
Diversity of hover flies (Diptera: Syrphidae) in three habitat types in the Karkloof, KwaZulu-Natal, South Africa

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Abstract

Hover flies (Diptera: Syrphidae) are a diverse family and are nearly worldwide in distribution. Many species are flower-visiting insects that serve as pollinators of various agricultural and horticultural crops and wild plants. Hover fly abundance is generally expected to vary according to vegetation types, for instance, differences in the type and diversity of floral resources, but this has not yet been investigated in South Africa. To investigate hover fly abundance and diversity patterns in three habitats (plantation, forest and grassland), nine Malaise traps were placed at Karkloof (KwaZulu-Natal, South Africa). The traps were serviced weekly and hover flies were identified using available keys. Diversity indices were calculated using Shannon H' diversity Index and Simpson D evenness Index. A total of 195 hover flies belonging to 21 species, 15 genera and three subfamilies were collected. The grassland had the highest abundance of hover flies (110) followed by the forest (66) and the plantation (19) had the least number of individuals. A similar pattern was seen in richness and diversity. Plantation showed the highest evenness followed by forest and then grassland. The results show that heterogeneous habitats, such as the grassland and forest, yield high abundance, diversity and richness of hover flies. This may be due to the diversity in available microhabitats as well as floristic diversity which provides hover flies with nectar and/or pollen, whereas plantation, which is a modified monoculture, lacks microhabitat and floristic diversity, and yields a low number of hover flies, resulting in higher evenness.

Keywords: Hover flies, habitats, diversity, abundance, Karkloof

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