

Diversity and behaviour of the kleptoparasitic satellite flies (Diptera: Sarcophagidae: Miltogramminae)

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Keywords: Flesh flies, Miltogramminae, natural history, diversity, kleptoparasitism

The Miltogramminae, or satellite flies, are one of the three subfamilies of Sarcophagidae, and account for just under a quarter of the known species in this family. They are distributed worldwide and are particularly diverse in the arid and subarid habitats of the Old World. Most species develop, in the larval stages, as kleptoparasites in the nests of solitary Apoidea, where they feed on the provisions stocked in the nest for the bee's or wasp's offspring. Females of different species have evolved different behavioural mechanisms for infesting the nests of their hosts, as well as for destroying the host's immature stages. Kleptoparasitism was initially thought to be a groundplan biological feature of the subfamily; however, recent findings suggest that it may have evolved from a plesiomorphic necrophagous lifestyle. From a phylogenetic point of view, recent works have shown that much information can be found in the larval morphology; also, targeted molecular studies are yielding the first solid phylogenies for the group. Recent sampling around the world has shown that miltogrammine diversity is probably still heavily underestimated, especially in sub-Saharan Africa, the Middle East, and Asia. This talk summarises our current knowledge of the Miltogramminae, providing an overview of their morphology, classification, diversity and ecology, with particular emphasis on their kleptoparasitic habits.