

## RESEARCH ARTICLE

### STATUS AND DIVERSITY OF BIRD SPECIES IN GOVERNMENT COLLEGE CAMPUS IN CHITTUR OF PALAKKAD, KERALA

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#### ABSTRACT

A study on the status and Diversity of birds in Government College Campus, Chittur, Palakkad, Kerala was conducted from July, 2018 to February, 2019. A total of 35 birds species belonging to 32 genera, 26 families and 9 orders were encountered. The results of the present study confirm the findings of previous studies that local vegetation and habitat characteristics such as densities of shrubs and mixed vegetation in the Govt. College Campus, Chittur influenced bird species richness and diversity.

**Keywords:** Bird, diversity, richness, checklist, Chittur, Palakkad

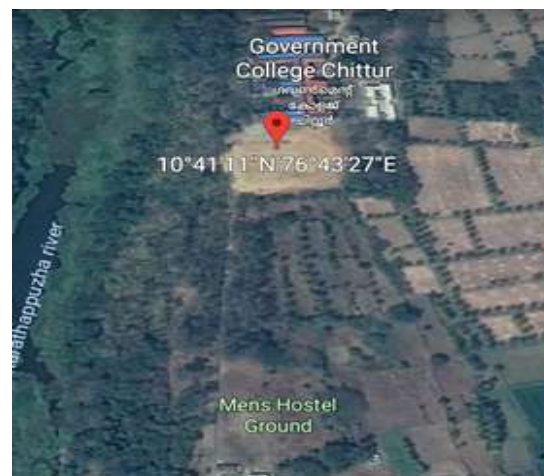
#### 1. INTRODUCTION

Birds play an important role in the ecosystem. The birds are cosmopolitan distribution that is found all over the world except South Pole. Birds are highly mobile vertebrates and easily observed indicators of change (Graber and Graber, 1976, Morrison, 1986). They occupy almost all places of highest altitudes, high peaks, deserts, jungles, seas, caves etc. Recently, birds are being studied based on field observations concerning wider domain of avian natural history, amongst others, including diversity, habitat, distribution on local, regional and continental basin etc. Ninety percent of the birds in the World had been discovered and described by 1850 (Fisher 1954). Similarly, the Ali et al (1983) studied detailed study on bird species in the Indian Sub-continent. The bird species diversity and species richness of the Government College Campus, Chittur, in Palakkad district of Kerala has been least studied. The present study was carried out for reporting the avifaunal diversity and richness of this campus with various kinds of ecosystems or habitats and also to prepare a checklist of birds.

#### 2. MATERIALS AND METHODS

The Palakkad district popularly known as the 'ricebowl of Kerala' lies close to the Palghat Gap, the major gap in the Western Ghats which connects Kerala to the plains of the Tamil Nadu in the east Parts of the district experience a dry climate when compared to the other districts of Kerala due to its unique geographical position. The study was done in

Government College Campus, Chittur, Palakkad district was located between 10.6890 N 76.72340 E of Kerala, which started functioning in the present forty acre campus on the bank serene Shokanashini (also known Chittur puzha) since 1954. The college is 17km away from Palakkad town where it will take less than one hour to reach the college from town. The Kannadi puzha river (called as Shokanashini) is one of the main tributaries of the Bharathapuzha River, the second largest river in Kerala of Southern India. A portion of River is flowing through the side of the campus. It irrigates a major portion of the Palakkad district and is also a source of drinking water of Chittur Taluk. The study area was selected based on different vegetation types in order to understand the avian diversity and species richness in and around the campus.



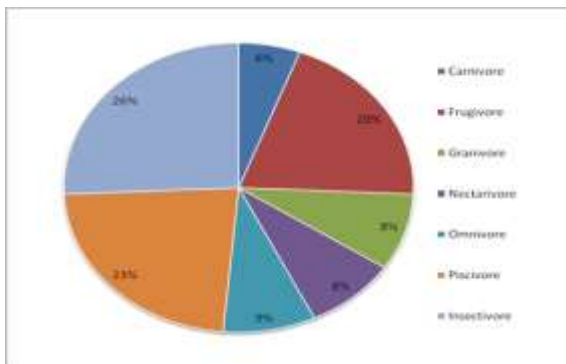
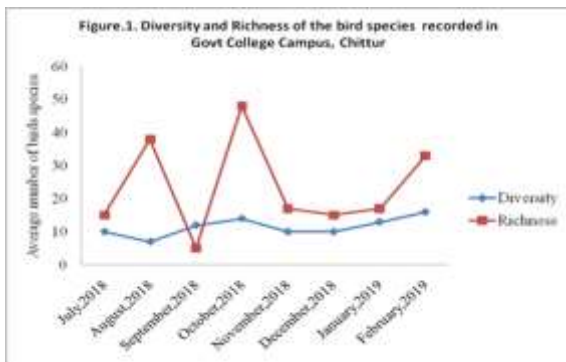
Map showing the study area in Govt. College Campus, Chittur, Palakkad.

*Study method*

The random transect method was used to study the birds species in varied habitats namely Eucalyptus plantations , Open places (including ground, paddy fields, swamps and mixed vegetation and wetland habitat respectively. The census was started half an hour after sunrise in all the seasons. The birds were observed by using binocular (10 x 25) and photographs also taken for further identified and birds were identified by using field guide (Ali et al., 1983). The checklist of the birds was prepared based on the Asheeh Pittie (2001).

**3. RESULTS**

A total of 35 species comprises of 26 families and nine orders of terrestrial and semi aquatic birds were recorded during the present study. Among 32 resident species of birds, three winter migrants bird species were recorded (Annexure.1). The highest birds species diversity and richness was recorded the month of October, 2018 (Figure 1).



**Fig. 2. Pie chart showing percentage of various types of feeding of birds in Govt. College Campus, Chittur, Palakkad, Kerala**

The family wise percent occurrence showed that the bird families corvidae, nectariniidae, ardeidae, accipitridae followed by columbidae had value with 8.71 % (Table 1). However based on feeding guilds the maximum number of Piscivores birds were recorded followed by Nectarivores, Frugivores, Granivores and Carnivores, respectively (Figure 2).

**Table 1. Family wise percent occurrence of birds species recorded in the Govt College, Chittur, Palakkad, Kerala.**

S. No.	Name of the Family	Percent Occurrence
1	Phalacrocoracidae	2.87%
2	Anhingidae	2.87%
3	Ardeidae	5.71%
4	Ciconiidae	2.87%
5	Threskiornithidae	2.87%
6	Accipitridae	5.71%
7	Phasianidae	2.87%
8	Columbidae	5.71%
9	Cuculidae	2.87%
10	Alcedinidae	5.71%
11	Meropidae	2.87%
12	Megalaimidae	2.87%
13	Picidae	2.87%
14	Laniidae	2.87%
15	Corvidae	8.57%
16	Oriolidae	5.71%
17	Monarchinae	2.87%
18	Dicruridae	2.87%
19	Mucicapidae	2.87%
20	Sturnidae	2.87%
21	Pycnonotidae	2.87%
22	Leiothrichidae	2.87%
23	Nectariniidae	8.57%
24	Estrididae	2.87%
25	Chloropseidae	2.87%
26	Acrocephalidae	2.87%

**Annexure.1. Checklist of Bird Species was recorded in Govt Arts College Campus of Chittur, Kerala.**

S. No.	Family	Common Name	Scientific Name	Feeding Guild	IUCN Status	Migrant Status
<b>Order: Suliformes</b>						
1	Phalacrocoracidae	Little Cormorant	<i>Phalacrocorax niger</i>	P	LC	R
2	Anhingidae	Oriental Darter	<i>Anhinga melanogaster</i>	P	NT	R
<b>Order: Ciconiiformes</b>						
3	Ardeidae	Cattle Egret	<i>Bubulcus ibis</i>	P	LC	R
4		Indian Pond Heron	<i>Ardeola grayii</i>	P	LC	R
5	Ciconiidae	Asian Openbill-Stork	<i>Anastomus oscitans</i>	P	LC	WM
6	Threskiornithidae	Black-headed Ibis	<i>Threskiornis melanocephalus</i>	P	NT	R
<b>Order: Falconiformes</b>						
7	Accipitridae	Black Kite	<i>Milvus migrans</i>	C	LC	R
8		Brahminy Kite	<i>Haliastur indus</i>	C	LC	R
<b>Order: Galliformes</b>						
9	Phasianidae	Indian Peafowl	<i>Pavo cristatus</i>	O	LC	R
<b>Order: Columbiformes</b>						
10	Columbidae	Blue Rock Pigeon	<i>Columba livia</i>	G	LC	R
11		Spotted Dove	<i>Streptopelia chinensis</i>	G	LC	R
<b>Order: Cuculiformes</b>						
12	Cuculidae	Greater Coucal	<i>Centropus sinensis</i>	I	LC	R
<b>Order: Coraciiformes</b>						
13	Alcedinidae	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	P	LC	R
14		Stork-Billed Kingfisher	<i>Pelargopsis capensis</i>	P	LC	R
15	Meropidae	Blue-tailed Bee-eater	<i>Merops philippinus</i>	I	LC	WM
<b>Order: Piciformes</b>						
16	Megalaimidae	White-cheeked Barbet	<i>Psilopogon viridis</i>	F	LC	R
17	Picidae	Black-rumped Flameback	<i>Dinopium benghalense</i>	F	LC	R
<b>Order: Passeriformes</b>						
18	Laniidae	Brown Shrike	<i>Lanius cristatus</i>	I	LC	R
19	Corvidae	Indian House Crow	<i>Corvus splendens</i>	O	LC	R
20		Large-billed Crow	<i>Corvus macrorhynchos</i>	O	LC	R
21		Rufous Treepie	<i>Dendrocitta vagabunda</i>	F	LC	R
22	Oriolidae	Black-headed Oriole	<i>Oriolus larvatus</i>	F	LC	RM
23		Indian Golden Oriole	<i>Oriolus kundoo</i>	F	LC	RM
24	Monarchinae	Indian Paradise-Flycatcher	<i>Terpsiphone paradisi</i>	I	LC	RM
25	Dicruridae	Black Drongo	<i>Dicrurus macrocercus</i>	I	LC	R
26	Mucicapidae	Oriental Magpie-robin	<i>Copsychus saularis</i>	I	LC	R
27	Sturnidae	Common Myna	<i>Acridotheres tristis</i>	F	LC	R
28	Pycnonotidae	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	F	LC	R
29	Leiothrichidae	White-headed Babbler	<i>Turdoides leucocephala</i>	I	LC	R
30	Nectariniidae	Purple-rumped Sunbird	<i>Nectarinia zeylanica</i>	N	LC	R
31		Purple Sunbird	<i>Nectarinia asiatica</i>	N	LC	R
32		Little Spiderhunter	<i>Arachnothera longirostra</i>	N	LC	R
33	Estrididae	Tri-coloured Munia	<i>Lonchura malacca</i>	G	LC	R

**Feeding Guild:**

C-Carnivore; F-Frugivore; G-Granivore;  
I-Insectivore; N-Nectarivore; O-Omnivore;  
P-Piscivore

**Status:**

R-Resident; RM-Resident Migrant; WM-Winter Migrant

**IUCN Category:**

LC-Least Concern; NR-Near Threatened

#### 4. DISCUSSION

Community ecology studies on birds that discuss the need to address structural features of habitat for better understanding of avian communities (Jayson, 2000) are some of the seminal works in this field. Forests are home to 80% of terrestrial biodiversity. In Aves, forest structure is a key feature in habitat selection because it plays an important role in their life history (Cody 1985; Karr 1989). Forest height, tree species diversity, bark textures, snags and dead wood, fruit types, leaf characteristics, other dependent plants, gaps, and edges are some of the structural that influence bird assemblages (Karr 1976). Foliage height diversity has been used to explain increasing diversity of birds in forests with increasing height and vertical structural diversity because plant communities of increasing size, diversity, and structure support greater variety of available niches (Crowell et al.1962). The abundance, richness and diversity of these communities can be related to heterogeneity and complexity of the habitat (Fernandez and Gentile 1999). Similarly the birds were attracted by tree species in the habitat such as *Ziziphus jujube* (jujube tree) were attracted by frugivorous species such as White-headed babbler, Orioles, Rufous treepie, etc., *Albizia saman* (Rain tree), *Eucalyptus globulus* (Eucali), *Mangifera indica* (mango tree) *Terminalia catappa* (Indian almond tree), *Cocos nucifera* (coconut tree), *Azadirachta indica* (Neem trees) and *Tectona grandis* (Teak) were attracted insectivores birds. In addition the wetland and paddy field habitats attracted wetland birds. Soladoye et al (2016) was conducted a study in the Akoka Campus University of Lagos. The wetland habitats of Kerala are under severe stress as seen at the global level. They are unique in the context of their diversity and are a natural abode for several species of birds (Nameer,1994). Recently (Praveen, 2015) gave detailed checklist birds in Kerala. it is observed that 94.28% of birds species fall into the Least Concern Category by IUCN (International Union for Conservation of Nature) while the two bird species like Oriental Darter and Black-headed ibis were recorded in the campus are categorized as Near threatened birds IUCN (2015). This depicts the need for conserving those

species at the verge of threats or even may be extinct in the near future.

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