

Bombyliidae (excl. Mythicomyiidae)**Hermann Blöchlinger** (1998 Checklist: Gabriele Miksch)

Last update: Jul 2024

Diagnosis: Although the different species are built very differently, they can usually be easily as bee flies in the field due to their flight behaviour. The wings are always held horizontally and open at right angles when resting. In many species, they have characteristic black to brown patterns, while in others they are completely transparent. Several genera are barely hairy, others have dense body hair. In addition to genera with a long projecting proboscis, the true bee flies, others have barely developed, short proboscis. All species have an ocellar tubercle with three ocelli. In the males of some genera the eyes meet on the forehead, in others they are separate, but always less widely than in the corresponding females.

Biology: All species of bee flies are parasites; they develop in the brood of other insects. However, the range of hosts can be quite wide. The following hosts are known to date: solitary bees, wasps, parasitic wasps, butterfly caterpillars, tachinid flies, oothecae of grasshoppers and ant lions. In some species, the males show territorial behaviour and engage in aerial fights with other males or pursue the females until copulation is successful. Before and between egg-laying, the females of most species repeatedly visit sandy areas. There, they sweep their abdomen back and forth several times and fill a sand-chamber (a sort of hooked ring at the end of the genitalia), with the finest grains of sand. The eggs that then emerge from the ovipositor must pass through this sand chamber. Some of the grains remain attached. The reason for this function is not yet known. To lay her eggs, the female buzzes a little above the holes of the future host, then repeatedly slams her abdomen downwards and hurls eggs directly against the nest entrances or close to them. The larvae pupate while still on the host. The pupa has a rather hard skin, which is reinforced with strong spines and bristles enabling it to crawl outside of the nest. Depending on the food supply during the larval period, the size of the imago can vary considerably.

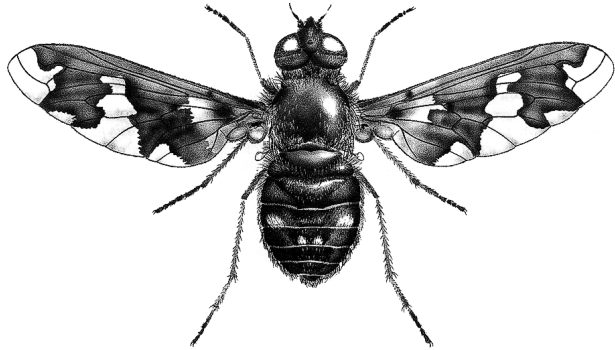
Nomenclature and classification: According to Evenhuis & Greathead (2015), with some adaptations (Blöchlinger 2023).

Number of species: CH: 49 (1998 Checklist: 40 [42-2]),
World: 4542.

Level of faunistic knowledge in Switzerland: medium; the occurrence of additional species present in neighbouring countries is to be expected.

General references: Evenhuis & Greathead (2015), Engel (1932-1937).

References to the Swiss fauna: Blöchlinger (2008, 2013, 2023, 2024), Miksch (1998).



Exoprosopa capucina,
male (CMPD2, p.487).

Checklist

Anthrax Scopoli, 1763

- *aethiops* (Fabricius, 1781) !
= *Spogostylum aethiops* Scopoli, 1763
- *anthrax* (Schrank, 1781) !
- *binotatus* Wiedemann, 1820 !
- *sticticus* Klug, 1832 !
- *trifasciatus* Meigen, 1804 !
= *leucogaster* Wiedemann, 1820
- *varius* Fabricius, 1794 !

Bombylella Greathead, 1995

- *atra* (Scopoli, 1763) !
= *Bombylius ater* Scopoli, 1763

Bombylisoma Rondani, 1856

- *minimum* (Scopoli, 1771) ?

Bombylius Linnaeus, 1758

- *canescens* Mikan, 1796 !
- *cinerascens* Mikan, 1796 !
- *discolor* Mikan, 1796 !
- *fimbriatus* Meigen, 1820 !
- *major* Linnaeus, 1758 !
- *medius* Linnaeus, 1758 !
- *nubilus* Mikan, 1796 !
- *posticus* Fabricius, 1805 !
= *vulpinus* Wiedemann, 1820
- *semifuscus* Meigen, 1820 !

- *venosus* Mikan, 1796 !
- Conophorus* Meigen, 1803
 - *virescens* (Fabricius, 1787) !
- Exhyalanthrax* Becker, 1916
 - *afer* (Fabricius, 1794) !
- Exoprosopa* Macquart, 1840
 - *capucina* (Fabricius, 1781) !
 - *cleomene* Egger, 1859 !
 - *jacchus* (Fabricius, 1805) ?
- Geron* Meigen, 1820
 - *gibbosus* Olivier, 1789 !
- Hemipenthes* Loew, 1869
 - *maura* (Linnaeus, 1758) !
 - *morio* (Linnaeus, 1758) !
 - *velutina* (Meigen, 1820) !
 - *villeneuvei* François, 1970 !
- Lomatia* Meigen, 1822
 - *belzebul* (Fabricius, 1794) !
 - *lachesis* Egger, 1859 ! N1
 - *lateralis* (Meigen, 1820) !
 - *sabaea* (Fabricius, 1781) !
- Micomitra* Bowden, 1964
 - *stupida* (Rossi, 1790) !
- Phthiria* Meigen, 1820
 - *minuta* (Fabricius, 1805) !
- Systoechus* Loew, 1855
 - *ctenopterus* (Mikan, 1796) !
 - = *sulphureus* (Mikan, 1796)
 - *gradatus* (Wiedemann, 1820) !
- Thyridanthrax* Osten Sacken, 1886
 - *fenestratus* (Fallén, 1814) !
 - *perspicillaris* (Loew, 1869) !
- Triplasius* Loew, 1855
 - *pictus* (Panzer, 1794) !
 - = *Bombylius pictus* Panzer, 1794
- Villa* Lioy, 1864
 - *abbadon* (Fabricius, 1794) !
 - *cana* (Meigen, 1804) !
 - = *quinquefasciata* (Wiedemann, 1820)
 - *cingulata* (Meigen, 1804) !
 - *fasciata* (Meigen, 1804) !
 - = *circumdata* (Meigen, 1820)
 - *halteralis* (Kowarz, 1883) !
 - *hottentotta* (Linnaeus, 1758) !
 - *ixion* (Fabricius, 1794) !
 - = *humilis* (Ruthé, 1831)

- *modesta* (Meigen, 1820) !
- *occulta* (Wiedemann, 1820) !
- *panisca* (Rossi, 1790) !

Notes

N1 *Lomatia lachesis*: new species for Switzerland (Blöchlinger 2024).

References

- Blöchlinger H. 2008. Zur Bestimmung der Schweizer Arten der Wollschweber-Gattung *Villa* (Diptera, Bombyliidae). Entomo Helvetica 1: 7-14.
- Blöchlinger H. 2013. *Phthiria minuta* (Fabricius, 1805) neu für die Schweizer Fauna (Diptera, Bombyliidae). Entomo Helvetica 6: 161-163.
- Blöchlinger H. 2023. Die Wollschweber der Schweiz. Diptera: Bombyliidae. Fauna Helvetica 34. info fauna CSCF, Neuchâtel, 168 pp.
- Blöchlinger H. 2024. Bestätigung für die Schweizer Fauna: *Lomatia lachesis* Egger, 1859 (Diptera, Bombyliidae). Entomo Helvetica 17: 213-216.
- Engel E.O. 1932-1937. 25. Bombyliidae. In: Lindner E. (ed). Die Fliegen der palaearktischen Region, Vol. 4(3): 1-619. Schweizerbart, Stuttgart.
- Evenhuis N.L. & Greathead D.J. 2015. World catalog of bee flies (Diptera: Bombyliidae) website. <http://hbs.bishopmuseum.org/bombcat/> (Accessed Nov 2023).
- Miksch G. 1998. 41. Bombyliidae. In: Merz B., Bächli G., Haenni J.-P. & Gonseth Y. (eds). Diptera - Checklist. Fauna Helvetica 1: 176-178, CSCF / SEG, Neuchâtel, 369 pp.