Pollinator Academy

Genus: *Spazigaster*

Spazigaster ambulans male habitus

Genus: *Spazigaster* Rondani 1843

Family: Syrphidae

Subfamily: Syrphinae

Tribe: Bacchini

Number of species of this genus found in Europe: 1

Description

Head

The male is holoptic, the female is dichoptic. The face is black, and it is greyish dusted with black and white hairs. The facial tubercle is small, and it is shiny, rounded and slightly protruding. The frons is black and it is slightly grey dusted and black haired. The lunule is black and shiny. The ocellar triangle is occupying almost the entire vertex, it is black and with black hairs. The eye contiguity is as long as the length of the frons. The frontal angle is about 90 degrees. The antenna are shorter than the head, and they are black. The basoflagellomere is oval, about 1.5 times longer than wide, with the arista placed basally. The arista has long hairs, these hairs are up to 2 times as long as the width of the arista in the basal part.

Thorax

The thorax is black, and it is slightly grey dusted and sub-shiny. The postpronotum is bare. The scutum is finely punctured. The scutum is covered in semi-adpressed mixed yellow and black hairs. These hairs are medially predominantly black and intermixed with scattered yellow and slightly recumbent hairs that are 3 times longer than the other hairs on the scutum. The anterior anepisternum is bare. The katepisternum has a dorsal and ventral hair patch that are widely separated. The pleura are shiny black. The metasternum is bare. There is no chitinous postmetacoxal bridge present.

Wings

The wing membrane is brown infuscated and it is entirely microtrichose in the male, while in the female the basal 1/5 of the wing membrane is bare. The pterostigma is

brown. The crossvein r-m is situated in the basal 1/3 of cell dm. The vein R_{4+5} is straight, and the vein M_1 is perpendicular to vein R_{4+5}. The wing cell r1 is open, and the vena spuria is weakly developed. The alula is narrow, it is up to 4x longer than wide. The calypter is grey in the male, and yellow in the female. The haltere has a brown stem and yellow knob in the male, and is all yellow in the female.

Legs

The legs are completely black, and they are slender and long. The basitarsus of the middle leg and the hind leg is about 3/4 of the length of the corresponding tibia or more. The hairs on the legs are short and white, but the basal parts of the femora have some short black bristles. The basitarsi of the front and middle legs have rather long yellow bristles ventrally which are about 1.5 times longer than other hairs on tarsi. The hind tibia has long black bristles antero-medially, these bristles are about 1.5 times longer than the tibial width. The hind tibia in the male has modifications medio-ventrally, with a tubercle and a deep excavation, and tibia is curved in the apical 1/3. The tubercle and part of the ventral side of the hind tibia are densely covered in short black bristles. In the female the hind tibia is only weakly bent, and it only has short normal hairs.

Spazigaster ambulans female head lateral

Spazigaster ambulans male antenna

Spazigaster ambulans male hind tibia

Spazigaster ambulans female abdomen

Abdomen

The abdomen is black in the male, and extensively red in the female. The abdomen is elongate and it is petiolate with tergite 2 narrower than tergite 3, particularly in the female. The hairs on the lateral parts of the tergites are long, whereas the hairs on the medial parts of the tergites are short and adpressed. The sternites have longer white hairs. Genitalia were described in detail by Dušek & Láska (1967).

General comments on identification to species level

Differential diagnosis

This is a medium sized (8-12 mm) slender and black species that has a narrow alula of the wing. The legs are black and elongate, and especially the hind leg is very long. In the male the hind tibia is strongly modified with a tubercle and an excavation and the hind tibia is strongly curved. The female hind tibia is with a very shallow excavation in the middle and it is only slightly curved. The first tarsomere of the mid leg and of the hind leg is unusually long. The abdomen is constricted between the tergites 2 and 3 (petiolate) and the arista is long haired.

The genus *Spazigaster* belongs to the subfamily Syrphinae, and like other genera in this subfamily it has a bare postpronotum. Species of *Cheilosia* which are entirely black can resemble *Spazigaster* morphologically (e.g. by the presence of a facial tubercle and by having a slender abdomen), but these belong to the subfamily Eristalinae and therefore they can be discerned by having a haired postpronotum.

Within the subfamily Syrphinae several genera comprise species which are entirely or almost entirely black-bodied, like the genera *Melanostoma*, *Platycheirus*, *Rohdendorfia*, *Syrphocheilosia* and *Xanthandrus*. *Spazigaster* males can be differentiated from all these black species as the entirely black legs have a very characteristic strong modification on the hind tibia, in the other genera the hind tibia is slender throughout, without shape or hair modifications. In *Spazigaster* the arista is long haired with hairs that are longer than 2 times the aristal width. In *Melanostoma* and *Platycheirus* the

arista is short haired, the length of these hairs is less than 2 times the aristal width. The arista is bare in *Rohdendorfia* and *Xanthandrus*. In *Spazigaster* the abdomen is extensively red coloured in the female, and tergite 3 is entirely red. The females of *Syrphocheilosia* have an abdomen that is short and entirely black. *Rohdendorfia* males and females have an abdomen that is slender and with orange-yellow markings, and in both sexes of *Xanthandrus* the abdomen is broadly oval and it mostly has smaller or larger orange-brown markings. *Melanostoma* and *Platycheirus* males and females have an abdomen that is elongated and it typically has grey, orange or yellow markings.

Geographical distribution and global diversity

The genus *Spazigaster* is a Palaearctic genus, with a single species in Europe. It occurs predominantly in central and south-eastern Europe, especially in the mountain areas of the Alps, the Carpathians and the Balkan regions, but sometimes also found in areas at lower altitudes. Outside Europe, it is widely distributed in the mountain areas of Turkey, and has been recorded from the Transcaucasus, northern Caucasus, the Middle East and Iran.

Presence in Europe

Austria, Bosnia and Herzegovina, Bulgaria, Czech Republic, France, Germany, Greece, Hungary, Italy, Liechtenstein, Montenegro, Poland, Romania, Russian Federation - European Russia, Serbia, Slovakia, Slovenia, Switzerland, Ukraine.

Biology

Adult behaviour and flower preferences. Adult *Spazigaster* males are often encountered on leaves of herbaceous plants, while females behave more elusively,

flying through dense vegetation. *Spazigaster* usually occurs at mid or high altitudes close to the timberline and often near streams, but can also be found at much lower altitudes (for example 1 male, Leg. and coll. Pennards, Poland, Raba Wyżna 2005, 522 meters) along rivers and streamside vegetation. Flowers visited include Umbellifera (Pennards pers. obs. 2005), *Galium* spp., *Parnassia palustris*, *Salvia* spp., *Sambucus ebulus* and *Saxifraga aizoides*.

Reproduction and larval biology. Larvae of *Spazigaster* are not known, but based on its distributional pattern the species is estimated to be univoltine.

Type species: *Spazigaster apennini* Rondani, 1843

List of species found in Europe:

1. *Spazigaster ambulans* (Fabricius, 1798)

References

Dušek, J., Láska, P. (1967): Versuch zum aufbau eines Naturlichen Systems mitteleuropäischer Arten der Unterfamilie Syrphinae (Diptera). *Acta Scientiarum Naturalium Academiae Scientiarum Bohemicae* 1: 349- 390.

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Attributions

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Authors

Photographs: Sander Bot (Taxo-Fly team)

Text: Gerard Pennards (Taxo-Fly team)

Reviewer: Chris Palmer (Taxo-Fly team)


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