Pollinator Academy

Genus: *Melanogaster*

Melanogaster aerosa male

(© Sander Bot)

Genus: *Melanogaster* Rondani, 1857

Family: Syrphidae

Subfamily: Eristalinae

Tribe: Brachyopini

Number of species of this genus found in Europe: 9

Description

Melanogaster are small to medium sized (5-9 mm) hoverflies.

Head

The eye is bare, the male is holoptic (with the exception of *M. nigricans*), the female is dichoptic. The antenna is short and black, and has a small basoflagellomere that is subcircular. The arista is bare and black. The frons of the male is slightly domed, and there are long erect black hairs surrounding a median depression on the frons. The frons of the female has transverse furrows extending from the ocular margin to a central longitudinal furrow. In the male there is a facial tubercle that is clearly visible in profile (this can cause confusion with small *Cheilosia*, but those have broad parafacia). The anterior part of the epistome protrudes very little. In the female the face has a concave profile beneath the antennae and the anterior part of the epistome protrudes. The female has a dust band below the antennae that can be reduced to triangular spots on both sides of the face at the eye margin.

Thorax

The mesonotum is more or less finely punctured and is black. The mesonotum is shiny or more rarely dull, without a distinct metallic shine. The pleurae are similar in appearance to the mesonotum.

Wings

The wing is transparent, and has a brownish or yellowish membrane. There are no long setae on the dorsal surface of vein R but on the dorsal surface of vein R_s there are 5 to 7 very short and fine setae. The insertion of these setae on R_s is often only visible in the form of darker spots when the setae are gone. Vein M_1 is distinctly curved towards the base of the wing: the insertion of M_1 on R_{4+5} forms a right angle. Vein M_1 is

rectilinear in its basal 1/3 (-1/4), after that it curves clearly towards the base of the wing and is never recurrent. The point of convergence between M_1 and M_2 is always closer to the base of the wing than is the point of intersection of the vein M_1 and vein R_{4+5}.

Legs

The legs are simple and are black to brownish. The ventral part of the hind femur has a row of spines. There is no postmetacoxal bridge.

Abdomen

The general shape of the abdomen is elongated, and it is more oval in the female whereas the lateral margins are more parallel in the male. The maximum width of the abdomen lies at the suture of tergites 2 and 3. The abdomen is velvety black or black with a purple or green sheen. Tergites 2-4 of the male are rather flat and dull in the central parts, but they are somewhat rounded and shiny in the females. The lateral margins of the tergites are shiny and have a metallic reflection, but the margin of tergite 1 is always dusted in its anterior part and this dull area can be reduced to a very thin strip along the anterior suture or completely cover the margin of the tergite. Tergite 2 is characterized by the absence of long white hairs on the central part of the tergite (these hairs are present in *Chrysogaster*). The abdominal tergites have whitish. short or moderately long hairs that are often longer on the lateral margins. Sternite 1 is dull, contrasting with the other sternites, which are shiny, with the same luminosity as the tergites. The sternites have whitish hairs which can be short or long. These hairs are erect in the male, but shorter and slightly decumbent in the female

Melanogaster hirtella female wing

Melanogaster hirtella male head lateral

Melanogaster tumescens female abdomen

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General comments on identification to species level

Differential diagnosis

Melanogaster is closely related to *Chrysogaster*, *Lejogaster*, *Orthonevra* and *Riponnensia*, all of which have a hairy postpronotum, bare eyes and short antennae. They have a bare, hair-like arista that sits dorsally upon the basoflagellomere. The mouth edge and/or the facial tubercle protrude and there are transverse grooves on the frons of the female. Wing vein R_{4+5} is straight, and cell r_{4+5} is closed before the wing tip. Crossvein r-m ends in the basal half of cell dm. The abdomen is parallel sided or oval, and is black, often with a partial or complete metallic sheen. The scutellum has no subscutellar fringe.

The distinguishing characters between these genera are listed below:

Melanogaster The male is holoptic (with the exception of *M. nigricans*) and has a facial tubercle , the female is dichoptic and it lacks a facial tubercle. The arista is dark brown to black. Tergites 2-5 are completely shiny, but a dull area can be present. Sternite 1 is dusted and dull, tergite 2 is dusted and dull, the tergites are velvety black or black with a purple or green sheen. There are only short/very short hairs across the median ⅓ of the width of tergite 2. The basal section of vein R is bare and vein M_1 ends perpendicular to vein R_{4+5} and is straight. The ventral surface of the hind femur has spinose hairs.

Orthonevra The male is holoptic; females are dichoptic. Both sexes lack a facial tubercle. Tergites 2-5 are somewhat shiny black centrally and more metallic bronze to greenish at the margins resulting in a large median shiny blackish area on the abdomen that contrasts with the metallic bronze to greenish shiny margins. Sternite 1 lacks dusting and is strongly shiny. The lateral margins of tergite 1 are brightly shining. The basal section of vein R is bare and vein M_1 ends perpendicular to vein R_{4+5} but M_1 is bent inward in the middle, so that the apical part of vein M_1 is perpendicular or slightly recurrent to vein R_{4+5}, giving cell r_{4+5} a more or less rectangular appearance.

Chrysogaster The male is holoptic and has a small facial tubercle whereas the female is dichoptic and it lacks a facial tubercle. The antenna is orange/red and the arista is located within ventral two thirds of the head. Tergites are 2-5 dull in the middle and shiny at the margins so they have a large median dull area on the abdomen that contrasts with shiny margins. Sternite 1 is dusted and dull, tergite 2 is dusted and dull, the tergites are velvety black or black with a purple or green sheen. There are long whitish and recumbent hairs across the median ⅓ of the width of tergite 2. The basal section of vein R is bare and vein M_1 ends perpendicular to vein R_{4+5} and is straight.

Lejogaster Males are dichoptic and both sexes lack a facial tubercle. The basoflagellomere is large in the male and completely black or partly yellowish to orange. The thorax and abdomen are greenish, but for one species (*L. tarsata*) it is partly purple to reddish. Tergites 2-5 are completely shiny. The basal section of radial vein R has some long hairs on the dorsal surface. In comparison with *Riponnensia*, the hind femora have no spines or spinose hairs apico-ventrally.

Riponnensia Males are holoptic and both sexes lack a facial tubercle. Tergites 2-5 are dull in the central part and shiny at the margins so they have a large median dull area on the abdomen. Sternite 1 is shiny, tergite 2 is shiny on the central part, the tergites have a green to bronze colour. The basal section of radial vein R has some long hairs on the dorsal surface. The vein M_1 ends perpendicular to vein R_{4+5} but the middle part of M_1 is bend inward creating an S-shaped vein. There are spines or spinose hairs present apico-ventrally on the hind femora.

Melanogaster aerosa male head lateral

Melanogaster aerosa female head lateral

Chrysogaster basalis male habitus

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Geographical distribution and global diversity

Melanogaster occurs in the Palearctic (eastwards to Siberia) including North Africa and West Asia (Turkey, Syria). Currently there are about 16 species known in the Palaearctic Region, most of which are known in the western Palearctic. (Kassebeer 1999a, 199b, Maibach et al. 1994, 1994a, Violovitsch 1983, Vujić & Stuke 1998)

Presence in Europe

Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, 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, Ukraine, United Kingdom.

Biology

These species live in wetland habitats close to water bodies with running or standing water in river-floodplain grasslands or meadows, and also close to alluvial forests. The adults usually fly low and just above or within the vegetation and settle on leaves or flowers.

Flowers visted by the adults include white umbellifers, but also *Ranunculus* spp., *Caltha* spp., *Barbarea* spp., *Crataegus* spp., *Euphorbia* spp., *Iris pseudacorus*, *Menyanthes* spp., *Mimulus guttatus*, *Potentilla erecta*, *Prunus avium*, *Pyrus communis*, *Sorbus aucuparia*, *Taraxacum* spp., *Viburnum opulus*, *Bunias* spp., *Cirsium* spp., *Hieracium* spp., *Leontodon* spp., *Calluna* spp., *Bunias* spp., *Prunus spinosa*, *Rhamnus cathartica*, *Carex* spp., *Chaerophyllum* spp., *Crepis* spp. (IUCN 2021)

The larvae generally live in freshwater, close to the shore, in semi-liquid mud with decaying organic material, in vegetation or in between roots of plants. The larvae of some species (e.g. *M. hirtella*) use specially adapted spiracles to penetrate the stems and roots of aquatic plants to get oxygen Rotheray (1993).

The adults fly in the period from April to September, depending on the species. Most of the species are probably univoltine.

Type species: *Melanogaster nubilis* Rondani, 1857 des. Coquillett (1910)

Common names:
NB - engblomsterfluer

List of species found in Europe:

1. *Melanogaster aerosa* (Loew, 1843)
2. *Melanogaster claripennis* (Strobl in Czerny and Strobl, 1909)
3. *Melanogaster curvistylus* Vujić & Stuke, 1998
4. *Melanogaster hirtella* (Loew, 1843)
5. *Melanogaster jaroslavensis* (Stackelberg, 1922)
6. *Melanogaster nigricans* (Stackelberg, 1922)
7. *Melanogaster nuda* (Macquart, 1829)
8. *Melanogaster parumplicata* (Loew, 1840)
9. *Melanogaster tumescens* (Loew, 1873)

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Attributions

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