

Two species of Empididae (Diptera) not previously recorded from Denmark

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Large swarms of male *Rhamphomyia* were flying, on 24th September 1955, at a height of 2—4 metres in the evening sunshine (16.30—17.00 hours), over the sandy paths between conifers in Nyrup Hegn, North Sealand. Very few of the males were carrying prey, fewer than is usual in these swarms of male Empididae. The flies were very numerous, resembling some swarms of Chironomidae, but they were not orientated in the manner of Chironomids and were flying randomly backwards and forwards, the movements resembling more the flight of male Muscidae. The males which were not carrying prey were seen to be flying with the legs extended out from the body. In this the flight resembled the predatory flight of *Rhamphomyia nigripes* Fabricius, although the species were obviously smaller. The species also resembled *R. nigripes* in that the mated pairs did not descend to the ground, or on the trees nearby, but continued to fly during mating. The mated pairs were also seen to separate in the air. About half the mated pairs collected were holding small male Chironomidae (*Cricotopus*, *Hydrobaenus trilobatus* Edw.) as prey. Apparently as in other species of *Rhamphomyia* the male presents the female with prey before mating with her.

It was thought at the time that only one species was present in the swarms, but later examination showed that males of two closely related species were present, *Rhamphomyia erythrophthalma* Meigen 1830 and *R. hirsutipes* Collin 1926. The first species was the most abundant and most observations were probably of this species. Both species are not mentioned by Lundbeck (1910, Diptera Danica III) as occurring in Denmark, and Dr S. L. Tuxen states (in litt.) that neither species is represented in the Zoological Museum Collection in Copenhagen. The related species, *R. gibba* Fallen 1816, is recorded by Lundbeck as rare in Denmark, the adults flying in July, August and September.

The three species, *R. gibba*, *R. erythrophthalma* and *R. hirsutipes*, are placed by Collin (1926, Ent. mon. Mag. 62: 216) in the subgenus *Amydroneura*, the species of which are characterised by the elongate discal cell in the wing, and by the indistinct anterior vein of this cell. Both *R. erythrophthalma* and *R. hirsutipes* may

be distinguished from *R. gibba* by the presence of yellow, not black, hairs on the disc of the thorax, and on the scutellum, and the presence of pale hairs on the abdomen. *R. hirsutipes*, in the male, has very long hairs on the front tibiae and tarsi, and the front tarsi enlarged and swollen, whereas the male of *R. erythrophthalma* has the front legs with hairs of more normal length and the tarsi are not obviously swollen. Specific differences between the females of *R. erythrophthalma* and *R. hirsutipes* have not been described.

It appears that there are at least two types of mating behaviour to be found in the genus *Rhamphomyia* which may indicate a separation of the genus into two phylogenetic groups. The species either mate in the air and continue to fly, or the species mate in the air and then settle, the male hanging by his front legs supporting the female. The first type of behaviour has been observed in *R. nigripes* and the species recorded here, and the second type in *R. sulcata* Meigen, *R. albohirta* Collin and *R. dentipes* Zetterstedt (Laurence, 1955, Ent. mon. Mag. 91: 220—224). It is interesting that these species represent different subgenera of the genus *Rhamphomyia* and further work may show that species in the same subgenus have the same type of mating behaviour.

Mr. J. E. Collin, Newmarket, has kindly confirmed the determinations of the two species of *Rhamphomyia* recorded here from North Sealand.

Nye og sjældne sommerfugle 1954.

Af Wilh. van Deurs.

Foruden fundene fra 1954 er medtaget enkelte fra tidligere år, som først nu er identificerede.

Nye arter:

Odonestis pruni L. 1 eks. på lys Saltuna (Bornholm) $7/8$ (E. Wilsund).

Drepana harpagula Esp. 1 eks. på lys Almindingen $10/7$ (E. Wilsund).

Diarsia sigma Schiff. 1 ♂ Sulbæk (Jyll.) $13/7$ (B. Johannesen). Se Ent. Medd. Bd. XXVII, side 53.

Cacoecia diversana Hb. Teglkås (Bornh.) $20/7$ (J. Chr. Jensen). Det i fortegnelsen publicerede tidligere fund beror på fejlbestemmelse.