

GASTRO-INTESTINAL PARASITES OF RED PANDA (*Ailurus fulgens* Cuvier, 1825) AND LIVESTOCKS IN COMMUNITY FOREST OF ILLAM, NEPAL



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Batch : 2068/69

A thesis submitted in partial fulfillment of the requirements for the award of the degree of Masters of Science in Zoology with special paper Parasitology

**Submitted to
Central Department of Zoology
Institute of Science and Technology
Tribhuvan University
Kirtipur, Kathmandu
Nepal
September, 2015**

RECOMMENDATION

This is to recommend that the thesis entitled "**Gastro-Intestinal Parasites of Red Panda (*Ailurus fulgens* Cuvier, 1825) and livestock in community forest of Illam, Nepal.**" has been carried out by Sajan Shrestha for the partial fulfillment of Master's Degree of Science in Zoology with special paper Parasitology. This is her original work and has been carried out under my supervision. To the best of my knowledge, this thesis work has not been submitted for any other degree in any institutions.

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DECLARATION

I hereby declare that the 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 author (s) or institution (s).

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ACKNOWLEDGEMENTS

I would like to express my heartfelt gratitude to my supervisor Associate Prof. Dr. Mahendra Maharjan, Central Department of Zoology, T.U. for his supervision, guidance and invaluable suggestion throughout my study. I am equally thankful to my co-supervisor Damber Bista to arrange field activities and support for complete this study. I am thankful to our honorable Head of Department Prof. Dr. Ranjana Gupta, Central Department of Zoology, T.U. for her kind cooperation and support. I am grateful to all my teachers and all the staffs of CDZ, T.U., Kirtipur, Kathmandu, Nepal for their continuous aspiration and motivation.

I was very much thankful to the district office of forestry of Illam for the permission given to carryout this study in community forest of Illam. Hearty thanks to the forest gardian of the area specially **Mr. Arjun Rai** who gave me company whole field activities. I would also like to express special thanks to SHAHPCI to give information about study area and make schedule to conduct study.

The study could not have been successful without the financial support for sample collection under supported by collaboration of **Red Panda Network (RPN) and Resources Himalayan Foundation (RHF)**. So I would like to express my sincere gratitude to **RPN** and **RHF**.

I would like to express my deepest gratitude to my family and relatives for their support and inspiration in my whole academic career.

Last but not list I would like to acknowledge my friends specially **Mr. Bishnu Achhami** for his kind support throughout my dissertation work and all those persons who helped me directly or indirectly to complete this work.

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Abstract

Red Panda is endangered species of Nepal and its numbers are declining day by day. Present study was conducted to assess the possible parasitic sharing between Red Panda and livestock population sharing the same pasture land. A total of 55 fresh fecal samples were collected by using line transect method and opportunistically from the elevation range 2200 to 4800m, which includes Red Panda(14), Cow(20) , Buffalo(1) ,Yak(2), Horse(5), Goat(9) and Sheep(4) from Illam Community forest area of Nepal. The collected faecal samples were preserved in 2.5% potassium dichromate and microscopically examined using direct smear and concentration methods. Prevalence of protozoan and helminthic parasites were found to be 100% in Red Panda. Among the protozoan, Sporozoa (64.28%) showed highest prevalent followed by Sarcodina (57.14%) and Litostomatea (14.28%). Among the helminth parasites, seven types of nematode were identified in which *Oxyuris* were reported in all the samples followed by *Ascaris* (57.14%), *Trichostrongylus* (50%), *Strongyloides* (50%), *Trichuris* (42.8%), *Crenosoma* (42.85%) and Hook Worm (35.7%). Multiple infection (78.57%) was more common in Red Panda followed by triple infection (21.42%) and double and single infection were absent. In case of livestock, almost equal prevalence of both protozoan (82.92%) and helminth (87.82%) parasites were recorded. Coccidian (60.97%) parasites were more prevalence in livestock followed by Sarcodina (21.95%) and Litostomatea (7.31%). Besides protozoan, eight genera of helminth parasites were recorded which includes; *Oxyuris* (87.8%), *Ascaris* (60.97%), *Strongyloides* (53.65%), *Trichostrongylus* (41.465), Hook Worm (39.02%) and *Trichuris* (31.70%), among nematode; *Moniezia* (14.63%) among cestode and *Paraphiostomum* (2.43%) among trematode. In case of mixed infection, multiple infections (73.17%) was more prevalence followed by triple (19.51%) and double infection (7.31%). Comparing the morphologically similar parasites, there were not statistically significant differences. However, some parasites were Red Panda specific and some were livestock specific.

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LIST OF ABBREVIATIONS

µm	- Micrometer
CBS	- Central Beuro of Statistic
CITES	- Conservaton on International Treade in Endangered Species of Wild fauna and flora
D/W	- Distilled Water
DNPWC	- Department of National Park and Wildlife Conservation
et al.	- And his associates
GDP	- Gross Domestic Product
GIS	- Global Information System
GIT	- Gastrointestinal Tract
GoN	- Government of Nepal
ICF	- Illam Community Forest
ICIMOD	- International Centre for Integrated Mountain Development
IUCN	- International Union for Conservation of Nature
KBCA	- Kothi Bhir Community Area
Km	- Kilometer
mg	- milligram
ml	- mililiter
MoFSC	- Ministry of Forestry and Soil Conservation
NRB	- Nepal Rastra Bank
PHVA	- Papulation and Habitat Viability Assessment
PNHZP	- Padmaja Naidu Himalayan Zoological Park
R.N.P	- Rara National Park
rpm	- Round per minute
U.S.A	- United State of America
UK	- United Kingdom

- VDC - Village Development Committee
- WWF - World Wildlife Found