Occurrence and Composition of some bird species in Myingyan Degree College Campus, Myingyan Township

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Abstract

Occurrence and composition of some bird species were studied at Myingyan Degree College Campus and were investigated from December 2017 to November 2018. A total of 23 bird species were collected during the study period. The highest species composition (65.22%) was that of order Passeriformes, followed by order Columbiformes (13.04%), Coraciiformes (8.7%) and the lowest species were those of Ciconiiformes, Gruiformes and Strigiformes (4.35%) each. During the study of two Myanmar endemic species, *Turdoides gularis*(White– throated Babbler) and *Mirafra microptera* were recorded.

Keywords; percent composition, endemic species

Introduction

The avian fauna is distinguished from all other vertebrate. Birds are easily recognized from all other animals, since they alone possess feather. Feathers are essential for both temperature regulation and flight. They are adapted for aerial life.

Birds are highly visible and common animals. Birds are social, they communicate using visual signals and through calls, song and participate in social behaviors including cooperative breeding and hunting, flocking and mobbing of predators (Sibley, 2001).

Birds (latin–aves, Greek–ornith) belong to Class–Aves of the Phylum–Chordata. Ornithologists organize some 8660 living bird species in the world and estimate that fewer than a hundred others of limited range in the remote regions remain undiscovered (Wetmore, 1973). The current classification of living birds arranges 30 orders, 193 families, 2099 genera, and at least 9700 species (Gill, 2007).

Class Aves contains 40 orders, 239 families, and 2283 Genera and 10615 extant species in the world (Gill, 2016). Of these, a total of 1327 species are known to occur in South East–Asia (Robson, 2015).

Birds are situated near the top of food chains, so their distribution and abundance is often sensitive to environmental changes, habitat degradation, pollution, and the general impact of agriculture. This makes them sensitive indicators of ecosystem health (Weller, 1965). A large number of migratory birds have visited in winter in the

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wetland due to climate variation and availability of feeding resources (Weller, 1999, cited by Malik, 2013).

Species composition changes from season to season in accordance with the resource availability. Species composition fluctuates regularly with season and irregularly with climate and resource availability (Gill, 2001).

Mandalay is situated in the center zone of Myanmar and it has a sub–tropical climate. Myingyan Township lies in the valley of the Ayeyarwady River, to the South of Mandalay, on the east bank of the river. Myingyan Degree College Campus is situated in Myingyan Township. The natural vegetation of the study area is generally tropical forest type.

The objectives of the present study were:

- to record the bird species in the study area
- to determine the occurrence of bird species
- to investigate the composition of bird species

Materials And Methods

Study area

Myingyan Degree College Campus is situated in Myingyan Township, Mandalay Region. It is situated at latitude 21°25' 20" N and longitude 95° 22' 24"E.

Fig. 1 Location map of study area

Study period

The study period lasted from December 2017 to November 2018.

Bird watching and data collection

Birds were observed with the aid of binocular and photographed by digital camera. Bird watching was undertaken twice a month during the period from 6:30 to 11:00 am and from 3:00 to 6: 00 pm. The collection of data was made by use standing in one spot and recording all the birds seen or heard point count within 15 minutes. The minimum distances between point count was 100 m away. At study area, observation was carried out on foot.

Identification of specimens

The identification of the collected bird species was made according to King and Dickinson (1975), Smythies (2001), and Robson (2011,2015).

Analysis of Data

$$\text{Species composition} = \frac{\text{Total number of species in particular family (or)order}}{\text{Total number of all the species recorded}} \times 100$$

(Thrusfield, 1995)

Results

Throughout the study period from December 2017 to November 2018, a total of 23 bird species under 19 genera belonging to 16 families and six orders were recorded (Table. 1 and Plate. 1).

Occurrence and composition of bird species

During the study period, 11 species of bird are abundance species because they were recorded throughout the study period. The highest number of 21 species was found in October. The lowest number of 15 species was recorded in February. A total of 23 species were recorded from the study area. Among them one species was water bird and 22 species were terrestrial birds (Table 2).

During December 2017 to November 2018 among the recorded 6 orders, the order Passeriformes represented the highest composition of (15) species, 65.22%, followed by the order Columbiformes (three species, 13.04%), Coraciiform (two species, 8.7%) and Ciconiiformes, Gruiformes and Strigiformes (one species, 4.35% each) (Table. 3 and Fig. 2).

During the study period, the highest number of species, genus and families belong to Passeriformes and single bird species comprising one genus and one family was included in order Ciconiiformes, Gruiformes and Strigiformes (Table. 3).

Table.1List of recorded some bird species in Myingyan Degree College campus during December, 2017 to November, 2018

Sr.No	Order	Family	Genus	Species Name	Common name	Local name
1.	Ciconiiformes	Ardeidae	*Bubulcus*	*Bubulcus ibis*	Cattle Egret	kywe–gyaungbyaing
2.	Gruiformes	Turnicidae	*Turnix*	*Turnix suscitator*	Barred Buttonquail	ngone
3.	Columbiformes	Columbidae	*Columba*	*Columba livia*	Rock Pigeon	kho
4.			*Streptopelia*	*Streptopelia chinensis*	Spotted Dove	gyo–lel–pyauk
5.			*Streptopelia*	*Streptopelia decaocta*	Eurasian–Collared Dove	gyo–lin–pyar
6.	Strigiformes	Strigidae	*Athene*	*Athene brama*	Spotted–Owlet	zee–kwat
7.	Coraciiformes	Meropidae	*Merops*	*Merops orientalis*	Little Green Bee–Eater	hnget–pasin–htoe
8.		Coraciidae	*Coracias*	*Coracias benghalersis*	Indian Roller	hnget–khar
9.	Passeriformes	Alaudidae	*Mirafra*	*Mirafra microptera*	Burmese Bushark	bi–lon
10.		Sturnidae	*Acridotheres*	*Acridotheres buamannicus*	Vinous–breasted Myna	zayet–gaung–phyu
11.			*Acridotheres*	*Acridotheres tristis*	Common Myna	zayet–myat–kwin–wa
12.			*Acridotheres*	*Acridotheres grandis*	White–vented–Myna	zayet–phin–phyu
13.		Corvidae	*Corvus*	*Corvus splendens*	House–crow	kyee–kan
14.		Irenidae	*Aegithina*	*Aegithina tiphia*	Common–Iora	shwe–pyi–so
15.		Pycnonotidae	*Pycnonotus*	*Pycnonotus cafer*	Red–vented Bulbul	but–phin–ni
16.			*Pycnonotus*	*Pycnonotus blanfordi*	Streak–Eared Bulbul	but–chwe
17.		Timaliidae	*Turdoides*	*Turdoides gularis*	White–throated babbler	swae

18.	Muscicapidae	*Copsychus*	*Copsychus saularis*	Oriental Magpie Robin	tha–peik–lwe
19.		*Soxicola*	*Soxicola caprata*	Pied bushchat	hnget–kya
20.	Motacillidae	*Motacilia*	*Motacilia alba*	White–Wagtail	mi–nyaung–hnget
21.	Nectariniidae	*Cinnyris*	*Cinnyris asiaticus*	Purple Sunbird	witye–souk–hnget
22.	Ploceidae	*Passer*	*Passer domesticus*	House sparrow	sar–ka–lay
23.		*Lonchura*	*Lonchura punctulata*	Scaly–breasted Munia	sarwaty

Table 2. Monthly occurrence of some birds in Myingyan Degree College Campus during December, 2017 to November, 2018

No.	Scientific Name	Year												
		Dec 2017	Jan 2018	Feb 2018	Mar 2018	April 2018	May 2018	June 2018	July 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Status
1.	*Bubulcus ibis**	✓	–	–	–	–	–	–	–	–	✓	✓	✓	R
2.	*Turnix suscitator*	–	–	–	✓	✓	✓	–	–	–	✓	✓	✓	R
3.	*Columba livia*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
4.	*Streptopelia chinensis*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
5.	*Streptopelia decaocta*	–	–	–	–	–	–	✓	✓	✓	✓	–	–	R
6.	*Athene brama*	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
7.	*Merops orientalis*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
8.	*Coracias benghalensis*	–	✓	–	✓	✓	✓	–	–	–	–	✓	✓	R
9.	*Mirafra microptera*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
10	*Acridotheres buamannicus*	✓	✓	✓	✓	✓	✓	✓	–	–	✓	✓	✓	R

11.	*Acridotheres trietis*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
12.	*Acridotheres grandis*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
13.	*Corvus splendens*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
14.	*Aegithina tiphia*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
15.	*Pycnonotus cafer*	–	✓	✓	–	✓	✓	–	–	–	✓	✓	–	R
16.	*Pycnontus blanfordi*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
17.	*Turdoides gularis*	–	–	–	✓	✓	✓	✓	✓	✓	–	✓	–	R
18.	*Copsychus saularis*	✓	–	–	✓	✓	–	✓	✓	✓	✓	–	–	R
19.	*Saxicola caprata*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
20.	*Motacilia alba*	✓	✓	✓	–	–	–	–	–	–	✓	✓	✓	WV
21.	*Cinnyris asiaticus*	✓	–	–	–	–	–	✓	✓	✓	✓	✓	✓	R
22.	*Passer domesticus*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	R
23.	*Lonchura punctulata*	✓	✓	✓	✓	✓	✓	–	–	–	–	✓	✓	R
	Total no of species	17	16	15	18	19	18	17	16	16	20	21	19	

✓ = Present –= Absent R= resident WV = Winter visitor

Table 3. Composition of some birds in different orders in Myingyan Degree College Campus during December 2017 to November, 2018

No.	Order	Number of family	Number of Genera	Number of species	Composition of species Order (%)
1.	Ciconiiformes	1	1	1	4.35
2.	Gruiformes	1	1	1	4.35
3.	Columbiformes	1	2	3	13.04
4.	Strigiformes	1	1	1	4.35
5.	Coraciiformes	2	2	2	8.7
6.	Passeriformes	10	12	15	65.22
	Total	16	19	23	100

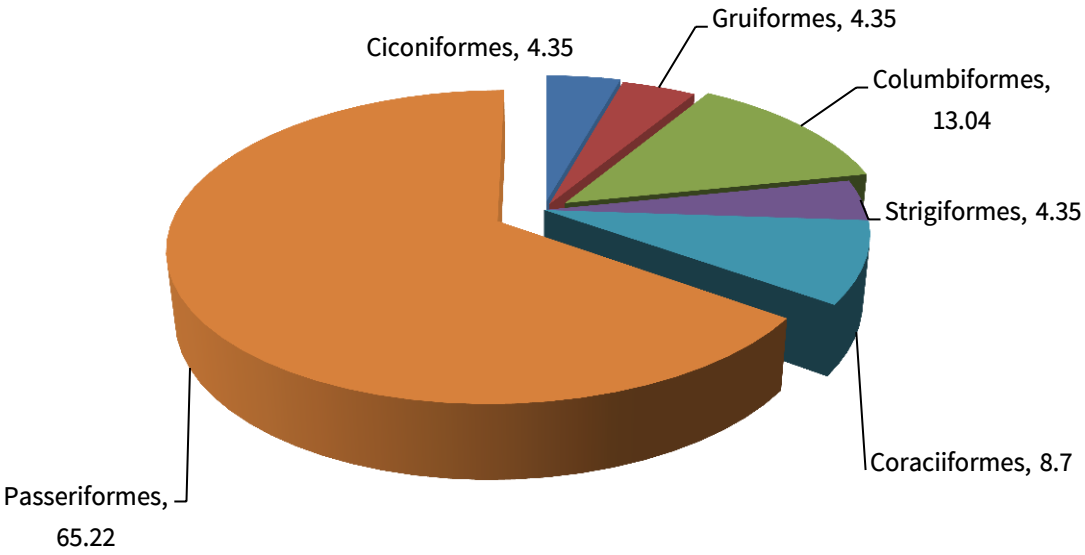


Fig .2 Percent composition of bird species of study area

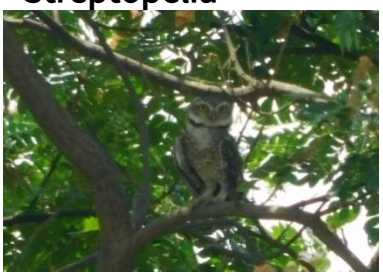
Bubulcus ibis

Turnix suscitator

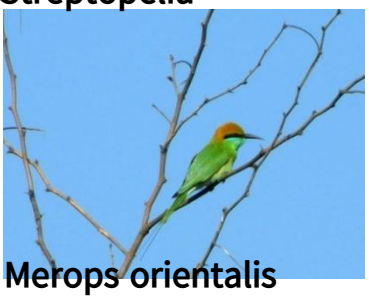
Columba livia

Streptopelia

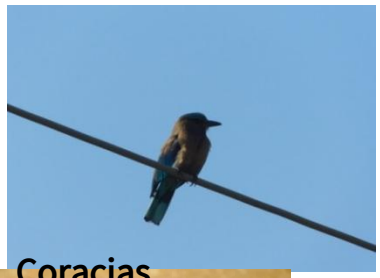
Streptopelia



Athene brama



Merops orientalis



Coracias

nicroptera

Acridotheres

Plate. 1 Recorded bird species from study area

Acridotheres tristis

Acridotheres grandis

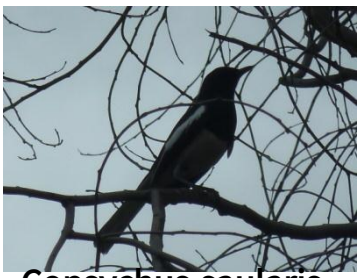
Corvus splendens

Aegithina tiphia

Pycnonotus cafer

Pycnonotus blanfordi

Turdoides gularis



Copsychus saularis

Saxicola caprata

Motacilia alba

Plate. 1 Continued

Cinnyris asiaticus

Passer domesticus

Lonchura punctulata

Plate. 1 Continued

Discussion

A total of 23 species of birds belonging to 19 genera, 16 families and 6 orders were recorded during December 2017 to November 2018.

Myingyan Degree College Campus with bushes, buildings, and small gardens, sparsely distributed medium and tall trees provides food and shelter for birds.

In this study, a total of 22 species were terrestrial bird which included one species winter visitor along with one species of water bird. The highest number of species was observed in order Passeriformes.

According to Smythies (2001) and Robson (2015), Passeriformes represent the largest order among all recorded in South East Asia. Out of recorded 6 orders, the order Passeriformes showed the highest species composition and most are terrestrial in habit. Therefore, the highest species number of composition (65.22%) was recorded in order Passeriformes, followed by the order Columbiformes with three species and (13.04%). This is followed by Coraciformes with two species and (8.7%). The lowest were those of Ciconiformes, Gruiformes and Strigiformes with a single species each (4.35%)

Among 12 months study period, the highest number of 21 species in October and the lowest number of 15 species in February. In study area, *Columba livia, Streptopelia chinensis, Merops orientalis, Acridotheres tristis, Acridotheres grandis, Corvus splendens, Aegithina tiphia, Pycnonothus blanfordi, Soxicola caprata, Passer domesticus* and *Mirfra microptera* are dominated species because they were observed throughout every month of the study period. These species are resident birds. Another species are fairly dominated species in this study area.

In Myanmar has six endemics bird species, namely Jerdon's Minivet (*Percicrocotu salbifronus),* Hooded Teepie (*Crypsirina cuculata),* Burmese Bushlark (*Mirafra microptera),* Burmese Tit (*Aegithalos sharpie),* White–browed Nathatch (*Sitta victoria),* White–throated Babbler (*Turdoides gularis)* (Robson, 2015). In the present study, among endemic species, two species of Burmese Bushlark *(Mirafra microptera)* and White–throated Bubbler *(Turdoides gularis)* were recorded at the study area.

In conclusion, the abundance of bird species depends on food availability and favourable habitat. Habitat loss and change affect the bird species to threaten and decrease in number. Therefore, the result in this study area can provide information to justify the conservation of this campus.

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