

**ASSESSMENT OF SOME ANTHROPOGENIC
ACTIVITIES ON BIODIVERSITY IN MOUNT SINAI,
ST. KATHERINE PROTECTORATE**

Submitted By

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B.Sc. of Science, (Zoology), Faculty of Science, Suez Canal University, 2004

Master in Science (Zoology, Environmental Studies), Faculty of Science,
Suez Canal University, 2011

A thesis submitted in Partial Fulfillment
Of
The Requirement for the Doctor of Philosophy Degree
In
Environmental Sciences

Department of Environmental Basic Sciences
Institute of Environmental Studies and Research
Ain Shams University

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Dedication

*It is my honor to dedicate this work to
my father, my mother and my wife for
giving me pure love and support without
limitation.*

Abstract

The current study aimed at assessing the impact of some anthropogenic activities along the touristic hiking trail passing through Mount Sinai area in St. Katherine protectorate (SKP) on biodiversity. The study also aimed at identifying and quantifying representative groups of vertebrate and invertebrate taxa within the study localities of Mount Sinai. The Nubian ibex (*Capra ibex nubiana*) was the only recorded wild herbivore species in Mount Sinai. Five reptiles' species, 11 pollinators' species, three gall-inducing species, nine ant species, and 39 plant species were recorded from the study localities in Mount Sinai. The current study showed that the hiking trail had a negative environmental impact on the vertebrate (large mammals and reptiles) and invertebrate (insect pollinators, gall inducing insects, and ants) taxa distribution within the study localities in Mount Sinai. Results also showed that hiking trail disturbance did not affect the surrounding plant assemblages within the study localities in Mount Sinai. The predicted distribution range of some reptiles, some insect pollinators, some gall-inducing insects and ant species were concentrated in the high mountainous region of SKP with different distribution range size of each group. The predicted distribution range for large herbivore *Capra ibex nubiana* and the ant species *Crematogaster aegyptiaca* covered the most parts of SKP. Based on the results, it is advisable to move the hiking trail to slopes of Mount Sinai away from its current location within the basins (Farshs). More studies are needed to assess the impact of hiking trails and associated human activities on other biodiversity elements in SKP.

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