Pollinator Academy

Genus: *Syrphus*

Syrphus torvus male

(© Sander Bot)

Genus: *Syrphus* Fabricius, 1775

Family: Syrphidae

Subfamily: Syrphinae

Tribe: Syrphini

Number of species of this genus found in Europe: 8

Description

The name *Syrphus*, coined by Fabricius in 1775, became the type genus of the family Syrphidae, with *Syrphus ribesii* as its type species. The early origin of the genus meant that many other syrphid species were first described as species of *Syrphus*, but later transferred to other genera, as phylogenetic relationships within the family Syrphidae became better understood. The last great phase of fractionation of the genus *Syrphus* occurred during the 1950s and 1960s, when the 70 or so European species, until then consigned to the genus by many authors, became reduced to the 9 representing the genus in Europe today.

Head

The eye is bare or hairy. The face is yellow, sometimes narrowly darkened yellow-brown in the mid-line or entirely black on the ventral half.

There is little sexual dimorphism. The eyes do not meet on the frons in the female, as they do in the male and the legs can be more extensively yellow in the female than the male.

Thorax

The scutum is rather dull, or vaguely shiny, dark green to black, often rather paler along its lateral margins than medially. The pleuron is dark green to black, without yellow marks, sparsely dusted. The dorsal and ventral katepisternal hair patches are narrowly joined posteriorly. Metasternum is bare.

Wings

The wing membrane is either entirely covered in microtrichia or with bare areas in the basal half. Vein R_{4+5} is only mildly curved.

Legs

The legs are yellow and partly black, with all of the tibiae mostly yellow.

Abdomen

The abdomen varies in shape from broadly oval to narrowly oval, to more-or-less parallel-sided. The tergites have a marginal sulcus developed to a variable extent on its lateral margins, from hardly visible to well developed. Tergites with extensive yellow markings, in the form of a transverse band or a pair of yellow bars on tergites 2 to 4. The sternites are predominantly or entirely yellow, with any dark (brown) markings usually vague and imprecise.

General comments on identification to species level

Differential diagnosis

As the history of the genus suggests, European *Syrphus* species have a general resemblance to species in various other European syrphid genera, many of which were once regarded as subgenera of *Syrphus*. In possessing the following combination of features, *Syrphus* species can be separated from most other European genera of the Syrphini is face yellow, the antenna shorter than the head, scutellum yellow, wing vein R_{4+5} not dipping deeply into wing cell r_{4+5}, tergites 2 – 5 with weakly beaded lateral margins and paired yellow markings. But the most diagnostic feature of the genus is not easily seen – the dorsal surface of the ventral calypter has moderately long yellowish-white hairs on its surface, close to its outer margin. These hairs are absent in other European genera of Syrphini, although present in *Chrysotoxum*, which is easily separated from *Syrphus* by its shorter antennae (antennae as long as the head in *Chrysotoxum*). The hairs can only be seen readily when the dorsal surface of the

ventral calypter is exposed. Even then, they can be few and short in the species *Syrphus nitidifrons*, making interpretation difficult. Species of *Parasyrphus* can be closely similar to *Syrphus* in their general appearance, but have the antero-dorsal area of the anterior anepisternum hairy. This part of the pleura is bare in *Syrphus*. Some *Epistrophe* species are also very similar in appearance to *Syrphus* species, but do not have hairs of the dorsal surface of the ventral calypter and the margins of their tergites do not have a marginal sulcus.

Syrphus torvus male habitus

Syrphus ribesii calypter

Syrphus torvus female head

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Geographical distribution and global diversity

A trio of the European species, *Syrphus ribesii*, *S. torvus* and *S. vitripennis* are extremely widespread throughout the continent, including the arctic zone and the Mediterranean zone. The rest of the species are montane and northern in their distribution, with the range of *S. attenuatus* and *S. sexmaculatus* hardly extending south beyond Scandinavia and northern parts of European Russia. The most restricted

ranges are exhibited by *S. auberti*, known only from the Pyrenees and the Alps, and *S. nitidifrons*, which has been found primarily in the Alps and the Balkans, but also occurs at lower altitudes in parts of Atlantic zone countries like Belgium and the United Kingdom (southern England). Although these last two species are not known outside Europe, most of the others occur across Eurasia from the Atlantic to the Pacific, four of them also being widespread in North America.

Presence in Europe

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

Biology

Most of the European species appear to have one generation a year, the northern species having a flight season centred on June to August and *S. nitidifrons* flying April to June. In contrast, the three most widely distributed species are polyvoltine and in flight from April (or March in southern Europe) to November, two of them, *S. ribesii* and *S. vitripennis*, being regarded as highly migratory.

The larvae of *Syrphus* species are aphid-feeding, on the foliage of herb-layer plants, shrubs and trees. Larvae of *S. ribesii* and *S. vitripennis* have been repeatedly found on herb-layer plants and shrubs including crops like maize, beets, oilseed rape and potato (foliage), berry crops such as black currants and raspberries, and in orchards of fruit trees like apples. They are also frequent on the foliage of garden plants like rose bushes. Larvae of the other very widespread species, *S. torvus* are primarily associated with bushes, shrubs and trees, including both deciduous trees and conifers. *S. torvus* can be abundant in conifer forest and conifer plantations and also occurs in orchards of fruit trees. The more northern and montane European *Syrphus* species are associated

with a narrower range of habitats, *S. admirandus* with conifer forest and taiga, *S. attenuatus* and *S. sexmaculatus* with subalpine birch forest and dwarf-shrub tundra, *S. auberti* with montane/subalpine unimproved grassland and flushes in montane/subalpine heath and *S. nitidifrons* with humid conifer forest of pine, spruce or fir.

Between them, Europe's *Syrphus* species are recorded as visiting a very wide range of flowers of herb layer plants, bushes and trees, though, apart from male *Salix* flowers, there are few pollen-only flowers among them. But *S. attenuatus* has been recorded as visiting flowers of poppy (*Papaver*) and sedges (*Carex*) and *S. torvus* as visiting plantain (*Plantago*) flowers.

Type species: *Musca ribesii* Linnaeus, 1758

Common names:
FI - aitokirvarit;
SV - solblomflugor;
NB - hageblomsterfluer

List of species found in Europe:

1. *Syrphus admirandus* Goeldlin, 1996
2. *Syrphus attenuatus* Hine, 1922
3. *Syrphus auberti* Goeldlin, 1996
4. *Syrphus niditifrons* Becker, 1921
5. *Syrphus ribesii* (Linnaeus, 1758)
6. *Syrphus sexmaculatus* (Zetterstedt, 1838)
7. *Syrphus torvus* Osten-Sacken, 1875

8. *Syrphus vitripennis* Meigen, 1822

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Authors

Photographs: Sander Bot (Taxo-Fly team)

Text: Martin Speight, Ximo Mengual & Ante Vujić (Taxo-Fly team)

Reviewer: Francis Gilbert (Taxo-Fly team)

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