Tropentag, September 10-12, 2025, hybrid conference

"Reconcile land system changes
with planetary health"

Apiculture and sustainable forestry: The effects of bee pests and predators prevalence in Mlele, Tanzania

Irene Shayo, Jeremia Makindara

Sokoine University of Agriculture, Mizengo Pinda Campus, Tanzania

Abstract

Honeybee colonies are faced with disasters and stresses such as man-made fires, harsh weather conditions and other natural disasters, pests, predators, parasites, and diseases. The natural honey bee enemies are pests and predators which cause a lot of damage to their life and their produce. All these disasters affect bee production and sustainability forcing bee colonies to migrate. These migrations impact the bee keepers by reducing the number of colonies, and hence reduce honey yields and income. This study explored types and nature of honey bee pest and predators in Kibaoni Ward, in Mlele District, in Katavi Region, Tanzania. Specifically, the study tried to answer the following questions: What are the common honey bee pests and predators in the study area? Their abundance? And what is their common habitat? Methodologically, two honey bee farms were selected purposely. The data were collected through direct observation and counting of pests and predators obtained from the study area. The findings show that ten species representing two phyla, four class, eight order and nine families were the types of pests and predators found in the study area. These pests and predators belong to the class Insecta, Arachnida, Mammalia and Reptilia. The types of species observed include Mus musculus, Lasius niger, Aethina tumida, *Galleria mellonella*, Scorpio Linnaeus and Hemidactylus fasciatus. The findings also show that the species which have high relative abundance were ants 32.98 % followed by termites with 29.19 %, beetles 25.25 %, wasps 4.93 %, wax moths 2.22 %, scorpion 2.22 % and cockroaches 1.56 %. Other pests found were lizards 1.32 % and mice 0.33 %. The findings show further that common habitats which favour existence of pest and predators were underground area below the beehive stalls, ground surfaces, tree trunks, decaying material and hive constructing material. The pests and predators were weakening the colonies by consuming them, leading to bees absconding their hives. It is therefore recommended that when planning to establish bee farms or apiaries which should first assess the nature and types of existing pest and predators in order to ensure that colonies and not disturbed in order to maximise honey production, maintain forestry ecology and sustainability.

Keywords: Apiary, honey bee, pests, predator, Tanzania

Contact Address: Jeremia Makindara, Sokoine University of Agriculture, Mizengo Pinda Campus, 34 Sitalike rd Kkibaoni, 50318 Mlele, Tanzania, e-mail: makj@sua.ac.tz