THE EFFECTS OF HUMAN DISTURBANCE ON THE DIVERSITY OF INSECTS IN THE MUKUYISI WOODLANDS NATURE RESERVE PARK

BY

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ABSTRACT

A rapid biodiversity assessment on the effects of human disturbance on insect diversity was carried out in the Mukuvisi Woodlands Nature Reserve Park in Harare, the capital city of Zimbabwe. Three sites experiencing different magnitudes of human disturbance were selected and sampled for the two seasons (summer in December 2005 to April 2006 and winter in May 2006 to August 2006). Two transects were positioned in each site and a total of 12 pitfall traps were dug along each transect. The traps were checked after every seven days for six times in each season and the catch was Identified, named, classed and recorded. Diversity, evenness and species richness was thus calculated for each pitfall trap and the results were analysed for how these indices varied from one site experiencing low disturbance to the others experiencing moderate and high human disturbance.

The low human disturbance showed and overall highest richness and diversity of insects, hence Beta diversity (across different habitats) was shown to be significantly affected by human disturbance. However, alpha diversity (within habitat) was not significantly affected by human disturbance owing to the ease of migration of insects within a habitat as opposed to across habitats.

The research concluded that the higher the human disturbance the lower the diversity of insects was. And also that there are some resilient orders of insects in the park which do not respond to human disturbance. These were identified by implication as the Hymenoptera, Isoptera, Aranea, and Diptera.

Finally, the research recommended regulation of human activities and volume touring the park as well as setting up of buffer zones for insect refuge.