Pollinator Academy

Genus: Chalcosyrphus

Chalcosyrphus nemorum male habitus (© Sander Bot, licensed to the EU under CC-BY-NC 4.0)

Genus: *Chalcosyrphus* Curran, 1925

Family: Syrphidae

Subfamily: Eristalinae

Tribe: Milesiini

Number of species of this genus found in Europe: 12

Chalcosyrphus valgus male habitus (© Sander Bot, licensed to the EU under CC-BY-NC 4.0)

Description

Small- to large-sized species with concave non-carinate face, simple pleurotergite, well-developed hairy metasternum, usually simple hind trochanter, swollen hind femur with a distinct spinose apical ventral ridge.

Head

In front view elliptical to strongly subtriangular, about as broad as thorax. Face non-carinate; in profile shallowly to deeply concave, lower part somewhat less to somewhat more protruding than moderately produced frontal region. Face evenly dusted or rarely practically non-dusted; dark or lower part pale to varied extent. Antenna drooping to porrect, short to moderately elongate; segments 1 and 2 about as long as to 2 times the basal width, segment 3 rounded to about 1.5 times as long as wide. Eye large to somewhat reduced in size, and cheeks and ventral part of postocular orbit thus narrow to about 1/2 of horizontal diameter of the eye at the level of the antennae. Males holoptic, females dichoptic. The width of the frons of the female is 1/3-1/6 of the width of the head.

Thorax

Scutum with the surface smooth to shagreened or rough or with smooth-rough pattern; shiny to semi-shiny, often with metallic lustre, or with dusted areas anteriorly, laterally or posteriorly, or with conspicuous dusted pattern composed of entire or interrupted longitudinal bands which may occupy nearly the whole surface. Scutum with hairs conspicuously short to moderately long, often with layers of short depressed and longer more erect hairs especially towards posterior end, sometimes with a distinct hairy pattern due to differentiated direction of hairs. Scutum laterally above base of wing with or without stronger dark setae or spinules. Scutellum 1-3 times as broad as long; surface and hairs as on posterior part of scutum except sometimes apically pale; with or without apical marginal rim; with dense to sparse subscutellar fringe. Metasternum strong, hairy except in some specimens of *Chalcosyrphus piger*, simple. Hind coxa in some cases with traces of a posterior median tubercle. Hind trochanter usually simple, but an underdeveloped spur often visible, rarely a short spur present in both sexes.

Wings

Vein r-m short and straight to slightly oblique and sigmoid, ending on middle third of discal cell. M_1 nearly straight in middle course or slightly to strongly sigmoid in shape. Cell dm and cell r_{4+5} with or without a veinlet at posterior apical corner. Wings hyaline to variously darkened, throughout or only on apical half, sometimes with a conspicuous clouding at r-m, and extending from the base of cell r_{2+3} to veins M_4 and CuA.

Legs

Hind femur moderately to strongly swollen, with thickest point in mid third or evenly thick almost throughout, in profile straight, arcuate or slightly sigmoid; apicoventrally with a distinct median ridge. Hind tibia slightly to strongly arcuate, often corresponding to the curvature of the ventral side of femur; with a sharp non-spinose basoventral ridge and variably developed apicoventral projection which is median in position. Middle femur and tibia simple. Colour of legs dark, or bases of tibiae and basal tarsal segments of anterior and middle legs variously pale. Hind leg femur dark or partly orange.

Abdomen

Scarcely longer than mesonotum and scutellum together to about 2 times as long, parallelsided, slightly ovate. Tergite 4 sometimes with depressed apical part, especially in the male. Surface of tergites smooth to markedly rough, dull to semi-shiny with more shiny markings, often with metallic lustre. Sometimes the tergites have pale markings. Hairs on abdominal dorsum relatively short, depressed to erect, not forming a conspicuous pattern.

Chalcosyrphus eunotus male habitus (© Sander Bot, licensed to the EU under CC-BY-NC 4.0)

General comments on identification to species level

Metasternum strong and pilose, hind femora enlarged and with an apicoventral median spinose ridge (except a few species), hind tibiae with the apicoventral projection located medially, surstyli with the outer lateral hairs of the dorsal lobe mostly very fine, lateral transparent membraneous areas of hypandrial theca, when present, large, rather median in position and tending to be horizontally elongate, lateral arms of theca with the basic structure of the ventral armature similar, with a subbasal inner lateral sclerotized process, and basic structure of aedeagus very similar, with the anterior and anterior ventral structures greatly reduced and a sclerotized inner plate which in profile is usually well exposed behind the dorsal margin of the anterior part. In all the species vein r-m tends to be short, straight and rather basal, the hind trochanters tend to have only reduced armature and the hind tibiae to have the ventral hairs short and conspicuously erect.

Geographical distribution and global diversity

The distribution of *Chalcosyrphus* in the Holarctic resembles that of Xylota in some respects, but also shows remarkable differences. The large subgenus *Chalcosyrphus* (*Xylotomima*) is evenly distributed through the Nearctic and Holarctic and has approximately the same range of variation in the two regions. It also penetrates the northern part of the Oriental region. *Chalcosyrphus* (*Xylotina*) is widely distributed throughout the Holarctic, but is remarkable in being well represented in the Oriental region as well, where it has its greatest variation. *Chalcosyrphus* (*Xylotodes*) is a widespread subgenus with five species in North America, three in the Palaearctic and one in both regions. A proper picture of the distribution of this group can be obtained only when the Japanese species are better known. Apparently the subgenus includes at least three Japanese members. *Chalcosyrphus* (*Chalcosyrphus*) has three rather poorly known species, one central Palaearctic, one western Nearctic and one eastern Nearctic. The monotypic subgenus *Chalcosyrphus* (*Dimorphoxylota*) occurs in the central Palaearctic and is limited to that region. Another central Palaearctic species, *Chalcosyrphus* (*Xylotina*) *nitidus*, represents a unique structural type in its subgenus. As in *Xylota* and *Brachypalpoides*, the Oriental element of *Chalcosyrphus* extends to the southeastern Palaearctic.

Presence in Europe

Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Isle of Man, Italy, United Kingdom, Latvia, Lithuania, Luxembourg, North Macedonia, Moldova, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation -

European Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine.

Biology

Adults are usually found running on the foliage of bushes and shrubs in the sun, where they resemble, in both appearance and movements, a large parasitic wasp like Ichneumonidae or Braconidae (Hymenoptera); they often settle on freshly cut trunks. Most species don't visit flowers very often but collect pollen and other organic debris from leaves or other places. Some do occasionally visit flowers of species like *Ranunculus*, *Heracleum*, *Euphorbia*, *Campanula*, *Chaerophyllum*, *Hypericum*, *Rubus*, *Sorbus*, *Cirsium*, *Verbascum*, *Geranium*, *Salix*, *Caltha*, *Calluna*, *Crataegus*, *Prunus*, *Rosa*, *Seseli*, *Potentilla*, *Solidago*, *Calumma*, *Aegopodium*, *Anemone*, *Spiraea* and *Taraxacum*. They can also be found on other umbellifers and yellow composites.

Males tend to visit and inspect suitable places where the females come to deposit her eggs. He will try to mate with her on that occasion. The larvae of the species in this genus are usually found under bark and in rotting wood.

Most species are univoltine.

Type species: *Chalcosyrphus atra* Curran, 1925

Common names:
SWE - mulmblomflugor;
NOR - råtevedblomsterfluer

List of species found in Europe:

1. *Chalcosyrphus eumerus* (Loew, 1869)
2. *Chalcosyrphus eunotus* (Loew, 1873)
3. *Chalcosyrphus femoratus* (Linnaeus, 1758)
4. *Chalcosyrphus jacobsoni* (Stackelberg, 1921)
5. *Chalcosyrphus nemorum* (Fabricius, 1805)
6. *Chalcosyrphus nigripes* (Zetterstedt, 1838)
7. *Chalcosyrphus nitidus* (Portschinsky, 1879)
8. *Chalcosyrphus obscurus* (Szilady, 1939)
9. *Chalcosyrphus pannonicus* (Oldenberg, 1916)
10. *Chalcosyrphus piger* (Fabricius, 1794)
11. *Chalcosyrphus rufipes* (Loew, 1873)
12. *Chalcosyrphus valgus* (Gmelin, 1790)

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