The Rhinophoridae or woodlouse-flies (Diptera) of Norway

KNUT ROGENES


Rhinophorid material from Norway in the museum collections of the Universities in Bergen, Oslo and Tromsø and in author’s collection has been revised and records of the 9 species known from Norway are presented.

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INTRODUCTION

The Rhinophoridae, termed woodlouse-flies by Crosskey (1977), is a very small family of calyp- terate Diptera whose larval stages in general are endoparasitic in terrestrial isopods, although a Nearctic species, Angioneura obscura (Townsend), is reported as parasitic in snails (Reinhard 1929). It is the only Diptera group to parasitise crustaceans (Crosskey 1977). It occurs mainly in the Western Palaearctic Region (absent from Iceland), but there are representatives also in the Nearctic, Oriental and Afrotropical Regions, with an immigrant form in the Neotropical Region (Crosskey 1977). Crosskey (1977) lists 23 genera with about 85 species in the world fauna. The group has previously been listed in whole or in part as a subgroup of the Calliphoridae (Emden 1954, Herting 1961, Downes 1965) or the Tachinidae (Sabrosky & Arnaud 1965, Guimarães 1971), but has usually been given separate family status in recent times (Hennig 1973, Crosskey 1977, 1980, Kugler 1978).

In the North European fauna the Rhinophoridae can be separated from related calyptrates with a row of setae on the meron (hypopleuron) by the following combination of characters: a small and tongue-like lower squama, the inner edge of which diverges from long axis of fly; posterior spiracle with lappets of subequal size; a weakly or undeveloped postscutellum; proster- num, propleuron, suprasquamal ridge, postalar wall, subalar bulla, basisternum (in front of hind coxae) bare; the bend of m1 in the wing without appendix or fold; body colour not metallic blue or green.

The developmental stages of some European species have been described by Thompson (1934) and Bedding (1973).

Zetterstedt (1838, 1844), Siebke (1877), Storm (1896), Ringdahl (1944a, 1944b, 1952) and Rognes (1981) have given records of Rhinophoridae from Norway, and a total of 8 species have previously been recorded. The present revision lists 9 rhinophorids from Norway.

MATERIAL AND METHODS

The present study is based upon the examination of 134 specimens partly in my own collection and partly in the museum collections in Bergen, Oslo and Tromsø. I have not seen the Trondheim collection revised by Ringdahl (1944a). For identification of species I have used the works of Lundbeck (1927), Ringdahl (1954b), Emden (1954), Herting (1961) and Stackelberg (1970). The generic names adopted are those of Crosskey (1977), the specific ones those of Herting (1961). Specific synonyms, taken from Ringdahl (1954a) and Herting (1961), have been cited when based on types from Scandinavian localities or have been used in literature dealing with the Norwegian fauna. Recent information on host species has been cited for each species. Note that nothing is known about the biology of Rhinophoridae in this country. I have also given an indication of the world distribution in broad terms as well as information on the North European distribution. My sources for these data have been Lundbeck (1927), Ringdahl (1951, 1952), Herting (1961), Draber-Mońko (1966, 1971, 1978), Pont (1975).

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SYSTEMATIC LIST

1. Angioneura acerba (Meigen)
   Medioria acerba Meigen, 1838; Dextra pygmaea Zetterstedt, 1844; Angioneura acerba: Herting 1961.
   Hosts: Unknown.
   Note. The present species is unique among Rhinophoridae in having a posteriorly broad calliphorid-like lower squama, the inner edge of which converges backwards with long axis of fly (Herting 1961, Crosskey 1977). My specimen also has the prosternum and basisternum prominently hairy and a distinctly oculurate posterior spiracle, two further calliphorid-like features apparently overlooked so far. An oculurate posterior spiracle has also been reported from Banissa fascipennis Kugler (Kugler 1973). I have also seen specimens of Angioneura fimbiata (Meigen) with hairs on the prosternum. Crosskey (1977) only lists Melanomyia Rondani among the Rhinophoridae as exceptionally having a lateral hair on the post sternum.

2. Melanomyia nana (Meigen)
   Dextra nana Meigen, 1826; Musca minima Zetterstedt, 1838; Dextra minima: Zetterstedt 1844; Melanomyia nana: Herting 1961.
   Note. Musca minima was described partly on the basis of a male from «Dovre» (Bohemian leg.) (ON, Dovre: ?loc. EIS 71?, probably Dovre mountains). I have not seen the type specimens which have been revised by Ringdahl (1945a).
   Hosts: Unknown.

3. Mortinia melanoptera (Fallén)
   Musca melanoptera Fallén, 1820; Anthracomyia melanoptera: Herting 1961.
   Material: ON, Sel: Lårgård (?) 1♂ 1♀ 27 June 1861 (Siebke), 1♂ 3♀ 10 July 1873 (Siebke), ? date 3♀ (Siebke). EIS 71.
   Hosts: Unknown.
   Note. The postalar wall has a few long stiffish hairs in this species, a unique and previously overlooked character which suggests that the species in fact may belong in the Calliphoridae.

4. Paykullia brevicornis (Zetterstedt)
   Leucosoma brevicornis Zetterstedt, 1844; Eupholus ringdahl Villeneuve, 1934; Chaetostevania brevicornis: Herting 1961.
   Note. The specimen has been examined by Ringdahl and carries his identification label «Plesina brevicornis Zett.».
   Hosts: Unknown.
   Distribution. Previously only known from Sweden (Skåne, Småland, Östergötland).

5. Paykullia maculata (Fallén)
   Ocyptera maculata Fallén, 1820; Chaetostevania maculata: Herting 1961.
   Hosts: Oniscus asellus, Porcellio scaber, Protracheonisculus politus and Tracheonisculus ratzeburgi (sources in Herting 1961, see also Sutton 1972).

6. Phyto cingulata (Zetterstedt)
   Hosts: Unknown.
7. *Stevenia atramentaria* (Meigen)
*Tachina atramentaria* Meigen, 1824; *Stevenia atramentaria*: Herting 1961.
Hosts: *Oniscus asellus*, *Tracheoniscus arcuatus*, *Philoscia affinis* (Herting 1961) and *Trachelipus ruthkei* (Sutton 1972).
Distribution: Europe. British Isles. Finland, Sweden (north to Gästrikland).

8. *Stevenia umbratica* (Fallén)
*Ocyptera umbratica* Fallén, 1820; *Rhinophora lugubris* Zetterstedt, 1855; *Stevenia umbratica*: Herting 1961.
Hosts: Unknown.

9. *Tricogena rubricosa* (Meigen)
*Tachina rubricosa* Meigen, 1824; *Tachina trilineta* Meigen, 1824; *Tachina hiricornis* Zetterstedt, 1844; *Tachina nigritarsis* Zetterstedt, 1844; *Dexia tachiniformis* Zetterstedt, 1844; *Frauenfeldia rubricosa*: Herting 1961.
Distribution. Europe. British Isles. Denmark, Finland and Sweden (north to Södermanland).

**DISCUSSION**

Table 1 shows the distribution of the 15 North European species of Rhinophoridae. Two species, *Phyto discrepans* Pand. and *P. melanocephala* (Meigen), occur on the British Isles, but not in the Nordic countries. Four species, *Angioneura cyrtoneurina* (Zetterstedt), *A. fimbriata* (Meigen), *Melanophora rorialis* (L.) and *Rhinophora lepida* (Meigen), occur in some Nordic countries, but have not yet been captured in Norway. Of these, *A. cyrtoneurina* and *M. rorialis*, both of which are known north to Uppland in Sweden, very probably occur in Norway also. *R. lepida* (north to Skåne in Sweden) and *A. fimbriata* (Finland) may also ultimately turn up in this country, though with somewhat less probability.

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Total | 9 | 6 | 7 | 12 | 10 |
Too few specimens have been captured in Norway to allow definitive statements as to the distribution of the species within the country. At present they are known mostly from the lowlands in the southern and south-eastern parts of the country. A few have also been taken in the lowlands in the inner parts of Western Norway.

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