

## Oдиниidae

Stephen D. Gaimari (1998 Checklist: László Papp)

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**Diagnosis:** [European Genera] Small to moderately large, compact-bodied, strongly bristled flies; length 2.5-5.5 mm. Body pruinose silvery to dull grey and variously mottled, striped or marked with brownish. Head higher than long; inner and outer vertical setae strong; postocellar setae divergent, strong or reduced (in *Neoalticomerus*); ocellar setae well developed, proclinate; with 3 pairs of fronto-orbital setae, posterior 2 reclinate, anterior 1 inclinate; frons flat or slightly depressed; frons at distinct angle with face; lunule bare, broadly exposed; gena broad, often with upturned genal seta; vibrissa strong; antennae short, with first antennal flagellomere about as high as long, arista pubescent. Mesonotum with 1 presutural and 3-4 postsutural dorsocentral setae; 1 prescutellar acrostichal seta present; prescutellum present; scutellar disc bare; anepisternum with 1-2 posterior marginal setae (in *Neoalticomerus*) or bare. Legs stout; femora often enlarged (especially hind femur of males); often with tibial bands; preapical dorsal tibial setae present. Wing with dark spots on crossveins, and sometimes distally on radial veins; costa with subcostal break only; subcosta incomplete. Abdomen relatively short and broad, usually patterned with gray and/or brown pruinescence.

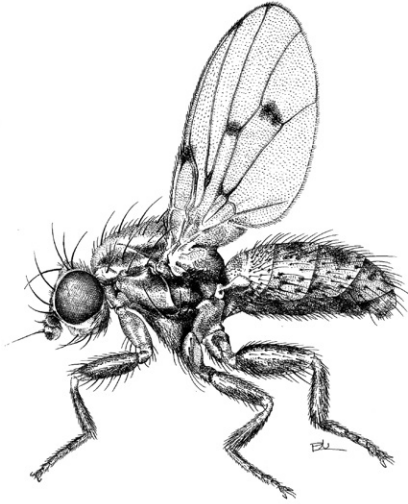
**Biology:** A detailed review of odiniid biology was published by Gaimari & Mathis (2011) and Gaimari (2021). Odiniids are most commonly found in forested ecosystems, with their biology closely associated with trees, often with adults occurring on tree trunks, often near sap flows. Some species feed on or are attracted to polypore or bracket fungi (Chandler 2010, Máca et al. 2005; MacGowan & Rotheray 2002). Those species found on trees are often associated with galleries of wood-boring beetles, with several larval life history possibilities from saprophagy to predation. This association has been demonstrated for tunneling beetles in various families (e.g. Krivosheina & Krivosheina 1996, Krivosheina 1981, Lewis 1979, Zubkov & Kovalev 1975, Sabrosky 1959). Yang (1984) and Pulkkinen & Yang (1984) demonstrated that the larvae of *Odinia xanthocera* Collin develop on frass within these tunnels, ultimately reaching, attacking and consuming the beetle pupa at the end.

**Nomenclature and classification:** A detailed review of odiniid classification was published by Gaimari & Mathis (2011), including a full catalogue dealing with many nomenclatural issues. For further information, see Gaimari (2021). All Swiss species belong to the subfamily Oдиниinae.

**Number of species:** CH: 8 (1998 Checklist: 8),

AT: 5, BE: 1, BG: 2, CZ: 7, DK: 3, ES: 6, FI: 5, FR: 6, GB: 8, GE: 8, GR: 4, HU: 9, IE: 2, IT: 5, LT: 2, LV: 1, NL: 6, NO: 1, PL: 5, RO: 1, RU (European part): 6, SE: 4, SK: 7, UA: 2, Europe: 15, World: 81.

**Level of faunistic knowledge in Switzerland:** The faunistic knowledge of Swiss odiniids is generally good, with an expectation that at least one or a few of the other European species may yet be found, such as: *Neoalticomerus fabricius* Withers & Papp, 2012, most closely found in the bordering country of France and in Hungary; and *Odinia hendeli*



*Odinia maculata*,  
male (CMPD3, p.233).

Collin, 1952, most closely found in the bordering countries of Germany and Austria. Slightly farther away, but still possible are three species yet found only in Hungary, *Odinia photophila* Papp, 1977, *Turanodinia nigripalpis* Papp, 2002, and *Turanodinia tisciae* Papp, 1987, as well as the species *Odinia trifida* Carles-Tolrá, 1996, found in northern Spain (Gaimari & Mathis 2011)

**General references:** Papp (1998a) [genera key, Palaearctic, incl. non-European Traginopinae], Schacht & Heuck (2010) [*Neoalticomerus*, *Odinia*], Withers & Papp (2012) [*Neoalticomerus*], Gaimari & Mathis (2011) [conspectus, key world genera], McAlpine (1987) [genera key, Nearctic], Gaimari (2010) [genera key, Neotropics], Gaimari (2021) [genera key, Afrotropics].

**References to the Swiss fauna:** Merz et al. (1998), Papp (1998b), Tschirnhaus (2008), Gaimari & Mathis (2011), Bächli et al. (2014).

## Checklist

*Neoalticomerus* Hendel, 1903

- *formosus* (Loew, 1844) !

*Odinia* Robineau-Desvoidy, 1830

- *boletina* (Zetterstedt, 1848) !

- *czernyi* Collin, 1952 !

- *mejerei* Collin, 1952 !

- *ornata* (Zetterstedt, 1838) L

- *pomona* Cogan, 1969 !
- *trinotata* Robineau-Desvoidy, 1830 ! N1
  - = *loewi* Collin, 1952
  - = *maculata* (Meigen, 1830)
- *xanthocera* Collin, 1952 !

## Notes

N1 *Odinia loewi* was synonymised with *O. maculata* by Tschirnhaus (2008), both of which were subsequently synonymised under *O. trinotata* by Gaimari & Mathis (2011).

## References

- Bächli G., Merz B. & Haenni J.-P. 2014. Dritter Nachtrag zur Checkliste der Diptera der Schweiz. Entomologica Helvetica 7: 119-140.
- Chandler P.J. 2010. 6. Associations with fungi, Mycetozoa and plants. Associations with fungi and Mycetozoa. In: Chandler P.J. (ed). A dipterist's handbook. Second edition. The Amateur Entomologist. Vol. 15: 417-441. The Amateur Entomologists' Society, London.
- Gaimari S.D. 2010. Odiniidae. In: Brown B.V., Borkent A., Cumming J.M., Wood D.M., Woodley N.E. & Zumbado M. (eds). Manual of Central American Diptera. Vol. 2: 1049-1055. National Research Council Press, Ottawa, xvi + 715-1442 pp.
- Gaimari S.D. 2021. 83. Odiniidae (Odiniid flies). In: Kirk-Spriggs A.H. & Sinclair B.J. (eds). Manual of Afrotropical Diptera. Vol. 3, Brachycera – Cyclorrhapha, excluding Calyptratae. Suricata 8: 1885-1901. Pretoria, SANBI Graphics & Editing, xv + 1365-2379 pp.
- Gaimari S.D. & Mathis W.N. 2011. World catalog and conspectus of the family Odiniidae (Diptera: Schizophora). In: Brake I. & Thompson F.C. (eds). Contributions to the *Systema Dipteroorum* (Insecta: Diptera): 291-339. Pensoft Publishers, Washington. Myia 12, 564 pp.
- Krivosheina N.P. 1981. (1979). [Systematics and biology of Palaearctic species of the family Odiniidae (Diptera) – entomophages and xylophilous insects]. In: Nasekomye-razrushiteli drevesiny I ikh entomogafi [Insects of wood and their entomophages]. Academy of Sciences of the USSR, A.N. Severtsov Institute of Evolutionary Morphology and Ecology of Animals. Moscow: Nauka Publishing, 130-157. [In Russian].
- Krivosheina N.P. & Krivosheina M.G. 1996. New data on the taxonomy and biology of the flies from the genus *Turanodinia* Stackelberg (Diptera, Odiniidae). International Journal of Dipterological Research 7: 141-146.
- Lewis D.C. 1979. The larva and puparium of *Odinia mejjerei* Collin (Dipt., Odiniidae). Entomologist's Monthly Magazine 114(1978): 233-235.
- Máca J., Kubík Š. & Barták M. 2005. Odiniidae. In: Barták M. & Kubík Š. (eds) Diptera of Podyjí National Park and its environs: 283-284. Česká zemědělská univerzita v Praze, Prague, 432 pp.
- MacGowan I. & Rotheray G.E. 2002. A new species of *Odinia* (Diptera, Odiniidae) from Scotland. Dipterist's Digest, Second Series 9: 67-69.
- McAlpine J.F. 1987. 72. Odiniidae. In: McAlpine J.F., Peterson B.V., Shewell G.E., Teskey H.J., Vockeroth J.R. & Wood D.M. (coords). Manual of Nearctic Diptera. Vol. 2: 863-867. Research Branch, Agriculture Canada, Ottawa, Monograph n° 28, vi + 675-1332 pp.
- Papp L. 1998a. 3.18. Family Odiniidae. In: Papp L. & Darvas B. (eds). Contributions to a Manual of Palaearctic Diptera (with special reference to flies of economic importance). Vol. 3, Higher Brachycera: 233-242. Science Herald Press, Budapest, 880 pp.
- Papp L. 1998b. 73. Odiniidae. In: Merz B., Bächli G., Haenni J.-P. & Gonseth Y. (eds). Diptera - Checklist. Fauna Helvetica 1: 263. CSCF / SEG, Neuchâtel, 369 pp.
- Pulkkinen M. & Yang Z.-Q. 1984. The parasitoids and predators of *Saperda populnea* (Linnaeus) (Coleoptera, Cerambycidae) in Finland. Annales entomologici fennici 50: 7-12.
- Sabrosky C.W. 1959. Flies of the genus *Odinia* in the Western Hemisphere (Diptera: Odiniidae). Proceedings of the United States National Museum 109: 223-236.
- Schacht W. & Heuck P. 2010. Zweiflügler aus Bayern XXVI mit Nachträgen (Acartophthalmidae, Odiniidae, Opomyzidae, Anthomyzidae, Aulacigastridae, Periscelididae, Asteiidae, Braulidae). Entomofauna, Zeitschrift für Entomologie 31(29): 437-452.

- Tschirnhaus M. von. 2008. 4.3.01. Acartophthalmidae, Borboropsidae, Chyromyidae, Micropezidae, Odiniidae, Opetiidae, Perisclididae, Pseudopomyzidae, and Tanypezidae. In: Ziegler J. (ed). *Diptera Stelviana*. Vol. 1. *Studia Dipterologica*, Supplement 16: 65-97. 395 pp.
- Withers P. & Papp L. 2012. The Palearctic species of *Neoalticomerus* Hendel (Diptera, Odiniidae). *Dipterists Digest* 19: 53-63.
- Yang Z.-Q. 1984. Notes on the larva and puparium of *Odinia xanthocera* Collins (Diptera, Odiniidae). *Annales entomologici fennici* 50: 93-94.
- Zubkov G.A. & Kovalev V.G. 1975. New data on the development of flies of the family Odiniidae (Diptera). *Nauchnye doklady- vysheĭ shkolĭ. Biologicheskie nauki* 1975: 14-19. [In Russian].