

**DIVERSITY OF MOSQUITO (DIPTERA: CULICIDAE) IN  
THE NANGKHEL V.D.C. OF THE BHAKTAPUR DISTRICT**

**A THESIS**

**BY  
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**SUBMITTED TO**

**Central Department of Zoology  
Institute of Science and Technology  
Tribhuvan University**

**In partial Fulfillment of the Requirements for the Master's  
Degree in Zoology (Entomology)**

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## **RECOMMENDATION**

It is my pleasure to mention that Miss Sumitra Lama has carried out the dissertation entitled "**Diversity of mosquito (Diptera: Culicidae) in Nangkhel V.D.C. of the Bhaktapur District.**" under my supervision and guidance. The entire work is based on the result of her own investigation and has not been submitted by any other degree to the best of our knowledge. Hence, I recommend for the acceptance in partial fulfillment for the degree of Master's of Science in Zoology (Entomology).

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## **APPROVAL**

The dissertation submitted by Miss. Sumitra Lama entitled "**Diversity of Mosquito (Diptera: Culicidae) in the Nangkhel V.D.C. of the Bhaktapur District**" has been accepted as a partial fulfillment of Master's Degree in Zoology specializing in Entomology.

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## EVALUATION

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## Abstract

Mosquitoes were collected from the Nangkhel V.D.C of Bhaktapur district from May 2007 to September 2007. The collection of mosquitoes were done from 6 to 8pm in the morning and in the evening with the help of hand-aspirator, mosquito net and torch light. Altogether 317 specimens of mosquitoes were collected during the study period in the study area. The diversity of the mosquito in the study area contained four different types of genera of mosquitoes viz: *Culex*, *Anopheles*, *Aedes*, and *Armigeres*. There was statistically significant variation in mosquito distribution due to effect of season and habitat. The density of *Armigeres* was found high where the ditches, bushes and stagnant ponds were present near house. The *Culex*'s populations were high in those houses where the paddy fields, cowsheds and cattle sheds were near from the human dwellings. The density of *Anopheles* and *Aedes* are lowest in comparison to *Armigeres* and *Culex*. Seasonal prevalence showed that the mosquito density was least in May and highest in August. The mean density of mosquito was positively correlated with Temperature ( $r = 0.412380$ ), Rainfall ( $r = 0.743222$ ) and Relative humidity ( $r = 0.769633$ ). The study found out that the most diverse fauna in the study area during the study period was the genus *Armigeres* ( $H' = 0.155$ ), similarly *Culex* ( $H' = 0.154$ ), *Anopheles* ( $H' = 0.141$ ) and the least diverse fauna was found to be the genus *Aedes* ( $H' = 0.072$ ). About 46% of *Armigeres*, 27% of *Culex*, 21% of *Anopheles* and 6% of *Aedes* was present in the study area during the study period.

### Key words:

Diversity, fauna, *Aedes*, *Anopheles*, *Armigeres*, *Culex*, Seasonal prevalence, Correlation.

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