



National University of Science and Technology

Think in Other Terms



HABITAT DISTURBANCE AND ITS IMPACT ON INSECT DIVERSITY A CASESTUDY OF NUST CAMPUS

BY

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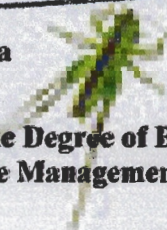
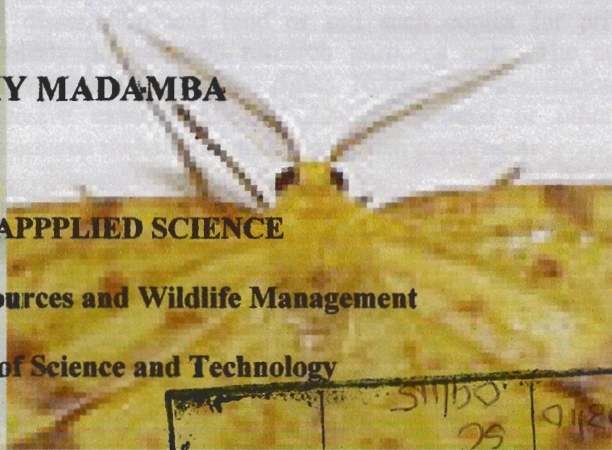
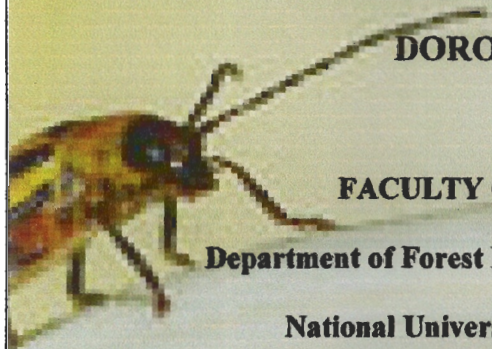
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ABSTRACT

Insects are a very good indicator of the effect of habitat destruction on an ecosystem. These small creatures are known for making use of any type of habitat available and one can infer that the fewer the tree species available the lesser the microhabitats available to the insects. With this in mind, the species richness and diversity in an undisturbed woodland area was compared with that of a disturbed (excavated) area at NUST campus, Bulawayo. Two study plots within the study area, one undisturbed and the other showing an extreme case of disturbance were assessed to investigate the influence of disturbance on diversity. In each of these plots three transects were marked cutting across the study area and land pitfall traps were set along these transects. The insects caught in the traps were identified and counted and the information used to come up with diversity indices.

Generally the undisturbed woodland showed higher species richness (85 species) than the excavated area with 72 species. Two indicator groups were identified the ants (order hymenoptera), which are pioneer species and the beetles (order Coleoptera), which change species richness and diversity with, increased habitat heterogeneity and complexity. The undisturbed woodland was utilized by more ground crawling insect species than the disturbed area. Habitats became more unsuitable with decrease in tree density and removal of topsoil. The result was confirmed using an independent t-test taking into account the effect of season. ($P = 0.001$). Season had similar effects on both abundance and species richness of the habitats. Its effect was uniform between the disturbed and undisturbed habitats with the interaction having an independent t-test value of $P = 0.539$. Through this study, insects in the order hymenoptera and coleoptera can be more accurately used in detecting effects of disturbance.