

**STUDY ON HELMINTH PARASITES IN GENERAL AND LIVER
FLUKE (*Fasciola* sp.) IN PARTICULAR ON CATTLE OF
MUKUNDAPUR VDC-02, NAWALPARASI**



BY

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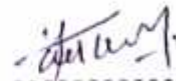
Kirtipur, Kathmandu, Nepal

July, 2011

DECLARATION BY THE CANDIDATE

I hereby declare that work presented in this thesis has been done by myself and has not been submitted elsewhere for the award of any degree. All sources of information have been specifically acknowledged by reference to the authors or institutions.

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LETTER OF RECOMMENDATION

This is to recommend that the dissertation entitled “**STUDY ON HELMINTH PARSITES IN GENERAL AND LIVER FLUKE (*Fasciola sp.*) IN PARTICULAR ON CATTLE OF MUKUNDAPUR VDC-02, NAWALPARASI**” has been carried out by Yadav Prasad Dhakal for the partial fulfillment of M.Sc. Degree in Zoology (Parasitology). This work has been conducted 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

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ABSTRACT

Cattle (*Bos indicus*) being an important source of milk and as draft animals in the rural areas of Nepal has been considered in the present thesis. The outcomes from this species is badly affected by the helminth parasites. The current study was carried out to observe the seasonal prevalence of helminth parasites in general and liver fluke (*Fasciola* sp.) in particular which is considered as a major aspect of productivity loss. Two different techniques were used during the detection of helminth parasites. These were simple floatation and sedimentation technique. There were 100 samples collected during each month of September and January. The seasonal prevalence of helminth parasites during September and January were 70% and 60% respectively. During September 82.85% of infection were caused by trematodes, 12.86% by cestodes and 41.42% by nematodes. Likewise 65%, 11.67% and 50% of infections were caused by trematodes, cestodes and nematodes respectively during January. Cestode genera *Anoplocephala* was reported for the first time in cattle from Nepal. Among the total positive samples 49.43% were found to have single infection and rest 50.77% have mixed infection by 2-4 different genera. Most of the single and mixed infections were due to *Fasciola* sp. The overall prevalence percentage follows as: **Trematodes:** *Fasciola* sp. (55.38%), *Schistosoma* sp. (37.69%), *Dicrocoelium* sp. (1.54%), *Paramphistomum* sp. (3.85%), *Ornithobilharzia* sp. (0.77%), **Cestodes:** *Dipylidium* sp. (7.69%), *Taenia* sp. (4.62%), *Moniezia* sp. (1.54%), *Anoplocephala* sp. (0.77%). **Nematodes:** *Trychostrongylus* sp.(10.77%), *Strongyloides* sp. (9.23%), *Chabertia* sp. (5.38%), *Toxocara* sp. (1.54%), *Ostertagia* sp. (4.62%), *Bunostomum* sp. (1.54%), *Dictyocaulus* sp.(9.23%), *Haemonchus* sp. (0.77%), *Ascaris* sp. (4.62%), *Capillaria* sp. (2.31%), *Cooperia* sp. (3.85%), *Oesophagostomum* sp. (0.77%), *Trichuris* sp. (3.08%). The difference in prevalence of *Fasciola hepatica* and *Fasciola gigantica* during two seasons were found statistically significant. ($\chi^2 = 12.86$, $P < 0.05$, d.f. = 1).

Key words: Cattle, Helminth, Trematodes, Cestodes, Nematodes, Parasites, Sedimentation, Floatation

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20. Lab work at CVL, Tripureshwor, Kathmandu.
21. Researcher collecting dung samples.
22. Taking aid of expert.

ABBREVIATIONS

GDP	–	Gross Domestic Product
CDZ	–	Central Department of Zoology
CVL	–	Central Veterinary Laboratory
FAO	–	Food and Agricultural Organization
GI	–	Gastro Intestinal
LARC	–	Lumle Agricultural Research Center
gm	–	Gram
IAAS	–	Institute of Agricultural and Animal Sciences
km	–	Kilometers
m	–	Meter
ml	–	Milliliter
No.	–	Number
Sp.	–	Species
T.U.	–	Tribhuvan University
VDC	–	Village Development Committee
WHO	–	World Health Organization
S.N.	–	Serial Number
DLSO	–	District Laboratory Service Office
RVL	–	Regional Veterinary Laboratory
Sq.	–	Square
USA	–	United States of America
IAAS	–	Institute of Agriculture and Animal Science
M	–	Million