



Genus: *Myolepta*



Myolepta dubia male

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Genus: *Myolepta* Newman, 1838

Family: Syrphidae

Subfamily: Eristalinae

Tribe: Brachyopini

Number of species of this genus found in Europe: 7

Description

The species of *Myolepta* are medium-sized flies (8-12 mm). They are dark-brown to black coloured short haired hoverflies.

Head

The eyes of the males are holoptic, and the face of the male is tuberculate. The eyes of the female are dichoptic and the face is non-tuberculate. The antennae are shorter than the face and they are arising from a distinct frontal prominence. The antennae are short and the basoflagellomere is oval.

Thorax

Some species have orange-yellow abdominal markings. The metasternum is pilose except for *Myolepta obscura*, in that species the metasternum is bare (Becher, 1882).

Wings

The wing cell r_{4+5} is not petiolate and veins R_{4+5} and M_1 meet close to the apex of the wing. The crossvein r-m is situated distinctly basally on wing cell dm.

Legs

The femora are swollen, and all of the femora have short stubby black setae ventrally on the apical half (Shannon 1928; Thompson 1974).

General comments on identification to species level

There are two subgroups within the European species of *Myolepta*. The *Myolepta vara* subgroup is recognized by the entirely black abdomen and light-brown to black coloured basoflagellomere that is only weakly contrasting with the similar coloured scape and pedicel. Additional characteristics of the *Myolepta vara* subgroup include an oval basoflagellomere. The body has only normal hairs and not scale like hairs. The katepisternum has a separated dorsal and ventral hair patch. Tergite 1 is dull and it is covered with microtrichia. The katepimeron is bare. The ventral part of the abdomen is predominantly densely grey-brown pollinose and dull. The abdomen is oval. The species of the *Myolepta dubia* subgroup have orange-yellow markings on at least abdominal tergites 1 and 2 and a orange-red basoflagellomere that is strongly contrasting with the dark-brown to black scape and pedicel. The katepisternum has an additional hair patch medially that is narrowly connecting the dorsal and ventral hair patch. The antero-dorsal part of the katepimeron is pilose. (van Steenis 2020)

Differential diagnosis

The genus *Myolepta* can be confused with a few other genera of Syrphidae. The basic characteristics of the genus *Myolepta* are that the males have a distinct facial tubercle, but the female has no facial tubercle. All femora are more or less swollen and have strong ventral spines. The wing cell r_{4+5} is acute because the vein M_1 reaches the vein R_{4+5} at the wing tip. The crossvein r-m is situated in the basal half of wing cell dm.

Myolepta can be confused with the genera *Tropidia*, *Brachypalpus*, *Criorhina*, *Chalcosyrphus*, *Lejota*, and *Cheilosia*.

Myolepta looks a bit like *Tropidia*, but *Tropidia* species have an apicoventral triangular process at the hind femur which *Myolepta* does not have. The males of *Myolepta* possess a pronounced facial tubercle, the females lack this characteristic. In *Myolepta*, the crossvein r-m is situated at the basal half of the cell dm. The eyes of the males of *Myolepta* are holoptic. The males of *Brachypalpus*, *Chalcosyrphus*, and *Lejota* can be distinguished from males of *Myolepta* by not having a facial tubercle at all. Both sexes of *Brachypalpus*, *Criorhina*, and *Chalcosyrphus* can also be distinguished from *Myolepta* by the placement of the crossvein r-m that is positioned in the outer

half of the cell dm. *Myolepta* species without yellow markings on the abdomen can be confused with *Cheilosia*. *Myolepta* males possess a facial tubercle like *Cheilosia* but lack the well-developed parafacia that *Cheilosia* has. The females of *Myolepta* do not have a facial tubercle and they also do not have well developed parafacia.



Chalcosyrphus nemorum male habitus



Tropicida scita male habitus



Brachypalpoides lentus male habitus

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Geographical distribution and global diversity

Myolepta Newman, 1838 is a genus of small to medium-sized (5–12 mm) flies present in all biogeographic realms except Australasia (Thompson & Vockeroth 1989; Reemer et al. 2005). There currently are 45 described species of *Myolepta*: 3 from the Afrotropics, 7 Nearctic species, 12 from the Neotropical region, 17 from the Palearctic region and 6 from the Indomalayan region (Wiegmann 1986, Reemer et al. 2005; Thompson 2014; Gilasian et al. 2016; van Steenis 2020; Hassan et al. 2021, Mengual 2022).

Presence in Europe

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

Biology

Adults of *Myolepta* species occur in mature deciduous and evergreen forests with overmature trees, but also in old orchards with ancient trees (Reemer et al. 2005; Skevington et al. 2019; Speight 2020), where both sexes visit sap runs, but also flowers and herbs (Thompson 1974; Speight 2020; Reemer pers. obs.).

Flower visiting is observed regularly and plants with abundant and “open” flowers like Apiaceae, and *Crataegus* spp. being preferred, also recorded from *Cistus* spp. and *Prunus spinosa*.

The saproxylic larvae of *Myolepta* have been found in rotten heartwood and water-containing rot-holes of a wide range of broadleaved trees, e.g. *Aesculus*, *Fagus*, *Populus*, *Quercus* and *Ulmus* (Dušek & Láška 1960; Hartley 1961; Rotheray 1991; Dussaix 1997a, 1997b; Svivova et al. 1999; Ricarte et al. 2007). Several species can be found in the same habitat and even inhabiting the same rot hole (Becher 1882; Hauser 1998; Reemer et al. 2005; Sivova et al. 1999; Dussaix 2013). It is hypothesized that *Myolepta dubia* (Fabricius, 1805) is a mimic of the carpenter ant *Camponotus vagus* (Hymenoptera, Formicidae) (Sarhou 2006). Most of the European species have their main flight period between the end of April and the end of July. Most species are likely to be univoltine but in Southern Europe there might be species that are bivoltine (Reemer et al. 2005)



Type species: *Musca luteola* Gmelin, 1790

Common names:

SV - parkblomflugor

List of species found in Europe:

1. *Myolepta difformis* Strobl in Czerny & Strobl, 1909
2. *Myolepta dubia* (Fabricius, 1805)
3. *Myolepta nigratarsis* Coe, 1957
4. *Myolepta obscura* Becher, 1882
5. *Myolepta potens* (Harris, 1780)
6. *Myolepta trojana* Reemer, Hauser & Speight, 2005
7. *Myolepta vara* (Panzer, 1798)

References

Becher, E. 1882. Ueber die ersten Stände einiger Syrphidaen und eine neue *Myolepta*-Art. – *Wiener Entomologische Zeitung* 1: 249-254.

Dušek J. & Láska P. 1960. Weitere unbekannte Syrphidenlarven (Diptera, Syrphidae). *Acta Societatis Entomologicae Cechosloveniae* 57: 371–388.

Dussaix C. 1997a. Liste provisoire des Syrphes du département de la Sarthe (France), suivie de notes sur les stades immatures de quelques espèces (Diptera, Syrphidae). *Bulletin de la Société entomologique de France* 102: 159–169.
<https://doi.org/10.3406/bsef.1997.17324>.

Dussaix C. 1997b. *Myolepta vara* (Diptera, Syrphidae) reared in France (Dép. Sarthe). *Dipterists Digest* 4: 18–19.

Dussaix, C. 2013. Syrphes de la Sarthe. Éthologie, écologie, répartition et développement larvaire. *Invertébrés armoricains, les Cahiers du GRECIA*, 9, 1–284.

Fabricius, J.C. 1805. *Systema Antliatorum secundum, ordines, genera, species, adiectis synonymis, locis, observationibus, descriptionibus*. Apud Carolum Reichard, Brunsvigae, 358 pp. [pp. 15–372] <https://doi.org/10.5962/bhl.title.15806>.

Gilasian, E., Reemer, M. & Parchami-Araghi, M. 2016. Description of *Myolepta pazukii* Gilasian & Reemer sp. nov. (Diptera: Syrphidae) with notes on the Iranian species of *Myolepta* Newman. *Zootaxa*, 4103 (3), 276–282.
<https://doi.org/10.11646/zootaxa.4103.3.6>.

Hartley J.C. 1961. A taxonomic account of the larvae of some British Syrphidae. *Proceedings of the Zoological Society of London* 136: 505–573.
<https://doi.org/10.1111/j.1469-7998.1961.tb05891.x>.

Hassan M.A., Bodlah I., Shehzad A., Fatima N. & Fazal S. 2021. First record of the genus *Myolepta* Newman, 1838 (Diptera: Syrphidae) for Pakistan, with description of a new species. *Oriental Insects* 55 (4): 564–573.
<https://doi.org/10.1080/00305316.2020.1848656>.

Hauser, M. 1998. Zur Schwebfliegenfauna (Diptera, Syrphidae) Aserbajdschans, mit der Beschreibung von zwei neuen Arten. – *Volucella* 3(1/2): 15–26.

Mengual X. 2022. New species of *Myolepta* Newman, 1838 (Diptera, Syrphidae) from the Indomalayan Realm. *European Journal of Taxonomy* 833: 97–120.
<https://doi.org/10.5852/ejt.2022.833.1885>.

Reemer, M., Hauser, M. & Speight, M.C.D. 2005. The genus *Myolepta* Newman in the West-Palaearctic region (Diptera, Syrphidae). *Studia Dipterologica*, 11 (2004), 553–580.

Ricarte A., Marcos-García M.A., Pérez-Bañón C. & Rotheray G.E. 2007. The early stages and breeding sites of four rare saproxylic hoverflies (Diptera: Syrphidae) from Spain. *Journal of Natural History* 41: 1717–1730. <https://doi.org/10.1080/00222930701495046>.

Rotheray G.E. 1991. Larval stages of 17 rare and poorly known British hoverflies (Diptera: Syrphidae). *Journal of Natural History* 25: 945–969. <https://doi.org/10.1080/00222939100770621>.

Sarthou, J-P. 2006. *Myolepta dubia* (F., 1805), mimétique de fourmis du genre *Camponotus*? (Diptera, Syrphidae). *L'entomologiste*, 61, 57–58.

Shannon, R.C. 1928. Two new and remarkable Syrphidae in the Museo Nacional de Historia Natural de Buenos Aires. *Anales del Museo Nacional de Historia Natural, Buenos Aires, Entomología*, 34, 573–576.

Sivova, A.V., Mutin, V.A. & Gritskevich, D.I. 1999. Syrphid larvae (Diptera: Syrphidae) living in *Ulmus pumila* L. in Komsomolsk-on-Amur. *Far Eastern Entomologist*, 71, 1–8.

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 University Press, Princeton, NJ. <https://doi.org/10.2307/j.ctv7xbrvz>.

Speight M.C.D. 2020. Species accounts of European Syrphidae 2020, vol. 104. In: Speight M.C.D., Castella E., Sarthou J.-P. & Vanappelghem C. (eds) *Syrph the Net, the Database of European Syrphidae (Diptera)*: 1–314. Syrph the Net publications, Dublin.

Thompson, F.C. 1974. Descriptions of the first known Ethiopian *Myolepta* species, with a review of the subgeneric classification of *Myolepta* (Diptera: Syrphidae). – *Annals of the Natal Museum* 22(1): 325–334.

Thompson, F.C. 2014. A new species of *Myolepta* from Burma, with a key to Oriental *Myolepta* species (Diptera: Syrphidae). *Entomologist's Monthly Magazine*, 150, 87–92.

Thompson F.C. & Vockeroth J.R. 1989. 51. Family Syrphidae. In: Evenhuis N.L. (ed.) *Catalog of the Diptera of the Australasian and Oceanian Regions*: 437–457. Bishop Museum Press & E.J. Brill, Honolulu.

van Steenis J. 2020. A new species of the genus *Myolepta* Newman (Diptera: Syrphidae), with short description and key to all species of the *M. vara* subgroup. *Zootaxa* 4750 (3): 370–390. <https://doi.org/10.11646/zootaxa.4750.3.4>

Wiegmann, B.M. 1986. A new species of *Myolepta* (Diptera: Syrphidae) from Nepal, with its phylogenetic placement and a key to oriental species. *Journal of the New York Entomological Society*, 94 (3), 377–382.

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