Pollinator Academy

Genus: *Myathropa*

Myathropa florea male habitus

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Genus: *Myathropa* Rondani, 1845

Family: Syrphidae

Subfamily: Eristalinae

Tribe: Eristalini

Number of species of this genus found in Europe: 2

Description

Head

The head is higher than broad and the lower part of the face protrudes antero-ventrally to varying degrees. The face is densely hairy with a facial tubercle and greyish dusting laterally with a medial line, whilst the lower part is bare and shiny. The buccal cavity is notched anteriorly. The anterior tentorial pit is elongated. The antennal fossa is much broader than high. The eye is white haired. The male is holoptic. The antenna is shorter than the face and has an oval basoflagellomere that is slightly longer than high with a small rounded pit baso-ventrally on the medial surface. The arista, which is much longer than the antenna, is placed at the base of the basoflagellomere and is bare.

Thorax

The thorax has a hairy postpronotum. The scutum is long haired and the ground colour is black with dark-greyish dusting and in most species with a characteristic lighter grey dusting “skull” or “batman” marking. The ground colour of the pleurae is black with a predominantly grey to yellow dusting. The pleurae are hairy on the following sclerites: the proepimeron, the posterior 2/3 of the posterior anepisternum, the posterior 2/3 of the katepisternum, the katatergite and the metasternum. The anterior anepisternum has a longitudinal sulcus on anterior 1/3. The metasternum is not greatly developed. The postmetacoxal bridge is absent. The plumula is long and unbranched. The metathoracic spiracle is trapezoid shaped and widest dorsally. The spiracular opening is small and round, with an anterior and to posterior ventral hairs fringe that overlaps on the dorsal part. The scutellum is semi-circular and un-marginated with dense hairs, weak dusting and a sub-scutellar hair fringe.

Wings

The wing is hyaline with only the pterostigma infuscated. The pterostigma is short and rectangular. The wing surface is entirely microtrichose. The tegula is squarish, partly hidden under the lateral wall of the scutum, the lateral part has a long and dense hair tuft that partly covers the antero-basal haired sclerite of the wing. The basicosta is entirely black setose. The alula is typically large and is squarish shaped. Vein Rs is bare to sparsely setose. Vein CuP is well developed. Vein A_1 is sinuate, with the angle of vein A_1 with vein CuP is about 45° and the apical straight part of vein A_1 is relatively short. Crossvein r-m is almost straight and is placed slightly beyond the middle of cell dm. Cell dm is short and triangular shaped, with the veins m-cu + M_4 base as long as vein dm-m. The angle of veins dm-m with vein M_{1+2} is about 45°. Cell r_1 is open. Vein R_{4+5} is strongly dipped into cell r_{4+5}. The angle of vein R_{4+5} with M_1 is about 25°. The combined length of vein R_{4+5} + M_1 is short. Vein C is at most very shortly extending beyond the combined vein R_{4+5} + M_1.

Legs

The legs are un-modified and are coloured black and yellow. The femora are slightly thicker than the tibiae and there is a basal postero-ventral patch of densely set black setulae. The hairs on the legs are black and yellow. The hind femur has two rows of black setae apico-ventrally which are somewhat shorter than the hairs.

Abdomen

The abdomen is sub-oval. Tergites 2 to 4 are black with yellow spots and in most species tergites 3 and 4, and in the female also tergite 5, there are grey-dust spots or fascia. Sternites 1 and 2 are separated over the entire length. The spiracle on the posterior margin of sternite 2 is placed medially.

General comments on identification to species level

Differential diagnosis

This genus comprises rather large (10-14 mm) species with yellow spots on the abdomen and the scutum, with or without a grey dust pattern that resembles a 'death's head.' There is a facial tubercle and the eyes are hairy. The antenna is short and the arista is bare. The scutum has yellow hairs that are intermixed with black hairs. The scutellum has yellow hairs with black hairs present medially. Wing cell R_{2+3} is open. The wing membrane is entirely covered in microtrichia. The legs are yellow and black, elongate and have no other characteristic features. The abdomen has large yellow spots on tergites 2 and 3.

The genus *Myathropa* belongs to the tribe Eristalini and the subtribe Helophilini based on the hairy postpronotum; the bare anterior anepisternum; the hairy metasternum; vein R_{4+5} is deeply curved into cell r_{4+5}; cell r_1 is open; and the femora have a patch of densely set bristles basally.

Myathropa differs from all other Helophilini genera such as *Anasimyia* and *Helophilus* because the eyes are holoptic in the male, as in *Mallota* and *Mesembrius*. In all other Helophilini genera the male eye is dichoptic. The eye is hairy as in *Mallota fuciformis* whereas in the other genera the eye is bare. The scutum lacks dust stripes as in *Mallota* whereas the other genera have longitudinal stripes of grey dust. The wing of *Myathropa* is entirely microtrichose whereas in the other Helophilini genera there are extensive bare areas basally. The hind femur is only weakly enlarged as in most other genera except *Mallota* where the hind femur is clearly enlarged. In the field weakly coloured and darker specimens of *Myathropa* might be confused with *Eristalis* spp., but wing cell r_1 in *Myathropa* is open (no fusion between veins R_1 and R_{2+3}), whereas in *Eristalis* spp. the fusion of R_1 and R_{2+3} form a petiole and the wing cell r_1 is closed.

Anasimyia lunulata male habitus

Parhelophilus versicolor male habitus

Mallota cimbiciformis male habitus

Myathropa usta male habitus

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Geographical distribution and global diversity

The genus *Myathropa* is basically Palaearctic with 4 known species. *M. florea* was introduced to the Nearctic around 2005 (Bugguide.net) and is now probably widespread in the West Coast region. In Europe two species are present. *M. florea* is recorded from Fennoscandia south to Iberia and the Mediterranean, the Canary Isles and N.Africa; from Ireland eastwards through Eurasia to the Pacific coast. The other European species in the genus, *M. usta*, is only found on Madeira.

Presence in Europe

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

Biology

Adult behaviour and flower preferences. *M. florea* is found in most types of deciduous forest, also in fen carr. This species is to some extent anthropophilic, occurring in humid pastures and suburban gardens. It is very adaptable and can be found in clearings, tracksides and hedgerows. Adults are fast-flying, usually at 2m or above. Males circulate at speed among the branches of trees in bloom, making an audible,

high-pitched buzzing sound. Males also hover in sun-spots in dappled shade. Both sexes fly along the margins of woodland streams, settling on stones etc. at the water's edge, often in order to drink. The females often frequent puddles of water beside fallen or felled trees.

M. usta is restricted to the areas of humid laurel forest and *Erica* forest in the centre and north of the island of Madeira. The adults are found at tracksides and forest-edges, feeding at flowers or sitting on leaves.

M. florea visits the flowers of white umbellifers, but also *Castanea, Convolvulus, Crataegus, Chaerophyllum, Euonymus, Filipendula, Hedera, Rhododendron, Rubus, Sambucus, Solidago, Sorbus, Viburnum opulus*.

M. usta visits the flowers of *Ranunculus arvensis, R. cortusifolius, R. muricatus, R. repens, Tolpis succulenta, T. macrorhiza* and *Hydrangea*.

Reproduction and larval biology. The larva of *M. florea* is described and figured by Hartley (1961) and with further detail by Rotheray (1994) who illustrates it in colour. The puparium is illustrated in colour by Dussaix (2013). The larva is aquatic, frequently found in standing-water rot-holes and in water-filled hollows among tree-roots, on tree stumps or at the junction between major branches and trunk, from ground level to high in the tree (at least 10m). The larva has been found in association with various deciduous trees, including *Alnus, Betula, Castanea, Fagus, Populus* and *Quercus*, and especially with *Fagus*, but also with conifers, e.g. *Pinus sylvestris*. Larvae can also develop in wet cow dung and compost heaps. This species is also a frequent user of artificial rot holes in plastic bottles. Although larval development can be rapid (some months only) it may take two or more years. In Scotland (and doubtless other higher latitudes) the larvae are often killed when water in rot holes freezes over.

The developmental stages of *M. usta* have yet to be described, but they are likely to be similar to *M. florea*, with aquatic larvae living in standing water, rot-holes and in water-filled hollows among tree roots.

Seasonal life cycle. The fligth season of *M. florea* is from late March to October, with peaks in June and August.

M. usta has been recorded from March to September, but they are likely to be present the whole year round. So both species may have more than one generation per year.

Type species: *Musca florea* Linnaeus, 1758

Common names:
FI - mesisurrit;
NB - dødningehodeblomsterfluer;
SV - dödskalleblomflugor

List of species found in Europe:

1. *Myathropa florea* (Linnaeus, 1758)

2. *Myathropa usta* (Wollaston, 1859)

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Attributions

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Authors

Photographs: Sander Bot (Taxo-Fly team)

Text: Gerard Pennards & Jeroen van Steenis (Taxo-Fly team)

Reviewer: Roger Morris (Taxo-Fly team)

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