Pollinator Academy

Genus: *Platycheirus*

Platycheirus albimanus male habitus

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Genus: *Platycheirus* Lepeletier & Serville, 1828

Family: Syrphidae

Subfamily: Syrphinae

Tribe: Bacchini

Number of species of this genus found in Europe: 63

Description

Head

Face black, grey dusting may be present in most of the face. Facial tubercle varying from moderately to strongly protruded in connection with a ventrally produced snout. Gena are black, shiny or grey dusted. The lunule is black and shiny or grey dusted. The frontal triangle is black, shiny or dusted grey some species with brown dusting, covered with black or white hairs. Eye bare. In the females the frons is black and shiny, or with grey dusted lateral spots or bands, in some species the frons is completely dusted. The ocellar triangle is isosceles to equilateral. The occiput is black, shiny to white dusted, covered with long black and/or white hairs. Antenna with scape and pedicel black, rarely yellow (for example in *P. jaerensis*), the basoflagellomere is 1-2x as long as wide, entirely black or ventrally orange. The arista is black or brown, always bare.

Thorax

Scutum is black, covered with yellow and/or black hairs, may be shiny or in most species slightly to densely grey dusted. Pleura are black, usually more or less dusted, in some species katepimeron and anepisternum fully or partially shiny. Anterior anepisternum, meron, metapleuron and metasternum usually bare, other parts of the pleura with long white to black hairs. Scutellum black, with long white to black hairs. Subscutellar fringe well developed and complete with long white to yellow hairs.

Wings

Wing membrane is hyaline, densely covered with microtrichia, except for bare area on basal 1/4 or less of the wing surface in some species. Pterostigma is yellow to brown.

Legs

Legs in the male sex usually with different modifications or specialised hairs. Femora are completely black to completely yellow, or with basal part of femora black to varying degree. Front femur in many species with distinct groups of black and or long white hairs, sometimes modified at their tips. Mid femur modified in some species with ventral depression and distinctive hairs (*P. peltatus*). Hind femur completely black to yellow, sometimes with black bands, of normal shape without modifications. Fore tibia black to yellow, in some species enlarged and flattened at the apex or broadened in the middle, with fields of specialized long hairs. Mid tibia black or yellow with black markings, normal shape or with modifications, slightly angular, sometimes broadened at tip, and with fields of bristles medioventrally. Hind tibia black or yellow, sometimes with a black ring, of normal shape. Front basal tarsomeres may be largely broadened, only the first tarsomere or to a varying degree also tarsomeres two to four. In species with broadened front tarsomeres the ventral side often has a characteristic pattern of yellow and black markings, and or hair patterns which are species specific and can be used for identification.

Platycheirus groenlandicus male habitus

Platycheirus clypeatus habitus male

Platycheirus ambiguus habitus male

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Abdomen

Shape ranges from parallel sided to distinctly oval. Tergites are completely black or black with grey dusted spots or black with yellow markings, which may be covered partially by white or grey dusting, in some species yellow spots very large and abdomen almost completely yellow.

Sternites are without modifications, yellow to mostly black, covered with white and or black hairs.

General comments on identification to species level

No taxonomic problems in genus delimitation. However, in earlier times some authors regarded related genera such as *Rohdendorfia*, *Spazigaster*, *Syrphocheilosia* or the genus *Pyrophaena* as subgenera of *Platycheirus*. The species groups used here are morphological groupings (not fully tested in phylogenetic analysis). The *Platycheirus ambiguus*-group of Nielsen (2004) is considered as a subgenus *Pachyspyria*. The *Platycheirus albimanus* and *P. peltatus*-groups are considered monophyletic while the *P. manicatus* group is possibly paraphyletic (Young et al. 2016).

Differential diagnosis

The genus *Platycheirus* consists of medium-sized hoverflies which are either almost completely black or with yellow or grey to white dusted markings, or have a largely yellow, narrow parallel-sided abdomen. A distinctive feature of the genus is that the metasternum is very well developed and “winged” while in the closely related genus *Melanostoma* the European species the metasternum is reduced. The fore legs of the males have different modifications with either broadened parts of the tibia and/or tarsal segments, or modified hairs like long bristles, groups of white hairs, or bristles apically bent backwards. Females of *Platycheirus* usually have rectangular or trapezoid spots on tergites 3 and 4, while female *Melanostoma* has drop-like shape of spots on tergites 3 and 4 where the spots are narrowed towards the side-margin.

Platycheirus metasternum

Melanostoma metasternum

Platycheirus albimanus male front leg

Body length ranges from (4.7) 6.5 mm to 12 mm. Because of their mostly parallel-sided abdomen, the black face and black scutellum, *Platycheirus* species can be confused with species belonging to *Spazigaster*, *Rohdendorfia*, *Pyrophaena*, *Syrphocheilosia*, *Melangyna* and *Meligramma*. *Platycheirus* species have a bare arista, while it is short plumose in *Spazigaster* (hairs on arista about twice the length of its diameter at the base), and pubescent in *Syrphocheilosia* (hairs on arista shorter than its diameter at the basis). *Rohdendorfia* has a bare arista, but completely black legs, while in *Platycheirus* the legs are at least partially yellow. *Pyrophaena* has a suboval abdomen (not completely parallel-sided as in most *Platycheirus*). *Pyrophaena rosarum* has white spots on tergite 3 and in *Pyrophaena granditarsa* the abdomen has a broad orange band, and males have a highly modified front leg tarsus. Similar looking genera are *Melangyna* and *Meligramma*, however the majority of their species do have partially or completely yellow face or scutellum. *Meligramma cingulatum* which has a black face can be distinguished by having narrow bands or spots (max. about 1/3 of the tergite length on tergites 3 and 4). Black-faced *Melangyna*, like females of *Melangyna quadrimaculata*, with a completely black abdomen can be distinguished by their weakly but distinctly hairy eyes while in *Platycheirus* the eyes are bare.

Syrphocheilosia claviventris male antenna

Spazigaster ambulans male antenna

Platycheirus albimanus male head lateral

Pyrophaena rosarum male habitus

Pyrophaena granditarsis male habitus

Rohdendorfia alpina male habitus

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Geographical distribution and global diversity

Platycheirus occurs mainly in the Palaearctic and Nearctic regions, with a few species in the Oriental and Australasian regions. Globally about 220 species are known, and 65 species have been recorded for Europe. Most complete identification keys for Europe are Bartsch et al (2009b), van Veen (2004) and for the subgenus Pachysphyria (as ambiguus-group) Nielsen (2004, 2014b), a comprehensive key including all European species does not exist.

Presence in Europe

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

Biology

Adult behaviour and flower preferences. *Platycheirus* hoverflies often can be found sitting low in the herb layer, among grasses, sedges or flying low around suitable flowers, some species also in low trees and bushes. Especially high mountain species are also found sunbathing on bare rock or on the soil. Adults visit a large diversity of flowers, with several species having a preference for anemophilous plants of the families Poaceae, Juncaceae, Cyperaceae and Plantaginaceae. Some early flying species are usually found on *Salix* catkins. Species specific flower preferences vary considerably and can range from a very broad spectrum of visited plants to oligophagous species.

Reproduction and larval biology. Larvae of *Platycheirus* are zoophagous, mostly feeding on aphids (aphidophagous). Some species may be facultatively phytophagous. Larvae are mostly nocturnal and life in aphid colonies and pass three larval stages until they pupate either directly

on the plant near the aphid colonies or leaving the aphid colony for a drier and more sheltered place for pupation.

Seasonal life cycle. The developmental cycle is mostly annual, with some species having two or more generations per year, especially in central and southern part of the range. Seasonal occurrence is species specific with some species being typically early spring species with short flight period, other species flying over most of the vegetation period and very few species only appear late in the season.

Type species: *Syrphus scutatus* Meigen, 1822

Common names:
DE - Breitfußschwebfliege;
FI - karttukirvarit;
EN - Sedgesitter;
NO - fotblomsterflue;
SE - fotblomfluga

List of species found in Europe:

A full listing of species occurring in Europe will be provided on the Pollinators web platform.

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