



# Genus: *Scaeva*



*Scaeva pyrastris* male habitus

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**Genus:** *Scaeva* Fabricius, 1805

**Family:** Syrphidae

**Subfamily:** Syrphinae

**Tribe:** Syrphini

**Number of species of this genus found in Europe: 5**

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## Description



*Scaeva pyrastris* male head lateral



*Scaeva mecogramma* female head lateral



*Scaeva selenitica* male frons

### Head

The face is bright pale yellow and broad, occupying about half or more of the width of the head. The facial tubercle is distinct, rounded with a brownish to black short median stripe that is narrower than the epistoma and always ends just above the tubercle. The oral margin is yellow or completely brownish black. Male is holoptic, female dichoptic.

The eye is covered with yellow to brown hairs that are usually dense and vary in length, 0.07 to 0.25 mm. A sharply defined area of suddenly enlarged facets is present on the dorsal half of the male eye except in *S. mecogramma*. The frontal triangle is

shiny yellow or dusted like the face and black hairy, it is typically swollen with a very wide angle of approximation of the eyes (around 120° or more, commonly 140°) or (in the case of *S. dignota* and *S. mecogramma*) it is only slightly swollen with an approximately right the angle. The frons of the female is also inflated, or not inflated, as in the male; it is yellow for the anterior 3/4 or more of the distance between the antennal socket and the anterior ocellus, or even just to the anterior ocellus. The vertical triangle is broad, usually isosceles. The vertex of females is also often very broad to about 30 % of the width of the head. It is black in colour, black haired and usually shiny. The antenna is short with an elongate oval basoflagellomere that is regularly rounded distally and is around 1.3 times longer than high. The antennal segments are all dark brown to brownish black, but often some are paler to almost yellow below. The occiput is black with dense silvery dust, mostly off-white haired.



*Scaeva dignota* male frons



*Scaeva selenitica* male head lateral



*Scaeva mecogramma* female abdomen dorsal

## Thorax

The scutum is shiny to subshiny, black with a slight greenish-blue sheen on the disc and margined with brownish to bright yellow along the entire lateral margins. It is covered with yellowish-white or yellow hairs, but some specimens may also have brown to black hairs. The scutellum is dull yellow all over or has narrowly brownish to black anterolateral corners, it is covered mostly with black hairs, but usually with yellow hairs on the lateral parts and on the anterior margin. The subscutellar fringe is

complete, formed by dense long yellow hairs. The mesopleuron is black with a bluish sheen, faintly dusted and covered with yellow long, usually wavy hairs. Sometimes a small yellowish to yellow spot is present on the posterior anepisternum. The anterior anepisternum and metasternum are bare. The dorsal and ventral katepisternal hair patches are narrowly to broadly joined posteriorly and rarely narrowly joined anteriorly, otherwise narrowly separated, the ventral hair patch extending much further dorsally along the anterior margin of the katepisternum than is usual in Syrphini. The haltere is pale yellow.

## Wings

The wing is hyaline and appears very clear because the microtrichia are greatly reduced; they are present but very short and sparse only on about apical posterior halves of the wing. The pterostigma is uniformly very light brown and fills cell sc to its apex. Vein  $R_{4+5}$  very broadly and shallowly dipped into the cell  $r_{4+5}$ , but distally it is dipped rather outside the cell, so that its hypothetical tangent at the inflection point always clearly intersects vein  $R_{2+3}$ . The wing membrane outside of vein M1 and crossvein dm-m is broad and gently undulated. The calypter is pale yellow throughout without long erect hairs on the dorsal surface of the lower lobe.

## Legs

The legs are simple, slim, and yellow to brownish although the femora are usually broadly brown to black basally, and the tarsomeres are usually brownish above. The short adpressed hairs on the front and middle legs are mostly yellow, but with some black, on the hind leg, they are usually at least partly black. The front and mid femora also have dense erect long hairs on the posterior surface, which are mostly black or all yellow.

## Abdomen

The shape is rather broadly oval, flattened and with a distinct marginal sulcus from just behind the base of tergite 2 to the apex of tergite 5. It is almost always entirely black haired on the lateral margins, including on any margins of the tergites that are yellow. Tergites 2 to 4 have a black ground colour with whitish to yellow transverse markings that are clearly separated by black in the midline into a pair of oblique bars that do not reach the lateral margins of the tergites) or that are not oblique but have a deeply

concave anterior margin and a convex posterior margin or, in the case of *S. mecogramma*, yellow transverse bands are present on their anterior halves. The tergites are black hairy, although mostly yellow on the surface of the transverse yellow markings and in front of the yellow markings on tergite 2. Tergite 4 has the posterior margin narrowly yellow. Tergite 5 is yellow with a transverse black band that usually does not reach the yellow lateral margins of the tergite, or is largely black with only a yellow posterior margin. The sternites are entirely yellow or each with only a brownish to black central spot elongated anteroposteriorly (s.g. *Semiscaeva*) or each with a broad brownish-black transverse band or a transverse elongate oval spot (s.g. *Scaeva*).



*Scaeva selenitica* male habitus



*Scaeva pyrastris* male habitus



*Scaeva mecogramma* male habitus

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## General comments on identification to species level

### Differential diagnosis

The genus *Scaeva* comprises robust medium to large species of hoverflies with a black flattened and distinctly marginated oval abdomen with transverse yellow markings.

*Scaeva* species have rather densely haired eyes, a very clear wing membrane even largely without microtrichia and often has strongly swollen frons, especially in the males. The wing membrane outside of vein  $M_1$  and crossvein  $dm-m$  is broad and usually typically gently undulated, like in the related genera *Eupeodes*, *Lapposyrphus* and *Ischiodon*. Superficially, *Scaeva* species are very similar to a larger *Eupeodes* species with swollen frons, but unlike to all *Eupeodes* species, the species of *Scaeva* has a bare metasternum and the vein  $R_{4+5}$  is broadly but distinctly dipped into the cell  $r_{4+5}$ , so that a hypothetical tangent at inflection point the vein  $R_{4+5}$  clearly intersects the vein  $R_{2+3}$ . The bare metasternum and strongly curved vein  $R_{4+5}$  are also found in the genus *Lapposyrphus*, but the species of the genus *Scaeva* differs in hairy eyes with a usually obtuse angle of approximation of the eyes.



*Eupeodes luniger* male habitus



*Lapposyrphus lapponicus* male habitus



*Ischiodon scutellaris* male habitus



*Eupeodes lundbecki* male habitus

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## Geographical distribution and global diversity

Five (two of them from subgenus *Scaeva* s. str. and three from the subgenus *Semiscaeva*) of the total of 12 species recognized within the current genus *Scaeva* are

known from Europe. Two of them are widely distributed over the almost all Europe and three are distributed rather only in Mediterranean Europe, although they are also reported far from the Mediterranean area, even in central or northern Europe, but this is apparently due to its migration behaviour (Speight 2020a, Bartsch et al. 2009b). They are, together with other 6 species recognized in Asia, distributed throughout Palaearctic region, except for the extreme Nordic regions, and some species of the genus also extend to North Africa, the northern parts of the Oriental region (India, China, the Philippines) and exceptionally the Australian region (Dušek & Láska 1985, Kuznetsov 1985, Speight 2020a, Vujić et al. 2020, Mitra et al. 2015, Ssymank et al. 2021, Ho 1988, Barkalov & Mutin 2018, Peck 1988). Another species of the genus is distributed from Alaska south to Arizona and Arkansas in North America (Vockeroth 1992, Skevington et al. 2019).

## Presence in Europe

Albania, Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Germany, Gibraltar, Greece, Hungary, Iceland, 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, Ukraine, United Kingdom.

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## Biology

Adults are commonly found in various forests and grasslands, where they visit flowers of a lot of plant families. Adults are capable fliers, vagrants and even have pronounced migratory behaviour (Speight et al. 2016a, Bartsch et al. 2009b, Aubert et al. 1976).

Larvae are active predators of various aphids, psyllids, adelgids, scale insects (Hemiptera), and thrips (Thysanoptera) on herbs, shrubs and trees (see Rojo et al. 2003). *Scaeva* species are generally polyvoltine, usually with overwintering fertilised females. However, they usually fail to overwinter successfully at higher latitudes, but thanks to the migratory behaviour they are capable each year repopulate almost all

northern Europe or at least re-expand to the north, where only one generation per year is usually achieved (Speight 2020a, Bartsch et al. 2009b).



**Type species:** *Musca pyrastris* Linnaeus, 1758

**Common names:**

FI – isokirvarit;

SV – glasvingeblomflugor;

NB – glassvingeblomsterfluer

## List of species found in Europe:

1. *Scaeva (Scaeva) albomaculata* (Macquart, 1842)
2. *Scaeva (Semiscaeva) dignota* (Rondani, 1857)
3. *Scaeva (Semiscaeva) mecogramma* (Bigot, 1860)
4. *Scaeva (Scaeva) pyrastris* (Linnaeus, 1758)
5. *Scaeva (Semiscaeva) selenitica* (Meigen, 1822)

## References

Aubert, J., Aubert, J.-J. & Goeldlin, P. (1976) Douze ans de captures systématiques de Syrphidae (Diptères) au Col de Bretolet (Alpes valaisannes). *Bulletin de la Société Entomologique Suisse*, 49, 115–142.

Barkalov, A.V. & Mutin, V.A. (2018) Checklist of the hover-flies (Diptera, Syrphidae) of Russia. *Euroasian Entomological Journal*, 17, 466–510.

Bartsch, H., Binkiewicz, E., Rådén, A. & Nasibov, E. (2009b) *Blomflugor: Syrphinae. Nationalnyckeln till Sveriges flora och fauna*, DH53a. Artdatabanken, SLU, Uppsala, 406 p.

Dušek, J. & Láska, P. (1985) A review of the genus *Scaeva* (Fabricius) (Diptera, Syrphidae) with the description of a new species from Chile. *Acta Entomologica Bohemoslovaca*, 82, 206–228.

Ho, C.L. (1988) Diptera: Syrphidae. pp. 185–203. In: S.M. Zhang (Ed), *Agricultural Insects Spiders Plant Diseases and Weeds of Xizang. Volume II*. (1987). Xizang People's Publishing House, Lhasa, 416 pp.

Kuznetsov, Sy. (1985) Palaearctic species of *Scaeva* Fabricius (Diptera, Syrphidae). *Entomologicheskoe Obozrenie*, 398–418.

Láska, P., Pérez-Bañón, C., Mazánek, L., Rojo, S., Ståhls, G., Marcos-García, M.-A., Bičík, P. & Dušek, J. (2006) Taxonomy of the genera *Scaeva*, *Simosyrphus* and *Ischiodon* (Diptera: Syrphidae): descriptions of immature stages and status of taxa. *European Journal of Entomology*, 103, 637–655.

Mengual, X., Ståhls, G., Láska, P., Mazánek, L. & Rojo, S. (2018) Molecular genetics of the predatory lineage of flower flies *Eupeodes-Scaeva* (Diptera: Syrphidae), with the description of the Neotropical genus *Austroscaeva* gen. nov. *Journal of Zoological Systematics and Evolutionary Research*, 56, 148–169.

Mitra, B., Roy, S., Imam, I. & Ghosh, M. (2015) A review of the hover flies (Syrphidae: Diptera) from India. *International Journal of fauna and Biological Studies*, 2, 61–73.

Peck, L.V. (1988) Syrphidae. In: Á. Soós and L. Papp (Eds), *Catalogue of Palaearctic Diptera*. Akad. Kiado, Budapest, pp. 11–230.

Rojo, S., Gilbert, F., Marcos-García, M.-A., Nieto, J.M. & Mier, M.P. (2003) *A world review of predatory hoverflies (Diptera, Syrphidae: Syrphinae) and their prey*. CIBIO

Ediciones, Alicante, 319 p.

Skevington, J.H., Locke, M.M., Young, A.D., Moran, K., Crins, W.J. & Marshall, S.A. (2019) *Field Guide to the Flower Flies of Northeastern North America*. Princeton Field Guides, Princeton University Press, 511 p.

Speight, M.C.D. (2020a) *Species accounts of European Syrphidae*. Vol. 104. In: M. C. D. Speight, E. Castella, J.-P. Sarthou, and C. Vanappelghem (Eds). *Syrph the Net* publications, Dublin, 314 p.

Speight, M.C.D., Castella, E. & Sarthou, J.-P. (2016a) *Syrph the Net on CD, issue 11*. *Syrph the Net* publications, Dublin.

Ssymank, A., Jordaens, K., Meyer, M., Reemer, M. & Rotheray, G.E. (2021) Syrphidae. In: B. J. Sinclair and Kirk-Spriggs (Eds), *Manual of Afrotropical Diptera*. South African National Biodiversity Institute, Pretoria, pp. 1439–1491.

Vockeroth, J.R. (1992) The flower flies of the Subfamily Syrphinae of Canada, Alaska and Greenland (Diptera, Syrphidae). *The insects and arachnids of Canada*, Pt. 18, 1–456.

Vujić, A., Speight, M.C.D., Courcy Williams, M., Rojo, S., Ståhls, G., Radenković, S., Likov, L., Miličić, M., Pérez-Bañón, C., Falk, S. & Petanidou, T. (2019) *Atlas of the hoverflies of Greece (Diptera: Syrphidae)*. Brill, Leiden, 384 p.

## Attributions

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