

**SEASONAL DIVERSITY AND HABITAT UTILIZATION OF BIRDS IN THE  
BARANDABHAR CORRIDOR FOREST OF CHITWAN DISTRICT, NEPAL**



**Bipin Chandra Ghimire**

**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF SCIENCE IN ZOOLOGY**

**CENTRAL DEPARTMENT OF ZOOLOGY-ECOLOGY PROGRAM**

**INSTITUTE OF SCIENCE AND TECHNOLOGY**

**TRIBHUVAN UNIVERSITY**

**KATHMANDU, NEPAL**

**SEPTEMBER 2009**

## DECLARATION

I hereby declare that the work presented in this thesis entitled "**Seasonal Diversity And Habitat Utilization Of Bird In The Barandabhar Corridor Forest Of Chitwan District, Nepal** " has been done myself and has not been submitted elsewhere for the award of any degree. All sources of the information have been specially acknowledged by references to the authors or institutions.

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Bipin Chandra Ghimire

Date .....

## RECOMMENDATION

It is my pleasure to mention that Bipin Chandra Ghimire has carried out this research entitled **"Seasonal Diversity And Habitat Utilization Of Bird In The Barandabhar Corridor Forest Of Chitwan District, Nepal "** under my supervision. This is the candidate's original work, which brings out important findings about bird's diversity and habitat utilization of bird. To the best of my knowledge, this thesis work has not been submitted for any other degree. I recommend that the thesis be accepted for the partial fulfillment of the requirements for the Degree of Master of Science in Zoology specializing in ecology.

Date:

---

Khadga Basnet Ph.D  
Professor  
Central Department of Zoology  
Tribhuvan University  
Kirtipur, Kathmandu  
Nepal

## LETTER OF APPROVAL

On the recommendation of supervisor, Professor Dr. Khadga Basnet, this thesis submitted by Mr. Bipin Chandra Ghimire entitled " **Seasonal Diversity And Habitat Utilization Of Bird In The Barandabhar Corridor Forest Of Chitwan, Nepal** " is approved for examination and submitted to the Tribhuvan University in the partial fulfillment of the requirements for Master's Degree of Science in Zoology with special paper Ecology.

Date:

---

Professor Vasanta Kumar Thapa, Ph.D

Head of Department

Central Department of Zoology

Tribhuvan University

Kirtipur, Kathmandu,

Nepal

**CERTIFICATE OF APPROVAL**

This thesis submitted by Mr. Bipin Chandra Ghimire entitled " **Seasonal Diversity And Habitat Utilization Of Bird In The Barandabhar Corridor Forest Of Chitwan District, Nepal** " has been approved as a partial fulfillment of the requirement for the Master Degree of Science in Zoology specializing in Ecology.

**EVALUATION COMMITTEE**

\_\_\_\_\_

Khadga Basnet, Ph.D

Supervisor and Professor

Central Department of Zoology

Tribhuvan University

Kirtipur, Kathmandu

\_\_\_\_\_

Ananda Shova Tamrakar, Ph.D

Head and Professor

Central Department of Zoology

Tribhuvan University

Kirtipur, Kathmandu

.....

External Supervisor

.....

Internal Supervisor

Date of Examination: .....

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Bipin Chandra Ghimire  
Central Department of Zoology  
Exam Roll No.1300  
Batch: 2062/063  
T.U. Regd. No.: 5-1-19-832-99

## ABSTRACT

I carried out survey was during October 2007 to May 2008 in the Barandabhar Corridor Forest (BCF) covering an area of 12300 hectares to determine the seasonal diversity and habitat utilization of bird .The BCF is one of the Important Bird Areas (IBAs) of Nepal. My objectives were to explore the current species composition extant birds, to investigate diversity pattern of birds and to examine the pattern of habitats utilized by birds. I adopted line transects method using six permanent line transects which ran through eight major habitat including Sal forest, Open grassland, Salforest and grassland, Grassland associated with few sal trees, Wetland, Mix riverine, Mixforest and Sal mixed forest. I recorded 123 bird species represented by 15 orders and 43 families in two seasons autumn and spring. Species diversity and relative diversity of the birds were calculated by using Shannon-wiener function and Jacob's coefficient. Among the species recorded, 94 species (76%) were resident,16 species (13%) were summer visitor,12 species (10%) were winter visitor and 1 species (1%) was local migrant. Diversity index of birds showed highest value in (1.70) spring followed by autumn (1.54). Similarly Jacob's coefficient for relative diversity in autumn and spring is 0.825 and 0.806 respectively. Analysis of Variation (ANOVA) showed that there was significant relation between the number of bird population with variation of season ( $p < 0.05$ ,  $df = 1$  and  $7$ ) and habitat types ( $p < 0.05$ ,  $df = 7$  and  $7$ ). Bird populatio0n were found highest in the Sal forest (46.48%), followed by Open grassland (22.81%), Sal and grassland (12.21%), Sal mixed forest (8.70%),Wetland(2.88%),Mix riverine (2.47%), Grassland associated with few Sal trees (2.02%) and Mixed forest (1.3%). I also recorded different activities of birds most of which were observed were found in the resting, eating, calling and flying. The activities of the birds like feeding and nesting were only observed in the spring season. Globally threatened bird Lesser Adjutant *Leptoptilus javanicus* was also recorded during my survey. I recorded six species of birds, which were listed in the Appendix II as described by Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Human disturbances were the main factors, which had jeopardized the survival of avian fauna in the BCF.

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