



Pollinator Academy

Genus: *Philhelius*





Philhelius dives male habitus (© Sander Bot, licensed to the EU under CC-BY-NC 4.0)

Genus: *Philhelius*

Family: Syrphidae

Subfamily: Syrphinae

Tribe: Syrphini

Number of species of this genus found in Europe: 8

Description



Philhelius laetus male habitus



Philhelius marginalis male habitus



Philhelius dives female frons

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Head

The antenna is shorter than the head; the basoflagellomere is oval, usually darker (dark brown/black) anteriorly and apically, and paler (yellow, orange/reddish or light brown) basally and posteriorly (in some species it is unicoloured yellow-brown to reddish). The eye hairs are variable: short but dense only in *P. laetus*, short and very sparse in *P. pilosus*, while in other species the eyes are almost bare, with very few short hairs. The face is completely or mostly yellow to yellowish-brown and always shiny, with a facial tubercle, and covered with sparse hairs except medially. The frontal triangle in males is completely yellow and shiny, while in females the frons is yellow with a black medial stripe variable in its width, shape and length. The vertical triangle in males and the vertex in females is completely black, covered with yellow or black or intermixed hairs.

Thorax

The mesonotum is shiny, with a pair of sharply defined, shining yellow or whitish-yellow longitudinal stripes, extending at least from the postpronotum to the transverse suture. The

hairs on the mesonotum are variable in length and colour, but they are mostly yellow. The pleuron has at least one sharply defined bright yellow spot. The scutellum is brightly yellow, at least posteriorly.

Wings

Wing vein R_{4+5} is straight or nearly so.

Legs

The legs are completely yellow to light brown (only the trochanter can be black), or the hind leg is partly dark brown to black.



Philhelius stackelbergi male sternites (© Sander Bot, licensed to the EU under CC-BY-NC 4.0)

Abdomen

Parallel-sided to oval. The tergites are black, each with a pair of yellow spots on tergites 2-4 (and 5), and margined at least on tergites 4 and 5. The yellow markings on tergite 2 are usually triangular, while the markings on tergites 3 and 4 are oval, straight or slightly oblique, of variable width; the yellow markings are usually separated medially, except in male *P. laetus* (connected on tergite 3 and 4) and *P. marginalis* (connected on tergite 3). Sternite 1 is usually completely

black, while sternites 2-4 are usually black at least on the posterior 2/3-1/2; the anterior margin of the black markings on sternites 2-4 are usually straight, but in some specimens the markings have a pointed median extension.

Genitalia

The surstylus is square-shaped to triangular; the cercus is oval to quadratic, with a simple margin; the hypandrium is elongated, with the gonostylus of different shapes.

Differential diagnosis

Philhelius species resemble those of the genera *Sphaerophoria*, *Doros*, *Epistrophe*, and *Chrysotoxum*. *Philhelius* can be distinguished from *Sphaerophoria* by the strongly marginated abdomen (at least on tergites 4 and 5) (without a margin in *Sphaerophoria*); from *Doros* by the absence of an abdominal waist (present in *Doros*); from *Epistrophe* by the presence of yellow spots on the pleuron (absent in *Epistrophe*); and from *Chrysotoxum* by the short length of the antennae, shorter than the head (longer than the head in *Chrysotoxum*).



Doros profuges male habitus



Chrysotoxum arcuatum male habitus



Sphaerophoria loewi female abdomen



Philhelius citrofasciatus female abdomen



Philhelius dives male lateral thorax



Philhelius dives female frons



Philhelius dives male habitus

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Geographical distribution and global diversity

Philhelius is a Palearctic genus, with the most frequent occurrence in central and south Europe, and in North Africa. Two species are local endemics to Greece (*Philhelius aeginae* and *P. pilosus*).

Presence in Europe

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

Biology

Adult behavior and flower preferences

Philhelius live along forest edges (both deciduous and coniferous), on grasslands, and shrubby vegetation. The species regularly occur in urban areas, especially those with well-established gardens. Adults visits flowers of a wide range of different plant species, usually umbellifers and yellow composites.

Reproduction and larval biology

Their larvae are aphid predators.

Seasonal life cycle

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

i **Type species:** *Syrphus ornatus* Meigen, 1822 (=pedissequum)

Common names:

FIN - kaunokirvarit

List of species found in Europe:

1. *Philhelius aeginae* Ricarte, Nedeljković & Vujić in Nedeljković et al., 2018
2. *Philhelius citrofasciatus* (De Geer, 1776)
3. *Philhelius dives* (Rondani, 1857)

4. *Philhelius laetus* (Fabricius, 1794)
 5. *Philhelius marginalis* (Loew, 1854)
 6. *Philhelius pedissequus* (Harris, 1778)
 7. *Philhelius pilosus* Nedeljković, Ricarte & Vujić in Nedeljković et al., 2018
 8. *Philhelius stackelbergi* Violovitsh, 1975
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References

Mengual, X. 2012. The flower fly genus *Citrogramma* Vockeroth (Diptera: Syrphidae): illustrated revision with descriptions of new species. *Zoological Journal of the Linnean Society*, 164: 99-172.

Speight, M.C.D. 2020. Species accounts of European Syrphidae, 2020. *Syrph the Net*, the database of European Syrphidae (Diptera). *Syrph the Net publications*, Dublin, vol. 104, 314 pp.

van Veen, M.P. 2004. *Hoverflies of northwest Europe: identification keys to the Syrphidae*. KNNV Publishing, Utrecht, The Netherlands, 254 pp.

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Attributions

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