



Genus: *Xylota*



Xylota segnis male

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Genus: *Xylota* Meigen, 1822

Family: Syrphidae

Subfamily: Eristalinae

Tribe: Milesiini

Number of species of this genus found in Europe: 12

Description

Head

The face has a pronounced mouth edge, but it lacks a facial tubercle and it is not protruding ventrally. The face is usually black but in some species it is yellow in the lower part of the face towards the oral margin. The face is often heavily grey dusted and more or less densely covered with short white hairs. The gena are broad, black, shiny to grey dusted, with white or yellow hairs. The lunule is yellow to brownish black, and it is shiny. The frontal triangle is black, shiny to grey dusted, more or less densely covered with white hairs. In the female the frons is completely black, shiny or with lateral more or less large grey dust spots, sometimes with a grey transverse dust band, yellow and/or black haired. The ocellar triangle is isosceles to equilateral, yellow to black haired. The eye is bare, in the male holoptic, in the female the eyes are broadly separated. The occiput is black, shiny to white dusted, covered with long yellow or black hairs especially in the dorsal part. The antenna is short (pendulous), and it is black. The basoflagellomere is broad, it is rounded to oval (1-1.5 times as long as wide).

The arista is brownish black, and it is inserted dorsally near the base of the basoflagellomere. The arista is always bare, and it has a length of at least 1.5 the length of antennae but often longer.

Thorax

The postpronotum is hairy and exposed in a dorsal view. The scutum is black, and it is shiny to faintly dusted. The scutum is covered in short white to yellow hairs, sometimes also with black hairs to a varying degree. The pleura are black, they are shiny with usually variable white to grey dusted parts on the anterior and the posterior anepisternum, the proepimeron, the katepisternum and the coxae. Long yellow to white hairs are usually found on the posterior

anepisternum, the anterior anepimeron and the katepisternum. The dorsal and ventral hair patches on the katepisternum are broadly separated.

The metasternum is black, and it is bare. The scutellum is black, and it is shiny, with white hairs. The length of the hairs on the scutellum disc is usually shorter than 1.2 of the median length of the scutellum. A subscutellar hair fringe is present, the hairs are white.

Wings

The wing membrane is hyaline, in some species the membrane is slightly infuscated below the pterostigma or towards the apex of the wing. The wing membrane is densely covered with microtrichia. In some species there are more or less large bare areas on the basal third of the wing surface (the first and second basal cells and the anal cell may be largely bare). The pterostigma is yellow to brown or black. The vein R_{4+5} is almost straight, it is rarely sinuate, and the vein M_1 is meeting with the vein R_{4+5} at the wing apex at an acute to rectangular angle ($<90^\circ$). The cell r_1 is open at the wing margin, and the crossvein r-m is oblique and placed on the outer half of the discal cell dm.

Legs

The legs are of normal shape, only the hind femur is broadened but without distinct plates or extensions. In some species the male hind trochanter has more or less long extensions (a long spine or one to two shorter spikes). The femora are completely black. The hind leg femur may have more or less long black spines ventrally mixed with short yellow to black hairs, in addition to a varying degree of long white hairs (about 1/2 the diameter of the femur) dorsally. The mid leg femora and the hind leg femora are black with white hairs of varying length, but sometimes they are partially black haired. The tibiae can be completely yellow or apically more or less extensively black, the tibiae are rarely completely black. The tibiae have short yellow hairs (distinctly shorter than 1/4 of the diameter of the tibia) or the tibiae may have varying degrees of black hairs (mainly apically). The tarsi are of normal shape, and they can be completely yellow, but often with the basitarsus or the apical 2-3 tarsal segments black, rarely completely black. The tarsi are covered in short yellow hairs.

Abdomen

The abdomen is elongate with parallel sided margins. The tergites are completely black or black with grey, whitish or yellow spots on tergites 2 and 3, sometimes also on tergite 4. In some

species the tergites 2 and 3 are largely red. In some species the tip of the abdomen is covered with a dense pilosity of golden hairs. The tergites have short white to black hairs, at least tergite 3 and tergite 4 are medially covered in short black hairs (the length of these hairs is about 0.25 of the basal diameter of the hind leg tibia in lateral view). The sternites are of normal shape, they are black and shiny to more or less dusted. In some species sternite 2 and 3 are red, and they are covered in short yellow hairs.

Genitalia

The genitalia are symmetrical. The surstylus of the epandrium is usually divided in dorsal and ventral lobes, where the ventral lobe is longer and more distinct than the dorsal lobe. The cercus is oval to trapezoid, and it has simple margins. The hypandrium has the theca with lateral arms that have dorsal, lateral or apical specializations (Hippra 1968b).

General comments on identification to species level

No taxonomic problems in the genus delimitation. Older keys often included species of the genera *Chalcosyrphus* and *Brachypalpoidea* under *Xylota*.



Brachypalpoidea lentus male habitus



Chalcosyrphus nemorum male habitus



Brachypalpus laphriformis male habitus

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Differential diagnosis

The genus *Xylota* consists of medium to large sized hoverflies (body length 8-16 mm) with a black thorax and an elongated short-haired abdomen with parallel margins which can be black or with red bands or yellow spots. Some species have a densely golden-haired tip of the abdomen. The eyes are bare, the antennae are short with a dorsal bare arista. The wing vein R_{4+5} is almost straight, the crossvein r-m is oblique and lies in the outer half of cell dm. The hind femur is broadened but has no apicoventral extension or plate. The metasternum is bare and on the pleurae the upper and lower hair patches on the katepisternum are broadly separated.

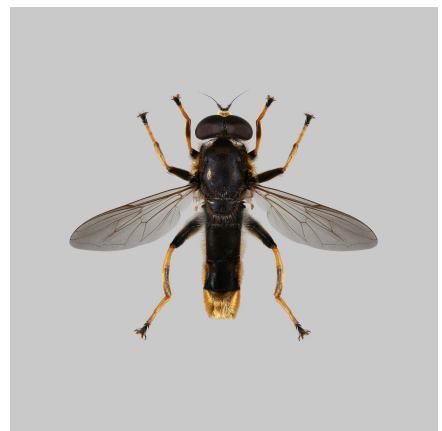
In the field *Xylota* may easily be mistaken at first sight for species in the genera *Brachypalpoides*, *Chalcosyrphus* or *Brachypalpus*. In *Brachypalpoides* the dorsal and ventral hair patches on the katepisternum are connected (these are broadly separated in *Xylota*) and all legs are completely black. In *Xylota* the legs have usually partially yellow tibia or tarsi (with the exception of *X. suecica*). *Chalcosyrphus* species differ from *Xylota* in having a hairy metasternum while in *Xylota* it is bare. In *Brachypalpus* the body hairs are generally longer, with many hairs on the scutellum disc that are about 2 times longer than the median scutellum length (in *Xylota* usually less than ca. 1.2 times longer than the scutellum length). Tergite 3 of *Brachypalpus* is entirely pale haired (in *Xylota* medially with short black hairs, the length of these hairs is about 0.25 of the basal diameter of the hind tibia in lateral view). Another similar looking genus is *Tropidia*, but the species in that genus have an apicoventral tooth or plate on the hind femur, which is missing in *Xylota*.



Tropidia scita male habitus



Xylota segnis male hind leg



Xylota sylvarum male habitus

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Geographical distribution and global diversity

The genus *Xylota* occurs mainly in the Nearctic and Palaearctic biogeographical regions. Globally, there are over 100 species, of which 12 species have been recorded for Europe. Complete keys for Europe are given by Speight (1999) and Speight & Sarthou (2017), Bartsch et al. (2009a) and Haarto & Kerppola (2007a). For central Europe other keys such as Bot & Van de Meutter (2019) can be used. The puparia and last instar larvae of British species are keyed out by Rotheray (2004).

Presence in Europe

Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Gibraltar, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Liechtenstein, Montenegro, Moldova, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Russian Federation - European Russia, Serbia, Slovakia, Slovenia, Sweden, Switzerland, Spain, Ukraine, United Kingdom, United Kingdom, Andorra, Isle of Man.


Biology

Adult behaviour and flower preferences. European *Xylota* species are often found sitting low in the vegetation on horizontal leaf surfaces, or running in zig-zag over leaf surfaces, sometimes on tree trunks, stumps, stem bases, wood debris or close to sap runs. They are found in many different shrub and forest habitats from lowland to subalpine forests, often on forest margins or in clearings. Only a few species are regular flower visitors on a wide spectrum of flowers, mainly on tall herbs of the families Apiaceae, on *Rubus* species, different shrub species such as *Crataegus* or *Sorbus*; some species are also found on herbs such as *Ranunculus*. Other species collect pollen from horizontal leaf surfaces. This is usually a mixture of anemophilous and fallen

pollen from insect-pollinated flowers such as the Apiaceae flowering above. Personal observation by Roger Morris 2023: In the UK I have noticed that *Xylota* in northern and western parts are far more likely to visit flowers than they are in southern Britain. I think this reflects differing levels of rainfall – in the north it rains regularly and pollen is washed off leaves whereas in the south it stays fixed by aphid honeydew.

Reproduction and larval biology. The larvae of *Xylota* are associated with dead wood and old trees. The larvae are saprophagous and live in tree holes, in rotten wood or in decaying sap under the bark. Some species show a clear preference for deciduous trees or for conifers.

Seasonal life cycle. The developmental cycle is annual, with a more or less long flight period from late spring to autumn.

 **Type species:** *Musca sylvarum* Linnaeus, 1758

Common names:

FI - puuharit;
SV - vedblomflugor;
EN - Leafwalkers

List of species found in Europe:

1. *Xylota abiens* Meigen, 1822
2. *Xylota caeruleiventris* Zetterstedt, 1838
3. *Xylota florum* (Fabricius, 1805)
4. *Xylota ignava* (Panzer, 1798)
5. *Xylota jakutorum* Bagatshanova, 1980
6. *Xylota meigeniana* Stackelberg, 1964

7. *Xylota segnis* (Linnaeus, 1758)
 8. *Xylota suecica* (Ringdahl, 1943)
 9. *Xylota sylvarum* (Linnaeus, 1758)
 10. *Xylota tarda* Meigen, 1822
 11. *Xylota triangularis* Zetterstedt, 1838
 12. *Xylota xanthocnema* Collin, 1939
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