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A Checklist of Avian Species in North Eastern Hill University Campus, Shillong, India

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

North Eastern Hill University Campus (25°36'36"N & 91°54'5''E), Shillong, is having a very good biodiversity with various types of flora and fauna. This paper focuses on the avian diversity present in campus. The birds were observed and recorded at various locations of the campus. Seventy six species of birds belonging to 34 families and 8 orders were recorded from Nov 2019 to Sept 2022. There were 65 resident and 11 migratory birds. The present study is focused on preparing the checklist of birds with their occurrence, status as well as to create awareness for their conservation.

Keywords: Birds; checklist; avian diversity; nehu campus; shillong.

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1. INTRODUCTION

Northeast India is an overall hotspot of biodiversity and a regional area for birds (Stattersfield *etal.* 1998, Myers *et al.* 2000, Mittermeier 2005). Here, Pandit *et al*. (2007)states that "Continued declining of forests, habitat loss, urbanization are the major risks for avian biodiversity in North-east India'', whereas Singh *et al.* (2012) states that, "Because of these threats on the biodiversity of NE India, it has remained poorly analyzed and much of its biodiversity has been lost without any record''.

Here, Jules et al. (1997) states that, "Urban biodiversity has received very little attention from conservation biologists as compared to natural and protected ecosystems'', as followed by Vandermeer *et al*. (1997). Further, Jain *et al*. (2005) adds that, "educational and defense premises are the hotpots for urban biodiversity". Although "educational premises occupy less than 5% of the total urban area, such areas may harbor up to half the biodiversity of the urban biota" (Jain, 2005).

North eastern hill university is an oldest and central university of Meghalaya, which is a multidisciplinary university offering an excellent research climate in all the fields, from natural sciences to life sciences and engineering. This central university is also known for its beautiful campus with lush green trees. Trees in and around the university campus have created a very good habitat and a source of attraction for many birds. The campus itself is located in a hilly area, surrounded by various types of avifaunal species.

North eastern hill university (25°36'36"N & 91°54'5''E) is situated in the city of Shillong in Meghalaya State, India. The study area is referred to as North Eastern Hill University Campus (NEHU), spreads in 1225 acres with all green and lavish nature, bounded with native and exotic varieties of plants. It covers a large area, including the main university campus, university hostels, as well as academics and research institutions. According to Wikipedia contributor, "It accommodates National Council of Science Museums (NCSM), Indira Gandhi National Open University (IGNOU), Indian Council of Social Science Research (ICSSR), Sports Authority of India (SAI) & The English & Foreign Language University (EFLU)''.

The area experiences a temperature, ranges from 8°C-33°C in winter and summer respectively, and an average rainfall in the area is 1500-2000 mm. The distribution and occurrence of avifauna correlate well with the vegetation patterns of the area, which is of the great significance. The vegetation found in this area mainly consists of naturally grown shrubs and tree species, which is listed further. The study area supports a number of native as well as exotic floral species like Camellia japonica, West Indian Lantana, French hydrangea, etc. Different species of grown uptrees like *Ficus benghalensis, Ficus religiosa, Eucalyptus sp., Mangifera indica, Delbergia Sisso, Elaeagnus latifolia, Corchorus olitorius, Caesalpinia pulcherrima, Pinus casia, Pyrus communis, Prunus persica, Alnus nepalensis, Parkia roxpurghii,* etc. and a variety of shrubs like *Lantana camara, Melastoma malabathricum*, etc. and grasses,provide nesting sites for many bird species as well, which visit here every year. A large number of tall trees and fruiting trees occur in this area, which attracts many birds. The surrounding area with a lot of trees, shrubs and grasses add to the diversity of bird habitat in the campus.

The present study is focused not only on preparing the checklist of birds, but also to find out their occurrence, status as well as to create awareness for their conservation. In addition, the study aims at providing the basic information of the avifauna for further studies related to campus biodiversity. It also provides a baseline data of bird diversity of the state. NEHU campus is the large green spot, where the birds can have roosting, foraging, feeding and nesting covers. Hence, the area should be wisely used without disturbing the activity of the birds to encourage occurrence of more number of species in the area.

2. MATERIALS AND METHODS

"The birds were observed and recorded at various locations of the entire campus. Sightings of different bird species were carried out using random sampling method thrice a week during all the months of the year to encounter maximum number of birds in the area. Studies were made between (Nov 2019 to Sept 2022) twice a day during morning hours (05:30 to 09:50 hours) and late afternoons (16:00 to 18:30 hours). Moreover, occasional sightings were also carried out every day at the main spots during the morning and evening hours. The identification of birds and their occurrence were noted using a 10×50 binocular and photos were taken using camera.

All species recorded in the paper only after confirming from the field guide" (Grimmett *et al., 1999).*

3. RESULTS AND DISCUSSION

"In total, 76 species of birds belonging to 34 families and 8 orders were recorded during the field visits mentioned in **Table-1**. During the studies, it was found that the occurance of avifauna was significantly varied according to the vegetation patterns and anthropogenic pressures. Birds are sensitive to local landscape and changes in vegetation patterns can affect the population of birds in the area" (Sauvjot *et.al*., 1998; Savard *et.al*., 1999). Any kind of developmental activities in the future can adversely affect the avifauna diversity recorded during the studies.

Here, Patvarthan et al. (2000) have identified educational and defense premises as hotspots for urban biodiversity. Here N. K. Jain et al. (2005) add that, Gujarat University has 85 species of birds belonging to 40 families; which is comparable to any small reserve forest. He further says, that the low diversity may be due to constant human activities within and around the Gujarat University Campus. Here Patvarthan et al., 2000 further adds that, "Although educational premises occupy less than 5% of the total urban area, such areas may harbour up to half the biodiversity of the urban biota .

Such a rare green spot should be managed well to attract more bird species and make the premises favourable for various birds".

Table 1. Checklist of Birds found in North Eastern Hill University Campus

Taxa	Common Name	Status
Order: Anseriformes		
Family: Anatidae		
Anas platyrhynchos	Mallard	WV
Order: Columbiformes		
Family: Columbidae		
Treron phoenicopterus	Yellow-footed Green-Pigeon	R
Treron apicauda	Pin-tailed Green-Pigeon	R
Order: Cuculiformes:		
Family: Cuculidae		
Hierococcyx varius	Common Hawk-Cuckoo	R
Cuculus saturatus	Himalayan Cuckoo	SV
Order: Caprimulgiformes		
Family: Apodidae		
Apus acuticauda	Dark-rumped Swift	R
Apus nipalensis	House Swift	R
Order: Accipitriformes		
Family: Accipitridae		
Spilornis cheela	Crested Serpent-Eagle	R
Milvus migrans	Black Kite	A
Order: Strigiformes		
Family: Tytonidae		
Tyto alba	Barn Owl	R
Family: : Strigidae		
Otus sunia	Oriental Scops-Owl	R
Athene brama	Spotted Owlet	R
Order: Piciformes		
Family: Megalaimidae		
Megalaima haemacephalus	Coppersmith Barbet	R
Megalaima virens	Great Barbet	R
Megalaima franklinii	Golden-throated Barbet	R
Megalaima asiaticus	Blue-throated Barbet	R
Family: Picidae		
Dendrocopos canicapillus	Grey-capped Pygmy Woodpecker	R

Taxa	Common Name	Status
Blythipicus pyrrhotis	Bay Woodpecker	R
Micropternus brachyurus	Rufous Woodpecker	R
Picus canus	Gray-headed Woodpecker	R
Order: Passeriformes		
Family: Eurylaimidae		
Psarisomus dalhousiae	Long-tailed Broadbill	R
Family: Campephagidae		
Pericrocotus brevirostris	Short-billed Minivet	R
Pericrocotus ethologus	Long-tailed Minivet	R
Pericrocotus roseus	Rosy Minivet	R
Coracina melaschistos	Black-winged Cuckooshrike	R
Family: Vireonidae		
Pteruthius xanthochlorus	Green Shrike-Babbler	R
Family: Oriolidae		
Oriolus xanthornus	Black-hooded Oriole	R
Family: Vangidae		
Tephrodornis virgatus	Large Woodshrike	R
Hemipus picatus	Bar-winged Flycatcher-shrike	SM
Family: Dicruridae		
Dicrurus macrocercus	Black Drongo	R
Dicrurus leucophaeus	Ashy Drongo	SM
Dicrurus remifer	Lesser Racket-tailed Drongo	R
Family: Laniidae		
Lanius cristatus	Brown Shrike	R
Lanius tephronotus	Gray-backed Shrike	LM
Family: Corvidae		
Dendrocitta formosae	Gray Treepie	R
Corvus macrorhynchos	Large-billed Crow	R
Family: Paridae		
Sylviparus modestus	Yellow-browed Tit	R
Parus monticolus	Green-backed Tit	R
Parus cinereus	Cinereous Tit	R
Family: Cisticolidae		
Orthotomus sutorius	Common Tailorbird	R
Prinia atrogularis	Black-throated Prinia	R
Prinia hodgsonii	Gray-breasted Prinia	R
Prinia socialis	Ashy Prinia	R
Family: Pycnonotidae		
Spizixos canifrons	Crested Finchbill	R
Pycnonotus cafer	Red-vented Bulbul	R
Alophoixus flaveolus	White-throated Bulbul	R
Hypsipetes leucocephalus	Black Bulbul	R
Ixos mcclellandii	Mountain Bulbul	R
Family: Phylloscopidae		
Phylloscopus inornatus	Yellow-browed Warbler	WV
Phylloscopus affinis	Tickell's Leaf Warbler	WV
Phylloscopus reguloides	Blyth's Leaf Warbler	WV
Family: Cettiidae		
Cettia flavolivacea	Aberrant Bush Warbler	R
Family: Aegithalidae		
Aegithalos iouschistos	Black-browed Tit	R
Family: Sylviidae		
Fulvetta vinipectus	White-browed Fulvetta	R
Family: Leiothrichidae		
Malacias gracilis	Grey Sibia	R
Family: Sturnidae		

Taxa	Common Name	Status
Acridotheres tristis	Common Myna	R
Family: Muscicapidae		
Copsychus saularis	Oriental Magpie-Robin	R
Eumyias thalassinus	Verditer Flycatcher	SV
Family: Muscicapidae		
Ficedula strophiata	Rufous-gorgeted Flycatcher	SV
Monticola solitarius	Blue Rock-Thrush	R
Saxicola ferreus	Gray Bushchat	R
Family: Dicaeidae		
Dicaeum agile	Thick-billed Flowerpecker	R
Dicaeum minullum	Plain Flowerpecker	R
Dicaeum ignipectus	Fire-breasted Flowerpecker	R
Family: Nectariniidae		
Cinnyris asiaticus	Purple Sunbird	R
Aethopyga nipalensis	Green-tailed Sunbird	R
Arachnothera longirostra	Little Spiderhunter	R
Arachnothera magna	Streaked Spiderhunter	R
Family: Chloropseidae		
Chloropsis cochinchinensis	Blue-winged Leafbird	R
Family: Estrildidae		
Lonchura punctulata	Scaly-breasted Munia	R
Lonchura atricapilla	Chestnut Munia	R
Amandava amandava	Red Avadavat	R
Family: Passeridae		
Passer domesticus	House Sparrow	R
Passer rutilans	Russet Sparrow	R
Passer montanus	Eurasian Tree Sparrow	R
Family: Motacillidae		
Motacilla alba	White Wagtail	WV

A= Abundant, WV =winter visitor, LM = Local Migrant, SV = Summer Visitor, R = Residents

4. CONCLUSION

North eastern hill university campus is rich in terms of avian diversity. Infrastructure development around the campus and inside the campus will definitely have an adverse impact on the avian diversity count. Frequent monitoring of the species recorded will help in monitoring and understanding the threats. Frequent record of the species will also help further in studying habitat studies including Nesting, roosting and Foraging. The data will also help in policy decisions related to conservation of avian diversity in the campus.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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