

Some Fungivorous Species of Sphaeroceridae and Drosophilidae (Diptera) from Karelia, USSR

By

L. PAPP

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Abstract: The lists of the fungus host species for nine sphaerocerid and ten drosophilid species are given from materials collected in the Petrozavodsk region (Karelia, USSR). One species (Limosina karelica sp. n.) is new to science, two sphaerocerid and one drosophilid species are new for the fauna of the USSR.

Through the courtesy of Dr. E. B. JAKOVLEV (Institute of Forestry, Karelian Branch of the AN USSR, Petrozavodsk) I received a material of 49 vials with 89 specimens of Sphaeroceridae and 102 vials with 290 specimens of Drosophilidae, which had been reared by Dr. JAKOVLEV from fungi (Ascomycetes and Basidiomycetes) in the Petrozavodsk region. (Thus, all the material below is labelled as USSR, Russian SFSR, Petrozavodsk region, leg. E. B. Jakovlev, 1977-78.)

The fungivorous species of the family Sphaeroceridae are rather inadequately known. RICHARDS listed only nine species of the British Sphaeroceridae, which were found on fungi as imagos. The breeding records for fungivorous sphaerocerids are quite scattered (for references see PAPP, 1972), and only Limosina fungicola Halid. and L. parapusio Dahl seem common fungivorous species in Europe. In this material nine species of Sphaeroceridae were found; one of them, Limosina karelica sp. n. is new to science, two species (Limosina czizeki Duda and Limosina schmitzi Duda) are new for the fauna of the USSR. The hitherto unknown breeding medium for two species was ascertained and the mushrooms as breeding sites for other two species were established. Only one of the nine species (Limosina parapusio Dahl) was reared from fungi also in Hungary.

As regards the fungivorous species of the European Drosophilidae, numerous data are known (for detailed references see BURLA et BÄCHLI, 1968). The species of the phalerata species-group of the subgenus Drosophila are restricted to fungi as breeding media for their larvae but also some other drosophilid species are known to be fungivorous. Ten drosophilid species were found now, eight of them were reared from mushrooms also in Hungary (DELY-DRASKOVITS and PAPP, 1973). Drosophila kuntzei Duda is new for the fauna of the USSR. It is the first time that the breeding medium of the larvae of Neoleucophenga quinquemaculata was ascertained.

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Limosima schmitzi Duda, 1918 - 2 ♀: ex Ramaria invalida, 8. 11. 78 (No. 1); 1 ♂: ex Lactarius resimus, 5. 8. 78 (No. 15); 2 ♀: ex Leccinium testaceoscabrum, 20. 9. 77 (No. 40). New for the fauna of the USSR (cf. NARTSHUK, 1970, HACKMAN, 1972, PAPP, 1979). The imagoes were found in the runs and nests of small mammals (RICHARDS, 1930), first of all on forest cleanings (DUDA, 1938), but the above data are the first concerning the breeding sites of the larvae.

Drosophilidae

Scaptomyza (Parascaptomyza) pallida (Zetterstedt, 1847) - 4 ♂, 2 ♀: ex Lactarius resimus, 29. 6. 78, 11. 8. 77 (No. 1, 20); 1 ♀: ex Suillus luteus, 16. 8. 77 (No. 35). A widely distributed Holarctic species, developing in vegetable debris (HACKMAN, 1955) and in mushrooms (DELY-DRASKOVITS and PAPP, 1973).

Neoleucophenga quinquemaculata (Strobl, 1893) - 4 ♂: 31. 7. 78 (No. 24); 2 ♂, 1 ♀: 31. 7. 78 (No. 25); 2 ♂, 2 ♀: 31. 7. 78 (No. 26). A very rare species, known only from Germany, Austria, Italy and the USSR. Hitherto the breeding media of the larvae were unknown, though its relative, Leucophenga maculata Duf. was reared many times from mushrooms.

Drosophila (Hirtodrosophila) trivittata Strobl, 1893 - 1 ♂: ex Lentinus lepideus, 10. 7. 78 (No. 27); 2 ♀: ex Pleurotus ostreatus, 2. 8. 78 (No. 104). A widely distributed but rare species (HACKMAN, 1957), in all probability its larvae develop exclusively in fungi.

Drosophila (Dorsilopha) busckii Coquillett, 1901 - 1 ♂, 1 ♀: ex Suillus luteus, 16. 8. 77 (No. 3, 17); 4 ♂, 2 ♀: ex Leccinium testaceoscabrum, 24. 7. - 8. 8. 77 (No. 4, 6, 16); 4 ♂: ex Lactarius resimus, 22. 8. 77 (No. 12); 1 ♀: ex Amanita muscaria, 10. 10. 77 (No. 13); 4 ♂, 1 ♀: ex Boletus edulis, 18. 8. 77 (No. 14); 3 ♀: ex Leccinium scabrum, 21. 6. 78, 6. 9. 77 (No. 15, 18). An omnivorous species, frequently reared also from fungi (see BURLA and BÄCHLI, 1968).

Drosophila (Drosophila) funebris (Fabricius, 1787) - 3 ♂, 1 ♀: ex Suillus luteus, 31. 10. 77 (No. 8); 3 ♂, 4 ♀: ex Boletus edulis, 30. 9. 77, 19. 9. 78 (No. 9, 11); 8 ♂, 2 ♀: ex Leccinium scabrum, 6. 7. 77, 2. 11. 78 (No. 10, 22); 2 ♀: ex Lactarius resimus, 22. 8. 77 (No. 7); 4 ♂: Gyromitra esculenta, 6. 7. 77 (No. 21).

(Drosophila) kuntzei Duda, 1924 - 1 ♀: ex Lentinus lepideus, 12. 8. 78 (No. 68). New for the fauna of the USSR (cf. STACKELBERG, 1970). The larvae develop exclusively in fungi (without host specificity).

D. (Drosophila) limbata von Roser, 1840 - 2 ♂: ex Gomphidius glutinosus, 18. 8. 78 (No. 95); 1 ♂, 2 ♀: ex Rozites caperata, 18. 8. 78 (No. 96); 2 ♂ ex Hydnum coralloides, 18. 8. 78 (No. 97); 3 ♂: ex Russula sp., 21-23. 8. 78 (No. 98, 99); 1 ♂, 1 ♀: ex Laccaria laccata, 20. 8. 78 (No. 101). It appears to be the rarest species of the phalerata species-group of the subgenus Drosophila, which unites closely related species both morphologically and ecologically.

D. (Drosophila) phalerata Meigen, 1830 - 4 ♂: ex Tricholoma sp., 11. 8. 78 (No. 64); 2 ♂: ex Leccinium testaceoscabrum, 31. 6. 78 (No. 103). A common mycophagous species, known also from this region of the USSR (HACKMAN, 1957).

D. (Drosophila) testacea von Roser, 1840 - 2 ♂, 2 ♀: ex Amanita muscaria, 5. 9. 77 (No. 5). The larvae develop only in fungi (without host specificity).

D. (Drosophila) transversa Fallén, 1823 - 114 ♂, 84 ♀: ex Peziza sp., Gyromitra esculenta, Morchella conica, Verpa bohemica, Piptoporus boletinus, Lentinus lepideus, Amanita muscaria, Inocybe lacera, Suillus luteus, Suillus variegatus, Xerocomus subtomentosus, Boletus edulis, Leccinium scabrum, L. testaceoscabrum, Lactarius resimus, Lactarius necator, Russula aeruginea, Russula sp., Agaricales sp., 6. 7. - 30. 9. 77, 14. 6. - 23. 8. 78 (from 27 cultures). It is the commonest species in this material. The colour and pattern of the abdomen were found highly variable, the identifications are partly based on the study of the female and male genitalia. It is a common species in the entire Holarctic region but the larvae develop only in fungi. It was reared en masse from 139 fungus species in Hungary (see DELY-DRASKOVITS and PAPP, 1973).

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Author's address: Dr. L. PAPP

Zoological Department
Hungarian Natural History Museum
H-1088 Budapest
Baross u. 13.
Hungary