

Assessment on Occurrence Status of Avifauna In Magway University Campus

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Abstract:- The aim of the present study is to assess update occurrence and status of bird species in and around Magway University Campus. The survey was conducted during November 2016 to February 2017. Study site was visited four time a month. The data were collected using point count method (Bibby *et al.*, 2000 and Hamel *et al.*, 1996). A total of 27 species belonging to 23 genera under 19 families and eight orders were recorded in Magway University Campus. Out of the total species, two species were aquatic birds comprising under two genera, two families and two orders whereas 25 terrestrial bird species belong to 21 genera 17 families and six orders were recorded. Of twenty seven species, about twenty-one are residentials, three winter visitors, one passage migrants and two breeding visitors. Order Passeriformes represented by 17 species belonging to 10 families contribute to about 62.96% of the total avianfauna species richness. Among the non-passerine, the maximum richness was represented by the order Coraciformes (three families, three species) and Columbiformes (one family, two species) and Piciformes, Cuculiformes, Charadriiformes, Falaconiformes and Ciconiiformes (one family, one species).

Keywords:- Endemic Species, Near-Threatened Species, Migrant, Winter Visitors.

I. INTRODUCTION

Birds, the best-known classes of vertebrate animals, occur worldwide in habitats. Avian species assemblages are potent indicators of ecosystem health and functioning. Birds are responsive to any kind of changes to their ambient conditions hence they can be used as bio-indicator [1].

Birds provide several ecological functions such as pest control, pollination, seed dispersal and plant reproduction in thousands of economically and culturally important plant species through its consumption of various terrestrial, aquatic and aerial resources. Foraging ecology of birds are regulating services such as scavenging carcasses and nutrient cycling. Bird communities also provide a reliable ecological indicator of forest condition due to their sensitivity to environmental perturbations, relevance to environmental ecosystem function and relative ease in sampling [2].

Myanmar supports at least 1077 bird species, a greater diversity than any other country in mainland Southeast Asia. The Central Dry Zone of Myanmar that comprises the Ayeyarwady (Irrawaddy) plains occurred three restricted range species of national endemic: (Hooded Treepie, White-throated Babbler and Burmes Bush lark) [3].

Magway University Campus is situated in Magway Township which has dry and hot climate. The campus has an area of 1.2657 sq km or 312.76 acres. The campus is spread with large trees, bushy shrubs and long grasses that provide feeding, nesting and breeding site for birds. The campus is surrounded by residential apartments and office buildings.

The present study is focused not only on preparing to update the checklist of birds, but also to find out their status. In addition, the study aims at providing a baseline data regarding bird diversity of the district. The objectives are:

- to identify and record the avifauna in Magway University Campus
- to assess the species occurrence, status and composition of bird species

II. MATERIALS AND METHODS

Magway University Campus is located at nearly south part of Magway and lies between latitude 20° 8' 15" N to 20° 7' 45" N and 94° 55' 45"E to 94° 56' 30" E. The elevation is about 61.67m above the sea level. The total area is about 1.26571 square kilometers (41.95 hectares). This site has various flowering plants, cultivated fields, shrubs grassy land, large trees and medium-sized plants. Field trips to collect data were conducted from November 2016 to February 2017. The bird species were identified referring to the taxonomic descriptions [4, 5 and 6]. Study site was visited four times a month. The data were collected using point count method. [7 and 8]. Every point observation was made by standing and recording all the birds seen or heard at a fixed distance (25m radius) for 10 minutes. To minimize disturbance 3 to 5 min time lapse was taken prior to observing. The minimum distance between two points was 200m. All counts were conducted during the first 3 hours after sunrise.

Status of the bird has been worked out and different status categories like resident, winter visitor, passage migrant, non-breeding visitor and breeding visitor have been assigned strictly with reference to the study area on the basis of presence or absence method [6].

III. RESULTS

A total of 27 bird species belonging to 23 genera, 19 families and eight orders were recorded in the study-area during four months survey. Out of total species, two species were aquatic birds comprising under two genera, two families and two orders. On the other hand, 25 species of terrestrial bird species belong to 21 genera 17 families and six orders were recorded.

During study period three species *Lanius collurioides*, *Dicrus leucophaeus* and *Motacilla citreola* are winter migrants, one passage migrant is *Bubulus ibis*, two species *Hirundo rustica* and *Motacilla alba* are breeding visitors and the rest of 21 species are residential (Table 1).

In the present study order Passeriformes represented by 17 species belonging to 10 families contribute to about 62.96% of the total avifauna species richness. Among the non-passerine, maximum richness was represented by the order Coraciformes (three families, three species) and order Columbiformes (one family, two species) followed by Piciformes, Cuculiformes, Charadriiformes, Falconiformes and Ciconiiformes (one family, one species each) (Table 2). Species account under different families and their status were given in Table 1.

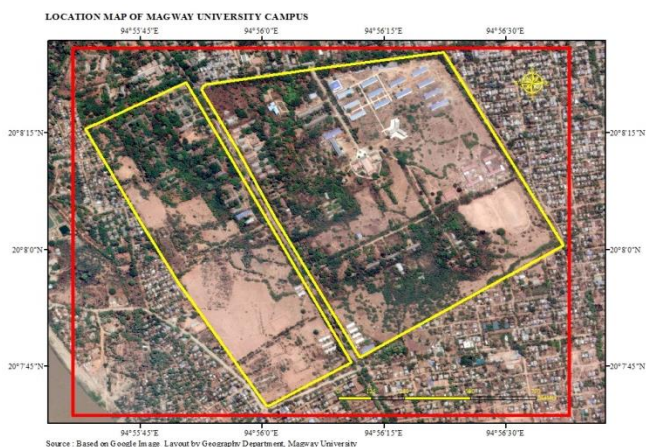


Fig 1:- Map Showing the Study Area

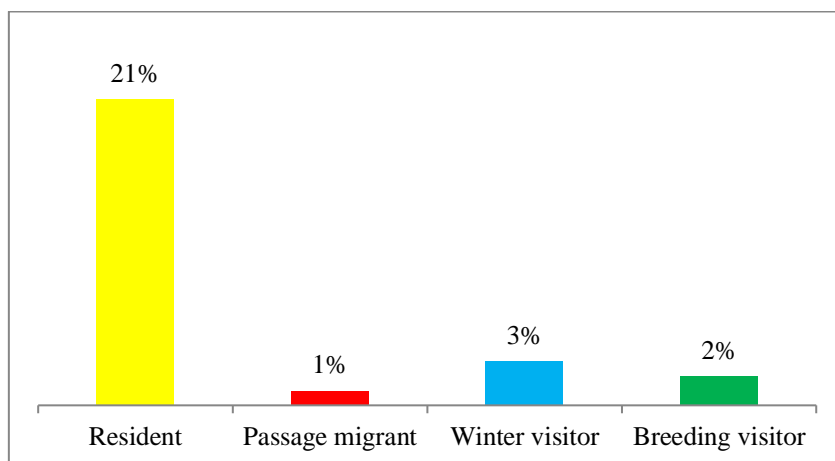


Fig 2:- Residential Status of Bird at Magway University Campus

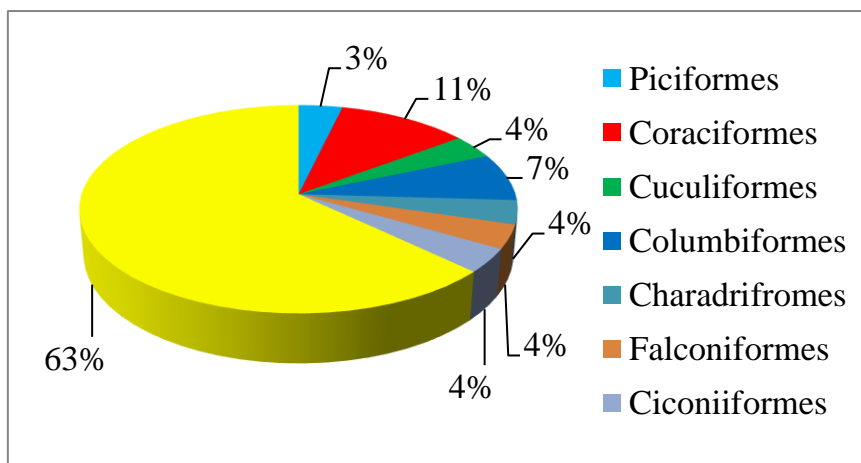


Fig 3:- The Percentage Species Composition in Different Orders

No	Family	Scientific Name	Status	T/W
1.	Megalaimidae	<i>Megalaima haemacephalus</i> Muller, 1776	R	T
2.	Coraciidae	<i>Coracias benghalensis</i> Linnaeus, 1758	R	T
3.	Alcedinidae	<i>Halcyon symyrensis</i> Linnaeus, 1758	R	T
4.	Meropidae	<i>Merops orientalis</i> Latham, 1801	R	T
5.	Cuculidae	<i>Eudynamis scolopaceus</i> Latham, 1758	R	T
6.	Columbidae	<i>Columba livia</i> Gmelin, 1789	R	T
7.		<i>Streptopelia chinensis</i> Scopli, 1768	R	T
8.	Charadriidae	<i>Charadrius dubius</i> Scopoli, 1786	R	W
9.	Falconidae	<i>Falco tinnunculus</i> Linnaeus, 1758	R	T
10.	Ardeidae	<i>Bubulus ibis</i> Linnaeus, 1758	PM	W
11.	Laniidae	<i>Lanius collurio</i> Lesson, 1834	WV	T
12.	Corvidae	<i>Crypsirina cucullata</i>	R	T
13.		<i>Corvus splendens</i> Vieillot, 1817	R	T
14.	Dicruridae	<i>Dicrurus leucophaeus</i> Vieillot, 1817	WV	T
15.		<i>Dicrurus annectans</i> Hodgson, 1836	R	T
16.	Muscicapidae	<i>Ficedula parva</i>	R	T
17.		<i>Saxicola caprata</i> Linnaeus, 1766	R	T
18.	Sturnidae	<i>Acridotheres tristis</i> Linnaeus, 1766	R	T
19.	Sturnidae	<i>Acridotheres fuscus</i> Wagler, 1827	R	T
20.		<i>Sturnus burmannicus</i> Jerdon, 1862	R	T
21.	Hirundinidae	<i>Hirundo rustica</i> Linnaeus, 1758	R/BV	T
22.	Pycnonotidae	<i>Pycnonotus blanfordi</i> Jerdon, 1862	R	T
23.		<i>Pycnonotus cafer</i> Linnaeus, 1758	R	T
24.	Motacillidae	<i>Motacilla alba</i> Linnaeus, 1758	R/BV	T
25.		<i>Motacilla citreola</i> Pallas, 1776	WV	T
26.	Passeridae	<i>Passer domesticus</i> Linnaeus, 1758	R	T
27.	Estrildidae	<i>Lonchura punctulata</i> Linnaeus, 1758	R	T

Table 1:- List of Birds Recorded in the Study Area

R = Resident PM = Passage migrant
WV = Winter visitor BV = Breeding visitor
T = Terrestrial bird W = Water bird

No.	Order	No.of Family	No. of Genus	No. of Species	Composition of species in order (%)
1.	Piciformes	1	1	1	3.70
2.	Coraciformes	3	3	3	11.11
3.	Cuculiformes	1	1	1	3.70
4.	Columbiformes	1	2	2	7.41
5.	Charadriiformes	1	1	1	3.70
6.	Falconiformes	1	1	1	3.70
7.	Ciconiiformes	1	1	1	3.70
8.	Passeriformes	10	13	17	62.96
	Total	19	23	27	99.98

Table 2:- Composition of Bird Species in Different Order in Magway University Campus

IV. DISCUSSION

A total species of avian fauna belonging to 23 genera, 19 families under eight orders were recorded in Magway University Campus during November 2016 to February 2017. Out of the total species, two species were aquatic birds comprising under two genera, two families and two orders whereas 25 terrestrial bird species belonging to 21 genera 17 families and six orders were recorded.

Among the terrestrial bird species under different orders, Passeriformes is the largest order belonging to 17 species under 13 genera and 10 families. Maximum number of passerine species was found in the family Sturnidae and the families like Laniidae, Hirundinidae, Passeridae and Estrildidae included only one species. Among the non-passerines, the maximum number of species was found under the order Coraciformes (three families, three species), Columbiformes (one family, two species) and Piciformes, Cuculiformes, Charadriiformes, Falconiformes and Ciconiiformes (only one species each).

The Sturnidae family shows the highest species richness (three species) followed by Columbidae, Corvidae, Dicruridae, Muscicapidae, Pycnonotidae and Motacillidae (two species each) and families like Megalaimidae, Coraciidae, Alcedinidae, Meropidae, Cuculidae, Charadriidae, Falconidae, Ardeidae, Laniidae, Hirundinidae, Passeridae and Estrildidae (one species each).

In the present study, 21 species which were residential, three winter visitors, one passage migrant and two breeding visitors were recorded. Among the recorded species, there are 25 terrestrial birds' species. In the study area tall and medium trees were spread and bushes, grasses and cultivated field were in abundance in survey area. Therefore the terrestrial birds were recorded abundantly. The two waterbird species were recorded in the study area. This may be due to less number of water bodies present in the area.

There are six endemic species, *Pitta gurneyi* Gurney's Pitta, *Crypsirina cucullata* Hooded Treepie, *Mirafra microptera* Burmese lark, *Schoeniparus dibius*, Rusty-capped Fulvetta, *Chatarrhaea gularis* White-thorated Babbler and White-brown Nuthatch, *Sitta victoriae* [9]. In the present study, one endemic Near-threatened species of *Crypsirina cucullata* was recorded. Extensive study of birds will lead to outlining measures to protect these birds and their habitats.

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