

**ANALYTICAL SENTINEL SURVEY OF LYMPHATIC  
FILARIASIS AND PREVALENCE OF VECTORS IN  
DARAUNE POKHARI DAPCHA VDC OF  
KABRE DISTRICT, NEPAL.**



**A Thesis**

**Submitted in Partial Fulfillment of the Requirements for the  
Master's Degree in Zoology with Special Paper Parasitology**

**To**

**Central Department of Zoology  
Institute of Science and Technology  
Tribhuvan University, Kirtipur  
Kathmandu, Nepal**



**By**

**Bhim Bahadur Dahal**

**Exam Roll No. 1174**

**2007**

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## RECOMMENDATION

This is to recommend that the dissertation entitled "**Analytical Sentinel Survey of Lymphatic Filariasis and Prevalence of Vectors in Daraune Pokhari Dapcha VDC of Kabre District, Nepal.**" has been carried out by Mr. Bhim Bahadur Dahal for the partial fulfillment of M.Sc. degree of Science in Zoology with special paper Parasitology under my supervision. To the best of my knowledge, this dissertation work has not been submitted for any other degree.

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## LETTER OF APPROVAL

On the recommendation of the supervisor, Dr. Ranjana Gupta, this thesis submitted by Mr. Bhim Bahadur Dahal entitled "**Analytical Sentinel Survey of Lymphatic Filariasis and Prevalence of Vectors in Daraune Pokhari Dapcha VDC of Kabre District, Nepal.**" is approved for examination and submitted to the Tribhuvan University in partial fulfillment of the requirements for Master's Degree of Science in Zoology with Parasitology as a special paper.

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## APPROVAL

This dissertation work submitted by Mr. Bhim Bahadur Dahal entitled **"Analytical Sentinel Survey of Lymphatic Filariasis and Prevalence of Vectors in Daraune Pokhari Dapcha VDC of Kabre District, Nepal."** has been approved as a partial fulfillment of requirements for the Master's Degree of Science in Zoology with Parasitology as a special paper.

## EVALUATION COMMITTEE

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Head of Department

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Date of Examination \_\_\_\_\_

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## ABSTRACT

*Wuchereria bancrofti* is a filarial nematode parasite that causes lymphatic filariasis in endemic zones of tropical and subtropical regions causing permanent and long term disability. It is the second major health problem in the world and is endemic in 60 of 75 districts of Nepal. The recent study was conducted from 28<sup>th</sup> December 2006 to 15<sup>th</sup> September 2007 in Daraune Pokhari, Dapcha VDC of Kabre District. A total of 500 night blood samples were collected from the earlobes of the respondents. Mass orientation program was conducted to make the respondents aware about the study. After filling the questionnaires to take information regarding physical, social and environmental status of the respondents night blood sample collection was done. Microscopical examination revealed 52/500 (10.40%) microfilarial positive cases. Regarding age and sex-wise distribution, the highest percentage of infection was noted in age group 41-50 years (22.22%) in males and 61-70 years (16.66%) females and female were highly infected than males with the ratio of 6:7 where 80 males out of 100 females were infected. The crude disease rate was reported to be 3.20% and total endemicity rate was 68/500 (13.60%). On the other hand out of 500 specimens of mosquito collected from 6 household by indoor and outdoor hand collection and dry preservation indicated that 7/500 (1.40%) were the main vector of Lymphatic filariasis i.e. *Culex quinquefasciatus* indicating the prevalence of vector in the study site. The main reason behind this rate of prevalence of vector and Lf were lack of awareness regarding the vector and mode of transmission, illiteracy, occupation, insanitary environment condition, favourable breeding habit, carelessness and sleeping habits. Thus, people should be made familiar to Lf by organizing awareness programs through mass media, radio, television etc. to prevent the spread of disease and make them alert.

# CONTENTS

	<b>Page No</b>
<b>I. INTRODUCTION</b>	<b>1-6</b>
Significance of the Study	5
<b>II. OBJECTIVES</b>	<b>7</b>
General Objective	7
Specific Objectives	7
Objective Rational	7
<b>III. LITERATURE REVIEW</b>	<b>8-24</b>
3.1 Research in filarial cases and its vector in Global Context	8
3.2 Recent Study on Lymphatic Filariasis and its Vector	10
3.3 Study of Filariasis and its Vector in Nepal	19
3.3.1 Research on Vectors in Nepal	19
3.3.2 Research on Disease Filariasis in Nepal	20
<b>IV. MATERIALS AND METHODS</b>	<b>25-34</b>
4.1 Study Area	25
4.2 Population Surveyed	27
4.3. Study Design	27
4.4.Laboratory Materials and Chemicals	28
4.4.1. Laboratory Materials	28
4.4.2. Chemicals	28
4.5 Sampling Techniques and sample size	28
4.5.1 Mass Orientation Programme	29
4.5.2 Questionnaire	30
4.5.3 Human Blood Sampling	30
4.5.3.1 Procedure for Blood Sample Collection	30
4.5.3.2 The blood slide preparation	30
4.5.4 Collection, Killing, Fixing and Preservation of Vector	31
4.5.4.1Collection	31



4.5.4.2 Killing	32
4.5.4.3 Fixing	32
4.5.4.4 Preservation	33
4.5.4.5 Observation	33
4.6 Data Processing and Analysis	34
4.7 Validity and Reliability of the Study	34
<b>V. RESULTS</b>	<b>35-48</b>
5.1 General Prevalence of Microfilariaemia	35
5.2 Sex-Wise Prevalence of Microfilariaemia	36
5.3 Age-Wise Prevalence of Microfilariaemia	37
5.4 Age and Sex Wise Distribution of Microfilariaemia	38
5.5 Education Wise Distribution of Microfilariaemia	39
5.6 Occupation Wise Distribution of Microfilariaemia	40
5.7 Clinically Manifested Cases in Relation to Age and Sex	41
5.8 Total Endemicity Rate of Lymphatic Filariasis	42
5.9 Sex Wise Endemicity Rate of Filariasis	43
5.10 Age Wise Endemicity rate of Lymphatic Filariasis	44
5.11 Practice of Respondents towards Filariasis and Prevalence of Microfilarial Parasites	45
5.12 Knowledge of Respondents towards Filariasis and Prevalence	47
5.13 Prevalence of Vectors from the Study Site	48
<b>VI. DISCUSSION AND CONCLUSION</b>	<b>49-52</b>
<b>VII. RECOMMENDATIONS</b>	<b>53-54</b>
<b>REFERENCES</b>	<b>55-67</b>
<b>ANNEXES</b>	

## LIST OF TABLES

<b>Tables</b>	<b>Page No.</b>
1: National and Region-wise Number of Filarial cases in Nepal Fiscal Year 1995/96 to 2005/06	24
2: Distribution of filarial cases according to the geography of Nepal of the Fiscal Year 2005/06	24
3: Sex-Wise distribution of microfilariaemia	36
4: Age-Wise prevalence of microfilariaemia	37
5: Age and Sex Wise Distribution of Microfilariaemia	38
6: Education wise distribution of microfilariaemia	39
7: Occupation wise distribution of microfilariaemia	40
8: Clinical features in relation to age and sex	41
9: Total endemicity rate of lymphatic filariasis	42
10: Sex wise endemicity rate of lymphatic filariasis	43
11: Age wise endemicity rate of lymphatic filariasis	44
12: Practice of respondents towards filariasis and prevalence of microfilarial parasites	46
13: Knowledge of respondents towards filariasis and prevalence of microfilarial parasites	47
14: Prevalence of Vectors from the Study Site	48

## LIST OF FIGURES AND MAPS

<b>Figures</b>	<b>Page No.</b>
1: Sex-Wise distribution of microfilariaemia	36
2: Age-Wise prevalence of microfilariaemia	37
3: Age and Sex Wise Distribution of Microfilariaemia	38
4: Education wise distribution of microfilariaemia	39
5: Occupation wise distribution of microfilariaemia	40
6: Total endemicity rate of lymphatic filariasis	42
7: Sex wise endemicity rate of lymphatic filariasis	43
8: Age wise endemicity rate of lymphatic filariasis	44
9: Knowledge of respondents towards filariasis and prevalence of microfilarial parasites	47

### **Maps**

- ❖ Map of Kabre District showing the VDC under Present Study
- ❖ Map showing the Updated LF Distribution Mapping
- ❖ Map of Daraune Pokhari, Dapcha VDC of Kabre District

## LIST OF PHOTOGRAPHS AND PICTORIALS

### PLATES

- I.
  - a. Daraune Pokhari in the study area from the North.
  - b. Bushy & insanitary environmental condition around the study area.
  - c. Daraune Pokhari from the West a favourable place for vector to breed.
  - d. Study team with researcher at the sub-health post.
  - e. Questionnaire survey with respondents and thesis guide at the right.
  - f. Mass awareness programe in the study area.
  - g. An Elephantiasis of a left leg filarial patient.
  - h. Highly infected legs of filarial victim with secondary infection.
  - i. Collection of night blood sample
  - j. Fixing of blood smears with methanol stain.
  - k. Microphotography of microfilariae
  - l. Microfilaria of *Wuchereria bancrofti* (100X objectives)
  - m. Paper cups containing mosquitoes
  - n. Observation of mosquitoes
  
- II.
  - Plate 1: A unfed female *Culex quinquefasciatus*
  - Plate 2: The bloodfed female *Culex quinquefasciatus*
  - Plate 3: A male *Culex quinquefasciatus*
  - Plate 4: Anterior part of the male *Culex quinquefasciatus* showing the large palps and hairy antennae. (A typical feature of male mosquitoes)
  - Plate 5: Lateral part of female *Culex* mosquito showing abdominal terga
  - Plate 6: Female *Culex* mosquito showing scutal integument and wings

### PICTORIALS

- III.
  - Figure a
  - Figure b
  - Figure c
  - Figure d
  - Figure e
  - Figure f

## **List of Acronyms**

ADL	: Adenolymphagitis
Alb	: Albendazole
APOC	: African Program for Onchocerciasis
CBS	: Central Bureau of Statistics
CDR	: Crude Disease Rate
CFA	: Circulating Filarial Antigens
DEC	: Diethylcarbamazine Citrate
DHS	: Department of Health Services
DNA	: Deoxyribonucleic acid
DoHS	: Department of Health Services
EDCD	: Epidemiology and Disease Control Division
ELISA	: Enzyme Linked Immunosorbant Assay
ER	: Endemicity Rate
FILDEC	: Filarial Diethylcarbamazine Citrate
HMG	: His Majesty's Government
ICT	: Immunochromatographic Test
LF	: Lymphatic Filariasis
LFE	: Lymphatic Filariasis Eradication
MDA	: Mass Drug Administration
MF	: Microfilaria
MoHP	: Ministry of Health and Population

NMF	: Nucleopore Membrane Filtration
NPA	: National Plan of Action
NTF-ELF	: National Task Force for the Elimination of Lymphatic Filariasis
OCP	: Onchocerciasis Control Programme
PARASED	: Parasitological Research and Socioeconomic Development, Nepal
PCR	: Polymerase Chain Reaction
PELF	: Program to Eliminate Lymphatic Filariasis
TBF	: Thick Blood Film
VDBCRT	: Vector Borne Disease Research and Training Centre
VDC	: Village Development Committee
WHO	: World Health Organization