Pollinator Academy

Genus: *Platynochaetus*

Platynochaetus macquarti male habitus

Genus: *Platynochaetus* Wiedemann, 1830

Family: Syrphidae

Subfamily: Eristalinae

Tribe: Merodontini

Number of species of this genus found in Europe: 2

Description

Head

The face is black, dusted or shiny, covered with long white, yellow or black hairs. The gena is broad, black, grey dusted. The lunule is yellow to brown, shiny. The frontal triangle is black, white dusted, covered with yellow or black hairs. Frons: in females black, shiny or grey dusted. The ocellar triangle is isosceles. The eye is bare, in males almost meeting on the frons, in females broadly separated. The occiput is black, shiny to white dusted, covered with long yellow, white or black hairs. Antenna is black, second antennal segment elongated, as long as or longer than third antennal segment. The third antennal segment is about 1.5 - 2.5 times as long as high. Arista is black, inserted dorsally near the base of the third antennal segment, always bare, only in males apically extended and flattened, “golf club shaped”. The fossette extends dorsally on third antennal segment from the base of arista to the apex of the third antennal segment.

Thorax

Postpronotum is hairy. Scutum is black, shiny to faintly dusted, covered with long yellow, orange, or partially or completely black hairs. Pleura: black, shiny with long completely white, yellow or partially black hairs on anterior and posterior anepisternum, katepisternum and anepimeron, other parts of pleura bare. Metasternum is black, with long white, yellow or black hairs almost as long as hairs on anterior side of hind leg coxa. Scutellum is black, with long white, yellow or black hairs.

Wings

The wing membrane is hyaline, densely covered with microtrichia, except for bare areas on basal third of the wing, basal wing cells (first and second basal cells and anterior cubital cell) largely

bare. Radius vein has dorsally black setae. Pterostigma is yellow to brown. Vein R_{4+5} is strongly sinuate, vein M_1 meets vein R_{4+5} at wing apex at a right to obtuse angle (> 90°). Vein R_{4+5} usually has two bows and with one to two vein stumps, one pointing into cell r_{4+5} and the other one more apically pointing into cell r_{2+3}, cell r_1 open at wing margin, cross-vein r-m is placed on the top half of the discal cell.

Legs

Femora: completely black or largely black with a narrow yellow tip at knee. All femora with long dense black, white or yellow hairs longer than width of diameter of femur), of unmodified shape, only hind femur broadened without other modifications. Tibiae: fore and mid tibia black to yellow, or yellowish-brown with short yellow to white hairs, but black hairs may be present medially and ventrally in basal half of tibia (length of hairs in basal half distinctly shorter than width of tibia). Hind tibia is black or partly yellow, slightly enlarged with ventrally about in the middle a well-developed depression (in females almost missing), covered with short yellow to black hairs.

Tarsi are black, of simple shape, covered with white or yellow hairs. The hairs ventrally on tarsi are much denser, than on their dorsal side.

Abdomen

Tapering to broadly oval. Tergites are completely black or brownish black, shiny with long completely white, yellowish to orange or black hairs mainly at tip of abdomen (tergite 3 apically or from tergite 4 to tip of abdomen), rarely completely black haired. Sternites are black, shiny or dusted, covered with long white to yellow or black hairs. Sternite 4 in males with posterior margin with a deep median incision.

Platynochaetus setosus male habitus

Platynochaetus setosus male hind leg

Platynochaetus setosus female head lateral

General comments on identification to species level

There are no taxonomic problems in the genus delimitation. However, a revision of the species is needed as the synonyms and the delimitation of some species needs to be clarified. The "European" specimens of *Platynochaetus rufus* used by several authors seem to be a colour variant of *P. maquartii*, while the true *P. rufus* probably only occurs in Morocco and Algeria.

Platynochaetus setosus male antenna

Eristalis intricaria male habitus

Merodon equestris equestris male habitus

Differential diagnosis

The genus *Platynochaetus* consists of medium-large sized hoverflies (body length 11 to 14 mm) which resemble a bee or bumblebee, but have the characteristic looped radial vein R_{4+5} and thus the "foot-shaped" wing cell r_{4+5} typical of Eristalini hoverflies. Therefore, vein M_1 meets vein

R_{4+5} at a right angle or is recurrent with an obtuse angle (> 90°). The male antenna bears an arista with a flattened and enlarged tip, being “golf-club-shaped” (hence the Latin name), which is a unique character among European hoverflies. Another important character for *Platynochaetus* is the elongated antenna, where the second segment (pedicel) is as long as or longer than the third segment (basoflagellomere). In the field *Platynochaetus*, especially the females, can easily be mistaken for *Eristalis* or *Merodon*. *Eristalis* species always have short antennae with the second segment clearly shorter than the third segment. Most *Eristalis* species have a plumose arista, while the arista is bare in *Platynochaetus*. *Merodon* species have a triangular apico-ventral flange (lamina) on the hind femur, which is absent in *Platynochaetus*. *Platynochaetus* species have a distinct tuberculate face (in females more obvious than in males), while *Merodon* species have no facial tubercle.

Geographical distribution and global diversity

Platynochaetus occurs in the Palaearctic region and has a circum-mediterranean distribution. The genus has four species, two of which, *Platynochaetus macquartii* and *P. setosus*, have been recorded for Europe. *Platynochaetus macquartii* is restricted to the islands of Sicily and Malta, while *P. setosus* is more widely spread along the western part of the Mediterranean coast both in Europe and Africa. The most complete identification key for European species is given by Sack (1930).

Presence in Europe

Andorra, France, Gibraltar, Italy - Sicily, Malta, Portugal, Spain.

Biology

Adult behaviour and flower preferences. The European *Platynochaetus* species are rapid flyers, and fly close to the ground, often in zig-zag or around bushes, settling on bare ground or vegetation. Males may hover at 2-3 m height. They are found in Mediterranean screes, garrigue and maquis scrubland or in forest openings in oak (*Quercus* species) forests. Adults visit flowers, with a preference for flowering Euphorbiaceae, but also on bushes like *Viburnum tinus*, however data on flower-visiting is scarce.

Reproduction and larval biology. Larvae of *Platynochaetus* are unknown.

Seasonal life cycle. The developmental cycle is annual, with a short early spring flight period for *Platynochaetus maquartii* and an extended longer flight period in the more widespread *P. setosus*.

Type species: *Syrphus setosus* Fabricius, 1794

List of species found in Europe:

1. *Platynochaetus macquarti* Loew, 1862
2. *Platynochaetus setosus* (Fabricius, 1794)

References

Bezzi, M. (1924). Monografia del genere *Platynocheatus* Wied. (Dipt.; Syrph.). *Memorie Soc. Ent. Ital.* (1924): 215-227.

Lorenzo, D., Santaigo, A. & Ricarte, A. (2019) El Jardín Botánico de Castilla-la-Mancha (Albacete, España), refugio de un grupo bioindicator – los sírfidos (Diptera: Syrphidae). *Cuadernos de Biodiversidad* 56, 15–25. [LOR19JAR]. https: //doi.org/10.14198/cdbio.2019.56.02

Sack, P. (1930) *Die Fliegen der Palaearktischen Region. Familie 31: Syrphidae*. Schweizerbart Science Publishers, Stuttgart, Germany. [SAC30FLIA]. Available from: http://www.schweizerbart.de//publications/detail/artno/132063100/Lindner_Fliegen_der_palaarkt_Region_F

Ssymank, A. & M. J. Ebejer (2009/2011 published) Spring observations on flower visits by hoverflies (Diptera: Syrphidae) in Malta and Sicily with new records for both islands. *Studia dipterologica* 16 (2009) 1/2: 47–59.

Attributions

This factsheet was created by Taxo-Fly and is one of the outputs from a network of European Initiatives dedicated to pollinators, such as the EU Pollinator Monitoring Scheme (EUPoMS), the Preparatory Action for EU Pollinator Monitoring Scheme and Indicators (SPRING project), the Horizon 2020 Europe research projects (POSHBEE, SAFEGUARD), and European National action plans for pollinators.

Authors

Photographs: Sander Bot (Taxo-Fly team)

Text: Axel Ssymank (Taxo-Fly team)

Reviewer: Wouter van Steenis (Taxo-Fly team)

Commons license Attribution-NonCommercial 4.0 International (CC-BY-NC 4.0). This is indicated in the image caption.