Hoverfly (Diptera: Syrphidae) abundance in sunflower fields in the Lehau region of Limpopo province, South Africa

Xavier Brits[1], Hannelie Human[1], John Midgley*[3,2], and Christopher Weldon[1]

[1]Department of Zoology and Entomology [Pretoria] – South Africa
[3]KwaZulu-Natal Museum, Pietermaritzburg, KwaZulu-Natal, 3021 – South Africa
[2]Department of Zoology Entomology, Rhodes University, Makhanda, 6139 – South Africa

Abstract

Sunflowers are an important crop in South Africa, accounting for _˜4.5% of the annual agricultural production value. While sunflowers are not reliant on external pollinators for seed set, self-fertilization results in reduced yield. Most sunflower farms in South Africa rely on wild pollinators for this service, but the dynamics of these pollinators is poorly known. Five sunflower fields were selected in the Lehau region of the Limpopo Province, South Africa, ranging in size from 4.3 to 19 ha. At each field, four plots were selected, one 50m outside the field, one 5m outside, one 5m inside and one 50m inside. Each field was sampled once per growth phase. Each plot was sampled with a sweep net for 30 minutes in the morning, the middle of the day and evening in a random pattern. Hoverflies were most abundant during the active flowering phase and were most abundant at the edges of the fields, followed by within the field and least abundant outside of the fields. Hover flies appear to show a preference for sunflower fields over the general environment and were most abundant during the peak flowering season. The observed population dynamics suggests that hover flies utilize sunflower fields and could be pollinators of sunflowers. Future work is also discussed.

Keywords: Agriculture, pollinators, habitat use

*Speaker