



## Genus: *Matsumyia*



*Matsumyia berberina* male habitus

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**Genus:** *Matsumyia* Shiraki, 1949

**Family:** Syrphidae

**Subfamily:** Eristalinae

**Tribe:** Milesiini

**Number of species of this genus found in Europe:** 1

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## Description

### Head

The face is hairy and entirely dusted. The lower part of the face projects conically antero-ventrally and has a distinct facial tubercle. The parafacia are broad and hairy. The basoflagellomere is much wider than long and the arista is bare. The eyes are bare and dichoptic in both sexes and relatively small creating a broad parafacia and a broad postocular orbit.

### Thorax

The thorax is long and densely hairy but dust patterns are sometimes visible through the dense hairs. The postpronotum is hairy, the katepimeron is bare and the metasternum is hairy. There is an incomplete postmetacoxal bridge. The scutellum has a marginal rim but lacks a ventral hair fringe.

### Wings

The intersection of  $R_1$  with C is broad. The distance between the apices of veins  $R_1$  and  $R_{2+3}$  is slightly more than the length of cross-vein m-cu and vein  $R_{4+5}+M_1$  is no longer than the crossvein m-cu. Cross-vein r-m is strongly oblique, and it lies in the outer half of the wing cell dm. Vein  $R_{4+5}$  is almost straight.

### Legs

The legs have normal hairs and they have no modifications, although the femora are slightly enlarged.

### Abdomen

The abdomen is entirely and densely hairy and the pile is predominantly erect.

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## General comments on identification to species level

### Differential diagnosis

This genus is represented in Europe by a small to medium sized (8-11 mm), densely hairy bumblebee mimic. The face protrudes strongly antero-ventrally with a well-developed facial tubercle and broad parafacia. The antennae are shorter than the length of the head and the arista is bare. The postpronotum and metasternum are both hairy and the scutellum has a marginal rim. Vein  $R_{4+5}$  is straight, whilst crossvein r-m lies in the outer half of cell dm and lies at a strongly oblique angle.

The genera *Matsumyia* and *Criorhina* are very closely related and only differentiated by the following characteristics. The intersection of  $R_1$  with C is broad whereas in *Criorhina* spp. it is narrow; the distance between the apices of veins  $R_1$  and  $R_{2+3}$  is slightly more than the length of cross-vein m-cu while in *Criorhina* spp. this distance is more than twice the length of cross-vein m-cu.

*Matsumyia berberina* is very similar to *Criorhina floccosa* based on the overall colouration of the hairs on the abdomen and the bare katepimeron. They differ by the following: In *Matsumyia berberina* the flat area between katepimeron and metathoracic spiracle with scattered long hairs. The face is hairy on the dorso-lateral shiny part. The frons and vertical triangle are extensively dusted. The lateral margins of tergite 2 lacks an exceptional long pile.

In *Criorhina floccosa* the flat area between katepimeron and metathoracic spiracle is bare. In living animals, the basoflagellomere of *M. berberina* is usually orange whilst it is usually dark in *C. floccosa*, although there are exceptions to that. The face is bare on

the dorso-lateral shiny part. The frons and vertical triangle are predominantly shiny, and non-dusted. The lateral margins of tergite 2 have exceptionally long white hairs.



*Matsumyia berberina* male habitus



*Matsumyia berberina* female antenna



*Matsumyia berberina* male abdomen



*Criorhina floccosa* male habitus



*Criorhina floccosa* male antenna



*Criorhina floccosa* female abdomen

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# Geographical distribution and global diversity

The genus *Matsumyia* is mainly known from Japan, Korea and the Russia Far east, where there are around ten species described. *Matsumyia berberina* is the only European species in the genus. It occurs from Ireland and the British Isles, through France east to European Russia (no additional distribution data available), Ukraine (Carpathians and Kyiv Region) and Romania, and from Sweden (southern tip), southeast Norway with one recent record, and Denmark south to northern Spain, central Portugal and Italy. It is also present on the Balkan Peninsula, and south to the mountain regions of northern Greece and southwest Bulgaria. Outside of Europe it has been recorded from Turkey and from Transcaucasia in Georgia. (IUCN 2021, as *Criorhina berberina*)

## Presence in Europe

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

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## Biology

**Adult behaviour and flower preferences.** The one European species is a woodland species that can be found in both deciduous and mixed forests as well as in open landscapes with old hedgerows containing veteran trees or younger trees with substantial areas of decay. Whilst generally favouring moister situations, including some wetlands, it may also be found in some drier situations. Adults can often be seen flying through vegetation and visiting flowers. Males patrol around flowering shrubs or are sun-baskers on leaves in early spring. Females can be found flying in the shade, investigating the trunks and roots of old trees for possible oviposition sites.

The adults visit the flowers of white Apiaceae, but also *Acer campestre*, *Allium ursinum*, *Cornus sanguinea*, *Crataegus* spp., *Euonymus europeus*, *Filipendula ulmaria*, *Frangula alnus*, *Hieracium* spp., *Hypericum* spp., *Lonicera xylosteum*, *Photinia* spp., *Ranunculus* spp., *Rhamnus catharticus*, *Rhododendron* spp., *Rosa* spp., *Rubus idaeus*, *Rubus fruticosus*, *Salix* spp., *Sorbus* spp., *Stellaria holostea*, *Taraxacum* spp. and *Viburnum opulus*.

**Reproduction and larval biology.** Larvae develop in decaying wood including in tree roots. Ovipositing has been observed on and around the bases of *Quercus* spp. and *Fagus sylvestris*. The larvae occur in a wide array of deciduous trees, such as *Acer pseudoplatanus* or *Fagus sylvestris*, *Betula* spp., *Salix* spp. and *Fraxinus excelsior* but also in conifer trees such as *Abies* spp. and *Picea* spp.

**Seasonal life cycle.** It flies from April until July, but also extending into September, especially at higher altitudes and at more northern latitudes. There is probably only one generation, although the extended flight period suggests a weak and/or facultative second generation.



**Type species:** *Priomerus jesoensis* Matsumura, 1911

## List of species found in Europe:

1. *Matsumyia berberina* (Fabricius, 1805)

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## Attributions

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