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Morphological Descriptions of Some Avian Fauna from Sagaing University of Education Campus

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Abstract

Sagaing University of Education Campus was chosen as study site to investigate the occurrence of birds. Many different kinds of birds were found in Sagaing University of Education and its environs. It also supports a large variety of different flora and fauna. A total of 10 species of birds under 9 genera belonging to 7 families and 4 Orders were recorded during the study period. Among them two species were recorded as water birds while 8 species as terrestrial ones. The highest number of species was found to be in order Coraciiformes (5 species, 50%), followed by (two species, 20%) under each order of Ciconiiformes and Columbiformes. The lowest number of species was found to be in order Paciformes (one species, 10%) respectively. Only one species was found as endemic species *Upupaepops* (Common Hoopoe). Nine species were observed as resident birds in the Sagaing University of Education Campus.

Key word: Bird fauna, occurrence, species composition

Introduction

Birds are found in forests, wetland, deserts, mountains, prairies and over all the oceans. Although they are found in various parts of the world, they are not seen all the time because of their migratory habits. Besides bird populations can be expressed in terms of density of a species per unit area. Bird populations vary in size from year to year. Occasionally, the activities of people such as urbanization, deforestation, man made pollution and environmental deformation, caused the loss of habitats of birds (Davison and Fook, 1996).

Birds have been domesticated, by humans both as pets and for practical purpose. Colorful birds are bred in captivity or kept as pets. Birds are social, they communicate using visual signals and through calls and songs and participate in social behaviors including cooperative breeding and hunting, flocking and mobbing of predators. Some birds are the most intelligent among the animal species. Most birds are diurnal but some are nocturnal and some are crepuscular (Sibley, 2001).

Myanmar has a species list of nearly 980 birds. This is 107 of the world's total and 60 species more than neighboring Thailand, a country of similar size, climate and avifaunal composition. Moreover, Myanmar has also a typical monsoon climate, with a well-marked rainy season associated with south-westerly monsoon winds from the middle or end of May to October, a cold dry season from November, to February, and a hot dry season from March to May (Smythies, 2001).

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Wetlands are areas of land where the water level remains near or above surface of the ground for most of the year. Wetlands are the border between terrestrial and aquatic environment and provide excellent sites for the study of biology and ecology (Department of Land and Water Conservation, 1996; cited by Young, et al., 1999).

Water birds are good indicators of wetland quality, because of their adaptations to the habitats and food sources that are provided by wetlands. Wetland degradation and Loss have been the primary factor in the decline of water birds globally (Davies, Jebastian and Chan, 2004).

At least 404 species of water birds in Asia-Pacific region. In Myanmar, total number of water birds are 14, 461 recorded in 44 sites according to 1997, 1998, 2000 and 2001 bird census (Wei and Taej, 2004).

A bird is a vertebrate belonging to the Class-Aves. The Class-Aves comprises the well-defined group of animals which include all the birds (Wallace, 1963).

Birds are good indicators, and can be used to identify the most biologically rich areas, as well as environmental changes and problems. In general, places that are rich in bird species also rich for other forms of biodiversity (Groom, 1998).

The present work on occurrence of bird species was conducted in Sagaing University of Education Campus, since it harbors a rich diversity of bird species and it is assumed necessary to record these living asset and their compatibility to different habitats in the study site, so that in future, relevant measures could be outlined to preserve and protect them in their native habitats.

The objectives of the present study are-

- to identify and record the bird species in Sagaing University of Education Campus
- to determine the species composition of bird species recorded during the study period.

Materials And Methods

Study Area

Sagaing University of Education campus was chosen as the study area. This area lies between 21° 52'43"N latitude and 95°58'46"E longitude. The total area of Sagaing University of Education Campus is 0.62 square kilometer. The border of it was the Min Wun hill in east, Padamyar quarter was in south, Sagaing Industrial Zone was in north and Railway road was in west. The study area is the semi forest type with large trees, small trees, bushes and small slopes. The topography of the campus is slightly higher than the rural area and there is a small pool at the left side of Main building (Fig.1).

Study Period

The study period lasted from June to September.

Data Collection

Birds were studied and recorded with the aid of a pair of binoculars. In the present study birds were collected weekly during the study period. Birds watching was taken between

06:00 (am) to 10:00 (am). Direct counting method was used for birds number. Field studies were conducted two consecutive days per week. Birds species were photographed by Nikon camera.

Identification of Species

The identification method and taxonomic designation of bird species were followed after the method of King and Dickinson (1975), Robson (2000) and Smythies (2001). When a bird is spotted, it was identified down to the species level and the size, color and behavior of each species was carefully noted.

Status

Status of the birds has been worked out and different status categories like endemic, migrant, resident were assigned.

E = Endemic (growing or existing in a certain place or region)

M = Migrant (birds migrate from cold northern to warm southern temperate regions at a definite time of each year to avoid hazard winter)

R = Resident (birds that spend throughout the year in one place and do not migrate)



Fig.1. Location map of Sagaing University of Education Campus, Sagaing Division

Source: From Google Earth

Results

Systematic Position of Studied Species

Systematic position of the recorded bird species was classified according to King and Dickinson (1975), Robson (2011), (2015), Smythies (2001).

Distinctive Characteristics of Recorded Bird Species

Egretta garzetta(Little Egret)

The little Egret is 55-65 mm (22-26 in) long. It was small and the bill and legs are black. Little Egret is conspicuous in flight. Its plumage is normally entirely, white, the lore are black and around the eye which has a yellow iris. The voice of Little Egret was generally silent except at breeding colony. It was found in fields, Lake, paddy fields. They were breed during the raining seasons. It was found in small pool at the southern part of main building of Sagaing University of Education. In the breeding season, the adult has two long plumes on nape that form a crest (Plate 1 A).

Bulbulus coromandus(Cattle Egret)

The cattle egret is a stocky heron with an 88-90 cm (35-38 in) wingspan: it is 46-56 cm (18-22 in) long. It has a relatively short thick neck, a sturdy bill. The non-breeding adult has mainly white plumage, a yellow bill and greyish-yellow legs. During the breeding season, adults develop orange-buff plumes on the back, breast and crown, and the bill, legs and irises become bright red for a brief period prior to paring.

Although the Cattle Egret sometimes feeds in shallow water, unlike herons it is typically found in fields and dry grassy habitats (Plate 1 B).

Halcyon smyrnensis(White-throated Kingfishers)

White-throated Kingfishes was 10.6-11.0 inch long. The adult has a bright blue back, wings and tail. Its head, shoulders, flanks and lower belly are chestnut, and the throat and breast are white. The bill and legs are bright red. In flight, large white patches are visible on the blue and black wings. Breeding season starts at the onset of the monsoons. It was found resting on the branch of small tree at the Sagaing University of Education Campus (Plate 1C).

Merops orientalis(Little Green Bee-eater)

It is about 9 inches (16-18cm) long with about 2 inches made up by the elongated central tail-feathers. The entire plumage is bright green and tinged with blue especially on the chin and throat. The crown and upper back are tinged with golden rufous. The flight feathers are rufous with green and tipped with blackish. A fine black line runs in front of and behind the eye. The iris is crimson and the bill is black while the legs are dark grey. The feet are weak with the three toes joined at the base. The behavior is generally observed between the hours at 7:00 and 8:00 am and after 4:00 pm. It was observed perching on the telegraphic wires of SUOE (Plate 1D).

Merops philippinus(Blue-tailed bee-eater)

This species, like other bee-eaters, is a richly colored, slender bird. It is predominantly green; its face has a narrow blue patch with a black eye stripe, and a yellow and brown throat; the tail is blue and the beak is black. It can reach a length of 23-26 cm, including the two elongated central tail feathers. Sexes are alike. The bee-eaters are gregarious (Plate 1E).

Coracias banghalensis(Indian Roller)

The Indian roller is a stocky bird about 26-27 cm long. The crown and vent are blue. The breast is brownish. The primaries are deep purplish blue with a band of pale blue. The

tail is sky blue with a terminal band of Prussian blue and the central features are dull green. The neck and throat are purplish. The three forward toes are united at the base. Rollers have long and compressed bill with a curved upper edge and a hooked tip. Indian rollers are usually seen perched on prominent bare trees or wires. The breeding season is March to June, slightly earlier in southern India (Plate 1F).

***Upupaepops*(common Hoopoe)**

Common Hoopoe was observed in the study area sexes alike. It is fawn –colored plumage in upper part with a black-tipped crest. The crest is normally flattened, but erected with excited or alarmed and for a moment on settling. Black wings with broad white band, and back tail with a white band are distinctive. It walks about with an accompanying movement of the head. They breed from March to June (Plate 1G).

***Streptopeliachinensis*(Spotted Dove)**

(Spotted-dove) is a dull grayish color with spotted black collar on hind neck, bill brown and legs reddish brown. The primary coverts are dark brown. The wing feathers are dark brown with grey edges and the center of the abdomen and vent are white. The length ranges from 28 to 32 cm(11. 2 to 12. 8 inches).Its habit of walking about in roads and village paths in search of grain it is one of the most familiar. They usually fly up to a tree but may settle on the ground. They were found in woodlands, cultivated area and gardens. It was found in the study site. The breeding season extends throughout the year (Plate 1H).

***Columba Livia*(Rock Pigeon)**

Rock Pigeon, mainly grey with darker hood and breast, paler upper wing with two broad blackish bars, blackish tail-tip, green and purple neck. Slivery-whitish underwing coverts. They breed throughout the year. They were common resident (Plate 1I).

***Megalaimahaemacephala*(Coppersmith barbet)**

It can reach a length of 16-17cm long. Coppersmith barbet is a plump bird. It has large head, and short neck and tail. Adult has green upperparts. Under parts are mainly whitish, heavily streaked with green. Tail is short and triangular in flight. Large head is very colorful. Forehead is red. Crown and nape are green. It has yellow patches above and below the eye. Chin and throat are yellow. Heavy bill is black, bordered at base with conspicuous bristles. Eyes are brown, with red eye-ring. Legs and feet are pinkish colored. Both sexes are similar, but female has duller red color on head and breast (Plate 1J).

In the present work, percent composition of bird species in different orders were described (Table1) and comparison, occurrence, status of recorded bird species were calculated (Table 2 & Fig.2,3).

Table 1. Percentage Composition of Bird Species in each Order

No	Order	No. of Family	No. of Genus	No. of Species	Composition of Species in order (%)
1	Ciconiformes	1	2	2	20
2	Coraciiformes	4	4	5	50
3	Columbiformes	1	2	2	20
4	Piciformes	1	1	1	10
	Total	7	9	10	100.00%

Table 2. Comparison, Occurrence, Status of Recorded Bird Species in the Study Area

No	Order	Family	Scientific Name	Common Name	Local Name	Status
1	Ciconiiformes	Ardeidae	<i>Egretta garzetta</i>	Little Egret	byaing	R
2	Ciconiiformes	Ardeidae	<i>Bubulcus coromandus</i>	Cattle Egret	Kyawe-Kaying Baying	R
3	Coraciiformes	Alcedinidae	<i>Halcyon smyrnensis</i>	White-throated kingfisher	Pain-nyin-nyin-phyu	R
4	Coraciiformes	Meropidae	<i>Merops orientalis</i>	Little Green Bee-eater	Hnget-pasin-hto	R
5	Coraciiformes	Meropidae	<i>Merops philippinus</i>	Blue-tailed Bee-eater	Hnget-pasin-hto	R
6	Coraciiformes	Coraciidae	<i>Coracias benghalensis</i>	Indian Roller	Hnget-kha	R
7	Coraciiformes	Upupidae	<i>Upupa epops</i>	Common Hoopoe	Bi-daung-bo	E
8	Columbiformes	Columbidae	<i>Streptopelia chinensis</i>	Spotted-dove	Gyo-lei-byauk	R
9	Columbiformes	Columbidae	<i>Columba livia</i>	Rock Pigeon	Gho	R
10	Piciformes	Megalaimidae	<i>Megalaima haemacephala</i>	Copper Smith Barbet	Hnget-ba-dain	R

R=Resident

E=Endemic

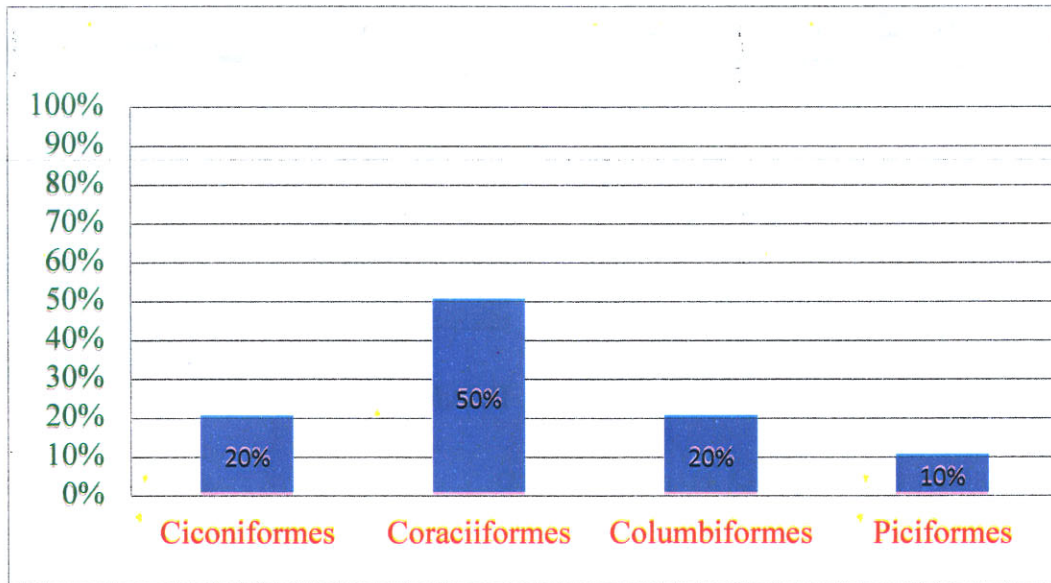


Fig. 2 The percentage species composition in different orders

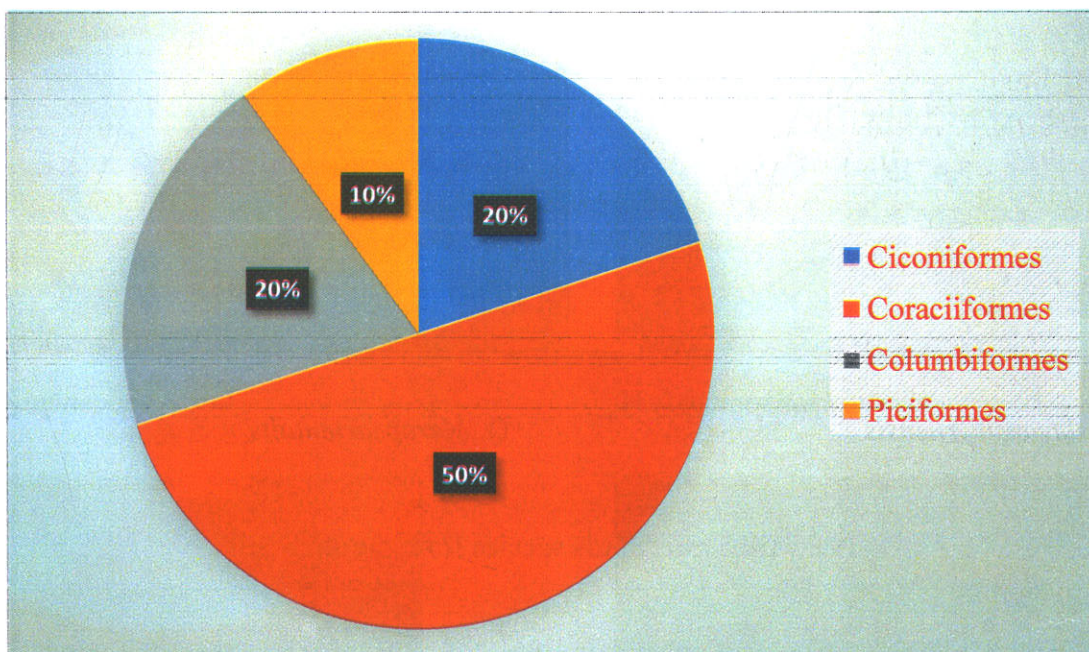


Figure. 3. The percentage species composition in different orders



A. Egretta garzetta



B. Bubulcus coromandus



C. Halcyon myrnenensis

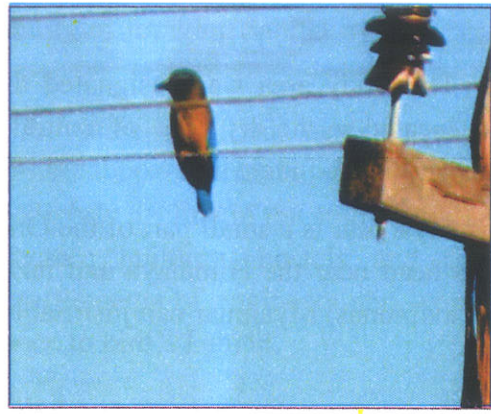


D. Merops orientalis

Plate 1. Recorded birds species from the study site



E. *Meropsphilippines*



F. *Coraciasbenghalensis*



G. *Upupaepops*



H. *Streptopeliachinensis*



I. *Columba livia*



J. *Megalaimahaemacephala*

Plate 1.continue.Recorded birds species from the study site

Discussion

The study area was designated the Sagaing University of Education Campus. This area is located in the dry zone of central Myanmar. It consists of semi-arid plains, covered with thorny scrub-jungle and woodland. Therefore, birds were found in the study area.

Myanmar is a small part of the Oriental Region, but because of its favorable situation, with its head near the Himalaya and its tail extending down to Malaysia, it has one of the richest avifaunas, Myanmar can justifiably claim, in round numbers, 1000 species (Smythies, 2001).

Throughout the study period from total of 10 species of birds, 9 genera belong to 7 families and 4 order were recorded. Among them, two species were represented with water birds and eight species were terrestrial one. In the present study, the largest species composition was found in order Coraciiformes. Among Coraciiformes, Common Hoopoe was observed solitary and little number in the study site. Common Hoopoe is monogamous, solitary and a territorial breeder have been found in Southeast Spain (Martin-Vivaldi *et al.* 2002 cited by G.Halmos). Indian Roller were found in the resting on the telegraphic wire and this species was found slightly lower than other species in the study site. The greater number of Indian Rollers at the agricultural lands might be due to relatively rich supply of insects. Lack (1966) stated that food is frequently the most important density depended for birds. According to Smythies (2001) and Robson (2008), Coraciiformes recorded in South East Asia.

In the present study, two species of water birds, (Little Egret, Cattle Egret) were found in the small pool of the southern part of the main building. Smythies (2001) also described that all these aquatic birds were common elsewhere in Myanmar.

In this research, five species were found under Coraciiformes. Of these birds *Meropsorientalis* (Green-bee-eater) and *MeropsPhillippinus* (Blue-tailed bee-eater) were found not only branches of small trees but also perch on telegraphic wire. *Upupaepops* (Common Hoopoe) easily found while moving freely within the study area. The Common Hoopoe was recorded in Myanmar endemic species accordingly to Avibase (2009).

Among the recorded bird species belonging to family Columbidae, *Columba livia* (Rock Pigeon) and *Streptopeliachinensis* (Spotted dove) were recorded on the ground, branches of trees, perch on telegraphic wire and on the main building. The spotted-dove *Streptopeliachinensis* is one of the more familiar species around human habitation in India (Ali & Riply 1983). It is seen in open forests, secondary growth, wooded and cultivated country, parks and garden, verandas of houses and agricultural fields (Ali & Riply 1983). This finding is similar to the statement of Smythies (2001). Spotted dove and Rock Pigeon usually flew up to a tree and is a commonest bird in the study area.

Under order Piciformes, only one species found in the study site. This species is *Megalaimahaemacephala* (Coppersmith barbet). It was conducted top of the trees in the study site. During the study period, one species is endemic (Common Hoopoe), nine species as resident were recorded in the study area.

The main threats to birds were the followings: habitat loss and degradation, chemical toxins, chemical pollution, avian diseases, human disturbance of nesting, feeding and

roosting areas, shortage of water, and degraded quality of foraging habitat by the invasion of introduced species.

Most of bird species depend on forest for searching food, nesting, resting and reproducing. Small trees, large trees, bushes and grassland were abundance in the University campus. The occurrence of observed species were slightly decline in the study site due to the infrastructure development, which built the lecture building, hostels and roads for transportation around the University Campus. Resettlements of engineers and workers and loud noise during their working time were disturbance to bird's habitat.

Conclusion

The data included in this work are discussed based within three months and there is still needed to observe the avifauna of study area. The extensive survey of birds become more and more needed to bird watching people. In the study site, some species of bird were migrated due to environmental disturbances. Thus this study area should be conserved carefully.

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Reference

- Avibase, 2009. Bird checklist of Myanmar (Internet) (Cited 2009, Dec, 21). Available from: <http://www.Bridlifeinternational>.
- Asokan, Set al., 2010. Breeding biology of the Small Bee-eater *Meropsorientalis* (Latham, 1801) in Nagapattinam District, Tamil Nadu, India. Journal of Threatened Taxa/[www.threatened taxa.org/](http://www.threatenedtaxa.org/) April 2010/24:797-804
- Asokan, Set al., 2010. Population densities and diurnal activity pattern of the Indian Roller *Coraciasbenghalensis* (Aves Coraciformes) in Nagapattinam District, Tamil Nadu, India. Journal of Threatened Taxa/[www.threatened taxa.org/](http://www.threatenedtaxa.org/) September 2010/2(10): 1185-1191
- Davison, G.W.H. and C.Y., Fook, 1996. A photographic guide to birds of Borneo. New Holland Publishers (UK) Ltd. 144 pp.
- Davies, J.A.C., Sebastian and S. Chan, 2004. *A Wetland Inventory for Myanmar*. Durnsutha Press Comp. Ltd. Thailand 591 pp.
- Groom, D.W., 1998. A contribution to the avifauna of Mae Ping National Park. *Tigerpaper* XXV(1).
- Halmos, G & K : Nagy, Zs. Karcza, and TSzep, 2015. The status of the Hoopoe *Upupaepops* in Hungary : a review
- Hayes, F.E and G.L, White, 2016. Status of the Little Egret *Egretta garzatta* in Trinidad and Tabago
- Joshi, A.K & C. Bhatnagar (2018). A short note on the courtship behavior of *Pilopogon haemacephalus*, Muller, 1776. Bird-o-Soar#16. In: zoo's Print 33(4):19:22
- King, B.F. and E.C., Dickinson, 1975. *A field guide to the birds of South East Asia*. Japan, Collin, London. pp. 1-20.

- Khin Gye Maung ,2005.** Community structure of Wethigan Wildlife Sanctuary in Myanmar with special emphasis in avian fauna.*PhD Dissertation*, Department of Zoology, Yangon University.
- Murtadha k Glaiim (2014).** Occurrence and status of bee-eater, *Merops spp.* Coraciiformes Meropidae , and their attacks on honey bee colonies in Kerbala Province, Iraq, Journal of Apicultural Research, 53:4, 478-Province, Iraq, Journal of Apicultural Research, 53:4,478-488, DOL:10.3896/IBRA. 1.53.4.04
- NwetNwet Win, 2013.** Seasonal abundance and species diversity of water birds at PaukIn (Lake) with emphasis in breeding ecology of Spot-billed Duck, *Anaspoecilorphyncha* Foster,1781 Magway Region.
- Naher,H and N.J Sarker, 2014.**Food and feeding habits of White-throated Kingfisher *Halcyon smyrnensis* in Bangladesh. Journal of Zool.42(2):237-249,2014
- Robson,C., 2000.** *A Field Guide to the Birds of South-East Asia*. New Holland Publisher (UK), Ltd. 460 pp.
- Robson,C., 2008.** *A field Guide to the Birds of Thailand and South East Asia*. New Holland Publisher (UK), Ltd. London, 304 pp.
- Robson, C., 2011.** *A field Guide to the Birds of South East Asia*. New Holland Publisher (UK),Ltd, London, 544 pp.
- Ross Ahmed, 2011.** Subspecies identification an status of Cattle Egret. Dutch Birding. January 2011
- Rajashekara S and M.G.Rajashekara,2016.** On the breeding of Spotted-dove *Streptopeliachinensis*
- Sibley,D.A., 2001.** *The sibley guide to bird life and behavior*.1st Edition. Alfred A., Knopf, New York.588 pp.
- Smythies,B.E., 2001.***The birds of Burma*. Oliver and Boyd, Ltd, Edinburgh, London, 601 pp.
- That That Htun, 2010.**Species diversity of birds in Shwesattaw Wildlife Sanctuary, Magway Region.*PhD Dissertation*, Department of Zoology, University of Mandalay.
- Wallace,G.J., 1963.** *An introduction to Ornithology*. Second Edition. The MacMillan Company. New York.
- Wei,D.L.Z. and T., Mundkur, 2004.**Numbes and distribution of waterbirds and wetlands in the Asia Pacific Region.Wetlands International. 22(4):653-640.
- Young,R., R. Hartman, M. Raddiffe and J. Grose, 1999.**Legislative frame work. *The Constructed Wetlands Manual*.1 Department of Land and WaterConservation.428 pp.
- Yee Yee Aye, 2016.**Occurrence of some birds from the Ancient city of Pakhagyee environs, Yesagyo Township, Magway Region.
- Zin New Htay, 2016.** Occurrence of some avian fauna from Ma-U village environs Yesagyo Township, Magway Region.

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