Chromosomes of Syrphidae

V. Microchromosomes

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Received April 13, 1970 / Accepted April 17, 1970

Abstract. The karyotypes of twelve species that possess microchromosomes are briefly described and compared with those of related species that do not have microchromosomes. The species with microchromosomes include several Sphaerophoria sp. (2n = 6 - 6 micro.); Volucella pellucens (L.) (2n = 10 + 8 micro.); Volucella zonaria (Poda) (2n = 10 + app. 30 micro.); Volucella elegans Loew (2n = 10 + 35 to 45 micro.); Eristalis abusivus Collin (2n = 10 + 10 to 16 micro.); Merodon avidus (Rossi) (2n = 12, but a female from Spain 2n = 14 + 5 or 6 micro.); Mallota marguerita Will. (2n = 10 + 7 or 8 micro. including X and Y); Somula decora Macq. (2n = 10 + 8 micro.); Sphoemoemia vespiiformis (Gorski) (2n = 12 + XY + complexes of micro.); Xylota nemorum (Fab.) (2n = 10 + about 20 micro. in certain individuals from western North America). These microchromosomes are generally not heterochromatic and are normal in behaviour except that they tend to clump in meiosis I. An origin from sex chromosomes seems possible. The karyotypes of Volucella inanis (L.) (2n = 12) and of Eristalis transversus Wied. (2n = 14) are also described briefly for comparative purposes and those of several other species of Syrphidae having karyotypes not previously described, are mentioned in the text.

Introduction

During the course of our studies on the chromosomes of Syrphidae, we have encountered about twelve species in which microchromosomes are present. Their numbers range from a few to over 40 in different species and were first reported for this family by Boyes and van Brink (1964) in Eristalis abusivus Collin, Eristalis arbustorum (L.), Platycheirus albimanus (Fab.) (now doubtful) and Volucella pellucens (L.). Microchromosomes were also reported by us (1967) in Somula decora Macq. and Xylota nemorum (Fab.). This present report provides more detail about cases previously reported and adds about seven new species.

Results

1. Platycheirus species

a) Many species of this genus have three pairs of macrochromosomes plus a tiny, apparently telocentric, XY pair. Pairs II and III are short metacentric and IV long subtelocentric. See Boyes and van Brink (1964).
Figs. 1—21