



Genus: *Mallota*



Mallota megilliformis male

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Genus: *Mallota* Meigen 1822

Family: Syrphidae

Subfamily: Eristalinae

Tribe: Eristalini

Number of species of this genus found in Europe: 7

Description

Head

Mallota is a genus of large species (12-17mm) with a compact body that resembles solitary bees or bumblebees. They can be characterized as follows: The face is concave below the antennae with a facial tubercle on the lower part and it has a median, brightly-shining, dorso-ventral stripe, bare of dusting. The eyes are dichoptic or holoptic in the males depending on the species and can be bare or hairy. The antennae are short with the arista, which is almost bare, placed near the base of the basoflagellomere. The basoflagellomere is usually higher than long.

Thorax

The postpronotum is hairy. The scutum can be completely dusted but lacks any clear transverse or longitudinal pale or dusted striping.

Wings

Crossvein r-m is located at or in the outer half of cell dm. Vein R₄₊₅ is strongly sinuous, and is characteristically U-shaped dipping deep in wing cell r₄₊₅. Vein M₁ meets vein R₄₊₅ at an acute angle. Cell r₁ is open at the wing margin. The wings cells are mostly covered in microtrichia but the basal cells of the wing can be partly bare.

Legs

The hind femora are stout, and in some species are swollen and arcuate, but never with any processes. The hind femora also have a dense patch of anteroventral short

black setulae. The hind tibiae are flattened.

Abdomen

The abdomen can be long or short haired.

General comments on identification to species level

Differential diagnosis

Adults are large flies (12-17 mm) that resemble solitary bees or bumblebees. They sometimes look similar to species in other European hoverfly genera such as *Brachypalpus*, *Criorhina*, *Eriozona*, *Eristalis*, *Merodon*, *Myathropa*, *Sericomyia* and *Volucella*. In *Eriozona* the postpronotum is bare whereas in *Mallota* and the other genera mentioned here, the postpronotum is hairy. In *Mallota*, *Merodon*, *Myathropa* and *Eristalis*, vein R_{4+5} is strongly sinuous and is characteristically U-shaped dipping deep in the wing cell r_{4+5} . In *Brachypalpus*, *Criorhina*, *Sericomyia* and *Volucella* vein R_{4+5} is straight. In *Mallota*, *Myathropa* and *Eristalis* the hind femur lacks an apico-ventral triangular process (lamina) whereas in *Merodon* the hind femora have a distinctive triangular apico-ventral process (lamina). In *Mallota* and *Myathropa* wing cell r_1 is open whereas it is closed in *Eristalis*. In *Mallota* the scutum has no dusting pattern and the hind femora are thickened. Well-marked specimens of *Myathropa* have a dusting pattern on the scutum that resembles a skull or the batman logo although less well marked specimens of *Myathropa* might be misinterpreted as a *Mallota*. In *Myathropa*, however, the hind femora are about the same size as the other femora whereas in *Mallota* the hind femora are several times thicker than the other femora.



Volucella elegans male habitus



Myathropa florea male habitus



Eristalis tenax male habitus

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Geographical distribution and global diversity

Mallota is a widely distributed but rare genus of hoverflies that occurs in the Holarctic (about 40 species), in the Afrotropical and Neotropical regions (around 20 species) and in Oriental regions (around 16 species) (Krivosheina 2002, Thompson et al. 2010). In recent years a few new species have been described (Thompson & Zumbado 2002, Hirooka et al. 2015, Thompson 2019) but some have still to be described. Apart from the Australasian and Oceanian regions, *Mallota* are globally distributed, with a concentration in the Palearctic region where 31 representatives are documented (Peck 1988), most of which are rarely seen, and descriptions are often based on single specimens.

Presence in Europe

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

Biology

Most of the species are relatively rare and infrequently seen. This rarity may be attributed to the hidden lifestyle of the adult flies (maybe the adults are mainly arboreal) and, potentially, highly specific larval development in water filled rot holes in old senescent trees (Maibach & Goeldlin 1989) (note that younger trees with damage that created rot holes may be suitable). All species are univoltine. The flight period ranges from mid-March to August depending on the species.

Adult males of *M. cimbiciformis* have been observed resting near the trunk cavities of *Acer platanoides* L., *Aesculus hippocastanum* L. and *Populus nigra* L. waiting for females attracted to predictable oviposition sites and both sexes have been observed resting on sunlit bramble leaves. Males aggressively defended their position against intruders of the same genus and other groups of insects. Adults of most species are flower visitors, including white umbels such as *Heracleum* but extending to *Cistus*, *Cornus sanguineus*, *Crataegus*, *Euonymus*, *Euphorbia*, *Rubus*, *Sambucus ebulus*, *Sarothamnus scoparius*, *Ligustrum*, *Viburnum opulus*, *Foeniculum*, *Euphorbia*, *Berberis*, *Filipendula vulgaris*, *Rosa*, *Spiraea crenata*, *Acer ginnala*, *Malus*, *Prunus*, *Anthriscus sylvestris*, *Salix*, *Sorbus*, *Chamaenerion angustifolium* and *Lonicera*. (IUCN 2022)

Those larvae of *Mallota* that have been described (Maibach and Goeldlin 1989, Krivosheina 2002, Ricarte et al 2007, Svivova et al 1999) are highly specialized saprophages equipped with a very long extensible tube-like breathing siphon at the posterior end that allows them to breathe while submerged in water-filled rot-holes

rich with organic debris in mature trees. Distinctive features of the larvae of this genus are a smooth body surface and three pairs of projections on the sides near the base of the siphon (Rotheray 1994). Immature stages of *M. fuciformis*, *M. megilliformis* and *M. tricolor* have yet to be described.



Type species: *Syrphus fuciformis* Fabricius, 1794

Common names:

FI - turkkisurrit

SV - hålblomflugor

List of species found in Europe:

1. *Mallota cimbiciformis* (Fallén, 1817)
2. *Mallota dusmeti* Andréu, 1926
3. *Mallota eurasiatica* Stackelberg, 1950
4. *Mallota fuciformis* (Fabricius, 1794)
5. *Mallota megilliformis* (Fallén, 1817)
6. *Mallota rossica* Portschinsky, 1877
7. *Mallota tricolor* Loew, 1871

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