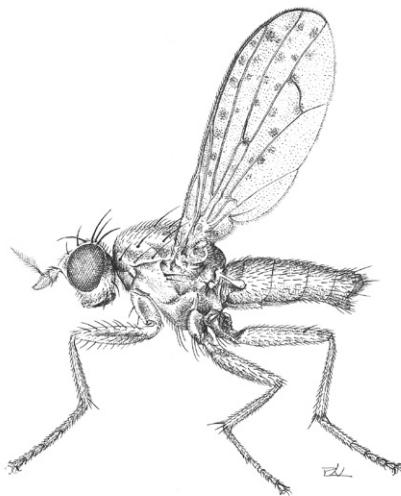
Oviposition takes place on inert substrates, leaves, low plants, sometimes directly on the shell of non-operculated gastropod molluscs (majority of species), on some freshwater shoreline bivalves, on slugs (as for *Euthycera chaerophilli*), on terrestrial Succinidae molluscs (as *Colobaea bifasciella* and *Salticella fasciata*). These preyed upon molluscs are easily attacked and eaten by the hatched larva. Exceptionally, larvae attack small freshwater oligochaetes, as observed in Benin for 3 species, such as *Sepedon knutsoni*. One or more preys can be consumed by one single larva. The larval cycle has 3 distinct stages and ends by a characteristic pupa from which the adult emerges. The feeding behavior is strictly predatory or parasitoid, sometimes successively. The species are uni- or multivoltine. Knutson & Vala (2011) develop all these behavioral aspects and indicate that the biology is known for 240 species (but 2 Afrotropical species are to be added), of the 541 species of Sciomyzidae referenced in the world.

Nomenclature and classification: Among the 61 described Sciomyzidae genera, the Swiss fauna is distributed according to the 3 subfamilies and the 2 following tribes:

- (• Salticellinae: 1 world genus which is not present in Switzerland).
- Sciomyzinae: subdivided in 2 tribes:
 - Sciomyzini: 13 world genera, 5 in Switzerland with 31 species.
 - Tetanocerini: world genera, 17 in Switzerland with 44 species.
- Phaeomyiinae: 2 world genera, only 1 genus in Switzerland with 3 species; this subfamily is treated as a separate family by certain authors.

Number of species: CH: 78 (1998 Checklist: 75),
BE: 69, CZ: 78, DE: 82, FR: 84, NL: 65, UK: 66, Europe: 120, Palearctic: 184, World: ~541.

Level of faunistic knowledge in Switzerland: The estimation of species of sciomyzids in Switzerland is good compared to those of neighbouring countries. In the future, we estimate that it will be possible to add about 2-5 new species to the Swiss fauna.



Psacadina verbekei,
female (CMPD3, p. 357).

General references: Knutson & Vala (2011), Vala et al. (2012) and Murphy et al. (2012) [world nomenclature, classification, taxonomy, distribution], Rozkošný (1987a, 1987b), Vala (1989) and Rivošecchi (1992) [keys, Palaearctic, particularly west Palaearctic and Mediterranean].

References to the Swiss fauna: Merz (1995, 1998, 2004, 2012), Merz et al. (2002, 2006)

Checklist

Phaeomyiinae

Pelidnoptera Rondani, 1856

- *fuscipennis* (Meigen, 1830) !
- *leptiformis* (Schiner, 1864) !
- *nigripennis* (Fabricius, 1794) !

Sciomyzinae

Anticheta Haliday, 1838

- *atriseta* (Loew, 1849) !
- *brevipennis* (Zetterstedt, 1846) !

Colobaea Zetterstedt, 1837

- *beckeri* (Hendel, 1902) !
- *bifasciella* (Fallén, 1820) !
- *distincta* (Meigen, 1830) !
- *pectoralis* (Zetterstedt, 1847) !
- *punctata* (Lundbeck, 1923) !

Coremacera Rondani, 1856

- *catenata* (Loew, 1847) !
- *fabricii* Rozkošný, 1981 !
- *halensis* (Loew, 1864) !
- *marginata* (Fabricius, 1775) !

Dichetophora Rondani, 1868

- *finlandica* Verbeke, 1964 !
- *obliterata* (Fabricius, 1805) !

Dictya Meigen, 1803

- *umbrarum* (Linnaeus, 1758) !

Ditaeniella Sack, 1939

- *grisescens* (Meigen, 1830) !

Ectinocera Zetterstedt, 1838

- *borealis* Zetterstedt, 1838 !

Elgiva Meigen, 1838

- *cucularia* (Linnaeus, 1767) !
- *solicita* (Harris, 1780) !

Euthycera Latreille, 1829

- *chaerophylli* (Fabricius, 1798) !
- *fumigata* (Scopoli, 1763) !
- *stichospila* (Czerny, 1909) ! N1 [1]

Hydromya Robineau-Desvoidy, 1830

- *dorsalis* (Fabricius, 1775) !

Ilione Haliday, 1837

(*Ilione* s.str.)

- *lineata* (Fallén, 1820) !

(*Knutsonia* Verbeke, 1964)

- *albiseta* (Scopoli, 1763) !
- *trifaria* (Loew, 1847) !

Limnia Robineau-Desvoidy, 1830

- *paludicola* Elberg, 1965 !
- *unguicornis* (Scopoli, 1763) !

Pherbellia Robineau-Desvoidy, 1830

- *albocostata* (Fallén, 1820) !
- *annulipes* (Zetterstedt, 1846) !
- *argyra* Verbeke, 1967 !
- *austera* (Meigen, 1830) !
- *brunnipes* (Meigen, 1838) !
- *cinerella* (Fallén, 1820) !
- *dentata* Merz & Rozkošný, 1995 !
- *dorsata* (Zetterstedt, 1846) !
- *dubia* (Fallén, 1820) !
- *griseola* (Fallén, 1820) !
- *knutsoni* Verbeke, 1967 !
- *limbata* (Meigen, 1830) !
- *nana* (Fallén, 1820) !

- *pallidicarpa* (Rondani, 1869) !
- *pallidiventris* (Fallén, 1820) !
- *rozkosnyi* Verbeke, 1967 !
- *schoenherri* (Fallén, 1826) !
- *scutellaris* (von Roser, 1840) !
- *silana* Rivosecchi, 1989 !
- *sordida* (Hendel, 1902) L
- *steyskali* Rozkošný & Zuska, 1965 !
- *ventralis* (Fallén, 1820) !

Pherbina Robineau-Desvoidy, 1830

- *coryleti* (Scopoli, 1763) !
- *intermedia* Verbeke, 1948 !

Psacadina Enderlein, 1939

- *verbekei* Rozkošný, 1975 !
- *vittigera* (Schiner, 1864) !
- *zernyi* (Mayer, 1953) !

Pteromicra Liroy, 1864

- *angustipennis* (Staeger, 1845) !
- *glabricula* (Fallén, 1820) !
- *leucopeza* (Meigen, 1838) !

Renocera Hendel, 1900

- *pallida* (Fallén, 1820) !
- *striata* (Meigen, 1830) !
- *stroblii* Hendel, 1900 !

Sciomyza Fallén, 1820

- *simplex* Fallén, 1820 !
- *testacea* Macquart, 1835 L

Sepedon Latreille, 1804

- *sphegea* (Fabricius, 1775) !
- *spinipes* (Scopoli, 1763) !

Tetanocera Duméril, 1800

- *arrogans* Meigen, 1830 !
- *elata* (Fabricius, 1781) !
- *ferruginea* Fallén, 1820 !
- *fuscinervis* (Zetterstedt, 1838) !
- *hyalipennis* von Roser, 1840 !
- *phyllophora* Melander, 1920 !
- *punctifrons* Rondani, 1868 !
- *robusta* Loew, 1847 !
- *silvatica* Meigen, 1830 !

Tetanura Fallén, 1820

- *pallidiventris* Fallén, 1820 !

Trypetoptera Hendel, 1900

- *punctulata* (Scopoli, 1763) !

Notes

- N1 Presently, we add one new species to the Swiss fauna: *Euthycera stichospila* (Czerny, 1909). The life cycle has been resolved by Vala & Caillet (1985) under the name *E. leclercqi* Vala & Reidenbach (1982), later synonymised by Rozkošný (1987).

Species records

- [1] VS, Lourtier, 22.7.1981, 1100 m, leg. J.-M. Reidenbach

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