



Genus: *Pelecocera*



Pelecocera tricincta habitus

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Genus: *Pelecocera* Meigen, 1822

Family: Syrphidae

Subfamily: Eristalinae

Tribe: Rhingiini

Number of species of this genus found in Europe: 8

Description

The genus *Pelecocera* comprises small-sized flies (4-9 mm) in which the body colour is dark and densely dusted in places; many but not all have tawny to yellow markings on the abdominal tergites.

Head

The eye is bare and both sexes are dichoptic. The face is either black or partly yellow to yellow-brown with a facial tubercle and a protruding mouthedge, the combination of which mean that the lower half of the face protrudes as a single structure. The length of this protrusion varies between the species. The face of *Pelecocera* at the level of the antenna insertions is narrower than the width of an eye at the same level. The basoflagellomere is ventrally enlarged and has an arista (swollen in *P. tricincta*, not swollen in the other species) situated at the apical 2/3 of the basoflagellomere (most of the species of *Pelecocera*) or the arista is very short and swollen and is situated on the tip of the basoflagellomere, pointing forward (only *Pelecocera tricincta*). The lunule can be completely shiny or the posterior margin is dusted.

Thorax

The postpronotum is hairy. The notopleuron can be completely dusted or with a bare shiny area. The metasternum is bare. The anterior anepisternum can be bare or hairy but is always dusted.

Wings

Vein M_1 meets vein R_{4+5} at almost a right angle, or vein M_1 meets R_{4+5} at a very sharp angle. Vein R_{4+5} is straight, crossvein r-m is placed in the basal half of cell dm and cell

r_1 is open.

Legs

The legs are simple without any projections, spines or other modifications. They are predominantly yellow, all the femora are yellow at the base and the front femora are almost entirely yellow.

Abdomen

The abdomen is elongated and more or less parallel sided. It is usually brownish to yellowish, often with whitish-yellow or yellow to yellow-brown markings and can be covered in grey dusting.



Pelecocera tricincta head lateral



Pelecocera hederae head lateral



Pelecocera nigricornis male habitus

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General comments on identification to species level

Differential diagnosis

Pelecocera is characterized by a thick, bare, apical arista, broad and basally expanded basoflagellomere, bare eye, bare metasternum, straight vein R_{4+5} , and crossvein r-m placed before middle of cell dm. Although generally highly distinctive, one member of the genus (*Pelecocera tricincta*) can be confused with the genus *Pseudopelecocera* because in both the arista is very short, swollen, is forward-pointing, and is placed dorso-apically on the ventrally greatly enlarged basoflagellomere. In other species of *Pelecocera*, the arista is not swollen and is inserted subapically or medially on the dorsal margin of the ventrally enlarged basoflagellomere. The face of *Pelecocera tricincta* is narrower than the width of an eye at the level of the antenna insertions, the thorax and the pleurae are partly shiny and the scutellum has bristles on the hind margin; whereas, in *Pseudopelecocera* the face is wider than an eye at the level of the antennal insertions, the thorax and the pleurae are mostly heavily dusted and there are no bristles on the hind margin of the scutellum. In the field, *Pelecocera* species can be confused with members of the genera *Platycheirus* or *Melanostoma*, but *Pelecocera* are easily distinguished because of the shape of the face and the enlarged basoflagellomere with a thick and bare apical arista. The postpronotum in *Pelecocera* is hairy whereas the postpronotum in *Platycheirus* and *Melanostoma* is bare.



Pseudopelecocera latifrons head
lateral



Pseudopelecocera latifrons head
frontal



Melanostoma mellinum female head

Geographical distribution and global diversity

Pelecocera species are present in the Holarctic, with eight valid species currently recorded from the Palaearctic Region, all but one of which are also present in Europe (Mengual et al. 2015, Speight 2020, Lair et al. 2022, Nève & Lair 2023). The Palaearctic fauna also includes *P. japonicus* from Japan and *P. persiana* from Iran. The Nearctic Fauna includes only three species (Skevington 2020), none of which are found elsewhere. New, undescribed Nearctic species of the subgenus *Chamaesyrrhus* are known.

Presence in Europe

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

Biology

Adults are usually inconspicuous and fly low among ground vegetation in open woodland, tracksides and clearings. In Great Britain they tend to be very closely associated with ericaceous shrub communities, often with some *Pinus sylvestris* but also occasionally in plantations of other conifers that have ericaceous components in the rides. Some species only seem to fly early in the morning.

Flowers visited include white umbellifers and yellow Cruciferae, and flowers such as *Cirsium palustre*, *Leontodon* spp., *Narthecium* sp., *Ranunculus* spp., *Sedum acre*, *Teucrium* sp., *Erica manipuliflora*, *Polygonum equisetiforme*, *Cerastium* sp., *Myosotis*

spp., *Potentilla erecta*, *Cakile maritima*, *Calluna vulgaris*, *Galium* spp., *Hieracium umbellatarum*, *Hypochoeris radicata*, *Pimpinella saxifraga*, *Mentha* spp., *Saxifraga* spp., *Solidago virgaurea* and *Salix repens*.

The larval biology of these flies was completely unknown until very recently. Speight (2020) suggested that *Pelecocera* larvae were phytophagous, but the recent discovery of larvae of *Pelecocera japonica* in fungal fruit bodies of False Truffles (*Rhizopogon* spp) suggests that they are mycophagous (Okada et al. 2021).

Orengo et al. (in press) found *Pelecocera tricincta* and *P. scaevoides* in *Rhizopogon luteolus* for the first time in the Western Palaearctic region.

Ståhls (in prep.) reported the discovery of the larvae of *Pelecocera tricincta* and *P. caledonica* in the fungal fruit bodies of *Rhizopogon luteolus* from Finland, and in the rearings obtained puparia and adult flies of both species.

On the European mainland the flight period depends upon the species and the geographical range and can extend from April/May until October. Individual species can be univoltine or bivoltine having an (early) spring- and an autumn generation.

On the Canary Islands, the endemic *P. nigricornis* flies from August to February on most islands, but it has been recorded from January to November on La Palma. It is found in *Pinus* forest and Laurisilva forest. Adults have been found on sunny spots, and recorded visiting the flowers of *Cistus monspeliensis*, *Cistus symphytifolius*, *Foeniculum vulgare*, and *Ageratina riparia* (IUCN 2021).



Type species: *Pelecocera tricincta* Meigen, 1822

Common names:

FI – pelorit;

SV – öronblomflugor;

NB – småblomsterfluer

List of species found in Europe:

1. *Pelecocera hederæ* van Eck in Eck & Mengual, 2021
2. *Pelecocera caledonica* (Collin, 1940)
3. *Pelecocera garrigae* Lair & Nève, 2022
4. *Pelecocera lusitanica* (Mik, 1898)
5. *Pelecocera nigricornis* (Santos Abreu, 1924)
6. *Pelecocera pruinomaculata* Strobl, 1906
7. *Pelecocera scaevoides* (Fallén, 1817)
8. *Pelecocera tricincta* Meigen, 1822

References

IUCN 2021 The IUCN Red List of Threatened Species. Version 2021-2. Available at: www.iucnredlist.org. (Accessed: 04 September 2021).

Lair, X.; Ropars, L.; Skevington, J. H.; Kelso, S.; Geslin, B.; Minssieux, E. & Nève, G. (2022) Revision of *Pelecocera* (Diptera: Syrphidae) from France: taxonomy, ecology and

distribution. *Zootaxa* 5141 (1): 001–024. <https://doi.org/10.11646/zootaxa.5141.1.1>

Mengual, X.; Kazerani, F.; Asghar Talebi, A. & Gilasian, E. (2015) A revision of the genus *Pelecocera* Meigen with the description of the male of *Pelecocera persiana* Kuznetsov from Iran (Diptera: Syrphidae). – *Zootaxa* 3947: 99–108. – DOI: 10.11646/zootaxa.3947.1.6.

Nève, G., Lair, X., (2023) Recherches taxonomiques sur les *Pelecocera* de France, avec discussion de leur répartition et écologie (Diptera, Syrphidae). *Bulletin de la Société entomologique de France* 128, 249–264. https://doi.org/10.32475/bsef_2260

Okada, H., Sueyoshi, M., Suetsugu, K. (2021) Consumption of the ectomycorrhizal fungi *Rhizopogon roseolus* and *R. luteolus* by *Chamaesyrrhus japonicus* (Diptera: Syrphidae). *Entomological Science* 24 (2): 123–126. <https://doi.org/10.1111/ens.12460>

Skevington, J.H. (2020) Nearctic Syrphidae Checklist. http://www.canacoll.org/Diptera/Staff/Skevington/Syrphidae/Syrphidae_Nearctic_Checklist.htm. Accessed on: 2023-9-08.

Speight, M.C.D. (2020) Species accounts of European Syrphidae, 2020. Syrph the Net, the database of European Syrphidae (Diptera). *Syrph the Net publications, Dublin* 104: 1–314.

Vujić, A., Ståhls, G. & Radencović, S. (2018) Hidden European diversity: a new monotypic hoverfly genus (Diptera: Syrphidae: Eristalinae: Rhingiini). – *Zoological Journal of the Linnean Society* 185: 1188–1211. – DOI: 10.1093/zoolinnean/zly066.

Attributions

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