

Occurrence of Bird Species at Laihka, Southern Shan State

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Abstract

The present study was conducted at Laihka area of Laihka Township in Southern Shan State and bird species were recorded from three study sites. The study period was from March to September, 2017. A total of 62 bird species belonging to 48 genera of 27 families under eleven orders were observed in three study sites of Laihka during the study period. In the present study, the most abundant bird species were recorded in order Passeriformes with 24 species (38.70%), followed by Ciconiiformes ten species (16.13%), Accipitriformes with six species (9.6%), Coraciiformes with five species (8.06%), Charadriiformes with three species (4.84%) and Columbiformes with two species (3.23%). Among landbirds, 38 species are resident and seven species in winter visitors while one species of migrant and 19 species of resident are water birds.

Introduction

Birds are the most popular group of animals. The local distribution pattern of most species is limited by physical or abiotic factors of the environment such as temperature, moisture, light, pH, salinity and water current (Stilling, 1999).

Birds (Latin-aves, Greek-ornith) belong to class Aves of the phylum Chordata. Birds are widespread, occurring almost everywhere in the world. Birds are mobile and responsive to environmental changes (Birdlife international, 2000).

In Southeast Asia, including Myanmar, Thailand, Peninsula, Malaysia, Singapore, Cambodia, Laos and Viet Nam, a total of 1327 species are known to occur (Robson, 2011).

Class Aves contains 40 orders, 239 families, and 2283 genera and 10615 extant species in the world (Gill, 2016). The avifauna of Myanmar includes a total of 1114 species of which six are endemic, two have been introduced by humans and ten are rare or accidental. One species listed is extirpated in Myanmar. Of these, 51 species are globally threatened. Eight of these species are critically endangered, twelve endangered and twenty-six are vulnerable species (IUCN, 2011). Of these, a total of 1327 species are known to occur in South East Asia (Robson, 2015).

Many species of birds are found at different habitats and different times of the year. Many types of ecological habitats are woodland, grassland, cultivated, agricultural areas, wetland areas, coasts, river beds and high mountains (Sibley, 2001).

Habitat selection in birds is partly a genetic trait, although it can be modified by a bird is often reinforced by tenacity of individuals to their sites. Many old birds return year after year to the same nesting site, even if the habitat at that site in deterioration (Clark, R.G and Shuther D, 1999).

Laihka environs are good habitat for birds because it have cultivated area, forest type, streams, hill, paddy fields, lake and other habitats. Therefore, the present study has been conducted in Laihka environs with the following of objectives

The present study aimed to assess the status of the avifauna at Laihka with the following objectives:

- to record bird species at Laihka, Southern Shan State.
- to compare the species composition of birds at three study sites

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Materials and Methods

Study Area and Study Sites

Bird species were recorded from three survey sites at Laihka in Southern Shan State. The present study was conducted at Laihka area of Laihka Township. It is located between north latitude 21°16' and east latitude 97°39'. Three study sites were designated: Site I, Site II and site III. It is 3116 ft above sea level at eastern border of Kesee and Nam Zang. In the south it connects with Panglong and Loilem.

Study Period

The study period was from March to September, 2017.

Field techniques

Preliminary survey were taken to select the locations and sub-sampling points in the three study areas in which eight points in Site I, five points in Site II and two points in Site III were allocated. Each sampling site was visited once a week. Collection of the data was made using point count method according to (Bird census Techniques). All counts were conducted from 6: 00 am to 10:00 am. Birds were viewed using binocular (14 × 30) and digital telescopic camera was used during the survey period.

Identification of species

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

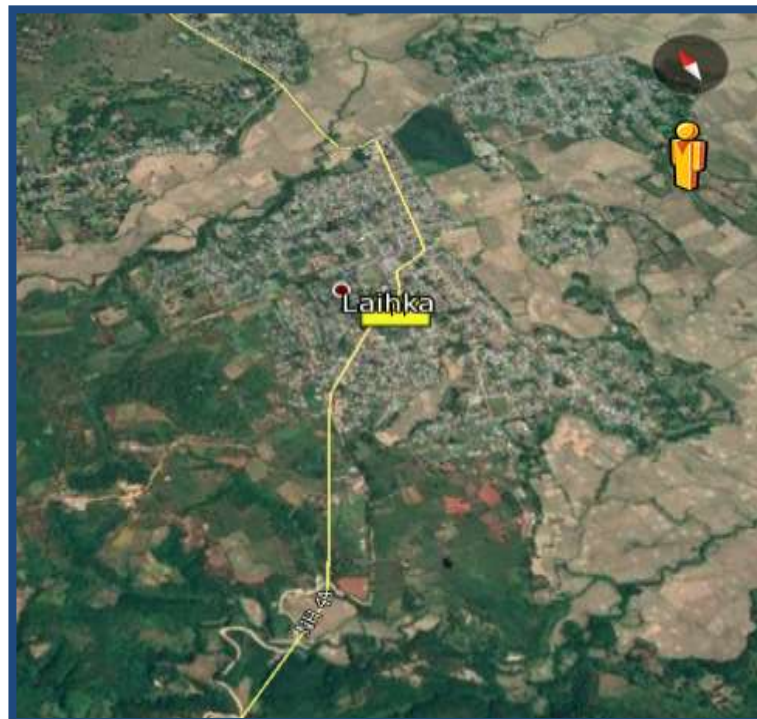


Fig. 1 Map of the study Area, Laihka

Results

A total of total of 62 bird species belonging to 48 genera of 27 families under eleven orders were observed in three study sites of Laihka during the study period.

During the study period, in site I the highest number of landbird species and individuals (20 species, 208) was in April, followed by (15 species, 84) in March, (17 species, 72) in June, (12 species, 67) in May, (17 species, 66) in August and (13 species, 34) in July (Fig. 3 and 4).

In study site II, the highest number of landbird species and individuals (14 species, 113) was found in May, followed by (19 species, 95) in June, (14 species, 67) in July, (9 species, 57) in August, (10 species, 37) in March and the lowest number of species and individuals (7 species, 31) in April (Fig. 3 and 5).

In study site III, the highest number of waterbird species and individuals (14 species, 60) was found in March, followed by (13 species, 55) in May, (13 species, 50) in June, (13 species, 30) in July, by (11 species, 28) in April and the lowest number of species and individuals (10 species, 28) in August .

Table 2 Monthly occurrence of recorded bird species in three study sites of Laihka

	Scientific Name	March			April			May			June			July			August		
		Site			Site			Site			Site			Site			Site		
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
1	<i>Francolinus pintadeanus</i>	A	A	-	A	A	-	A	-	-	A	A	-	A	A		A	-	-
2	<i>Columba livia</i>	-	A	-	-	A	-	-	A	-	-	A	-	-	A		-	A	-
3	<i>Streptopelia chinensis</i>	A	-	-	A	A	-	A	A	-	A	A	-	-	A		A	A	-
4	<i>Cacomantis merulinus</i>	-	-	-	-	-	-	-	A	-	-	-	-	-	A		-	-	-
5	<i>Eudynamys scolopacea</i>	-	-	-	-	-	-	A	A	-	A	-	-	-	-		A	-	-
6	<i>Centropus rectunguis</i>	A	-	-	A	-	-	A	-	-	A	-	-	A	-		A	-	-
7	<i>Ictinaetus malayensis</i>	-	-	-	A	-	-	-	-	-	-	-	-	-	-		-	-	-
8	<i>Gyps indicus</i>	-	-	-	-	-	-	-	-	-	A	A	-	-	A			A	-
9	<i>Gyps himalayensis</i>	-	-	-	-	-	-	-	-	-	A	A	-	-	-		-	-	-
10	<i>Butastur teesa</i>	-	-	-	-	-	-	-	-	-	-	A	-	-	-		-	-	-
11	<i>Butastur liventer</i>	-	-	-	A	-	-	-	A	-	-	-	-	-	A		A	-	-
12	<i>Elanus caeruleus</i>	A	-	-	-	-	-	-	-	-	-	-	-	-	-		A	-	-
13	<i>Upupa epops</i>	-	-	-	A	-	-	-	-	-	-	-	-	A	-		-	-	-
14	<i>Coracias benghalensis</i>	-	-	-	-	-	-	-	-	-	-	A	-	-	A		-	-	-
15	<i>Halcyon smyrnensis</i>	-	-	-	A	-	-	-	-	-	-	A	-	A	-		-	-	-
16	<i>Merops orientalis</i>	-	-	-	A	-	-	-	A	-	A	A	-	-	-		A	A	-
17	<i>Merops philippinus</i>	-	-	-	-	-	-	-	-	-	-	-	-	A	-		-	-	-
18	<i>Megalaima haemacephala</i>	-	-	-	A	-	-	-	-	-	A	-	-	-	-		A	-	-
19	<i>Lanius colluriooides</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-		A	-	-
20	<i>Lanius schach</i>	A	A	-	-	-	-	-	-	-	-	A	-	A	A		A	A	-
21	<i>Lanius cristatus</i>	-	-	-	A	-	-	-	-	-	-	-	-	-	-		-	-	-
22	<i>Corvus macrohynchos</i>	A	A	-	-	-	-	-	-	-	-	A	-	-	-		A	-	-

49	<i>Ardeola grayii</i>	-	-	-	-	-	-	-	-	-	-	-	√	-	-	√	-	-	
50	<i>Ardeola bacchus</i>	-	-	-	-	-	-	-	-	-	-	-	√	-	-	√	-	-	-
51	<i>Bubulcus ibis</i>	-	-	√	-	-	√	-	-	√	-	-	√	-	-	√	-	-	√
52	<i>Ardea cinerea</i>	-	-	√	-	-	-	-	-	√	-	-	√	-	-	√	-	-	√
53	<i>Ardea alba</i>	-	-		-	-	√	-	-	√	-	-	√	-	-	√	-	-	√
54	<i>Mesophoyx intermedia</i>	-	-	√	-	-	√	-	-	√	-	-	√	-	-	√	-	-	√
55	<i>Egretta garzetta</i>	-	-	√	-	-	√	-	-	√	-	-	√	-	-	√	-	-	√
56	<i>Amaurornis phoenicurus</i>	-	-	√	-	-	√	-	-		-	-	√	-	-	√	-	-	√
57	<i>Gallinula chloropus</i>	-	-	√	-	-	√	-	-	√	-	-	√	-	-	-	-	-	√
58	<i>Fulica atra</i>	-	-	√	-	-	√	-	-		-	-	-	-	-	-	-	-	√
59	<i>Porphyrio poliocephalus</i>	-	-	√	-	-	√	-	-	√	-	-	√	-	-	√	-	-	√
60	<i>Hydrophasianus chirurgus</i>	-	-	√	-	-	√	-	-		-	-	√	-	-	√	-	-	√
61	<i>Metopidius indicus</i>	-	-	√	-	-	√	-	-	√	-	-	√	-	-	-	-	-	-
62	<i>Vanellus cinereus</i>	-	-	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-
	Total	15	10	14	20	7	11	12	14	13	17	19	13	13	14	13	17	19	10

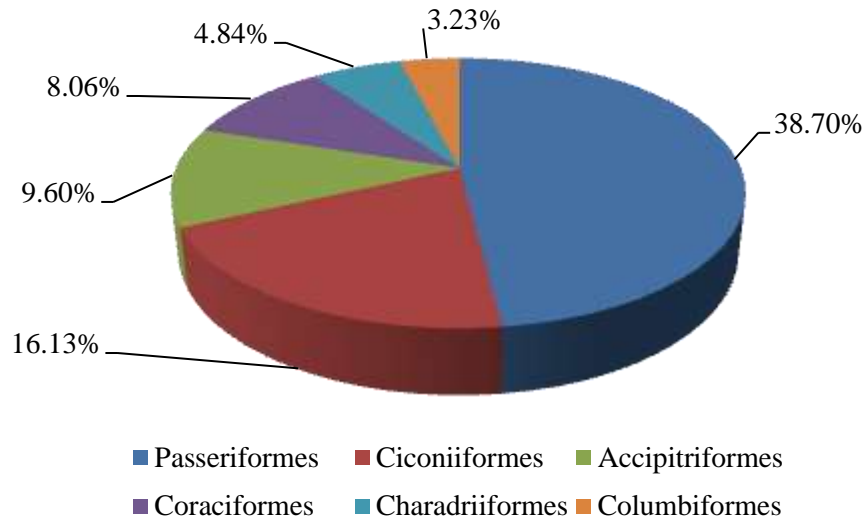


Fig.1 Species composition of recorded birds in respective orders from three study sites at Laihka

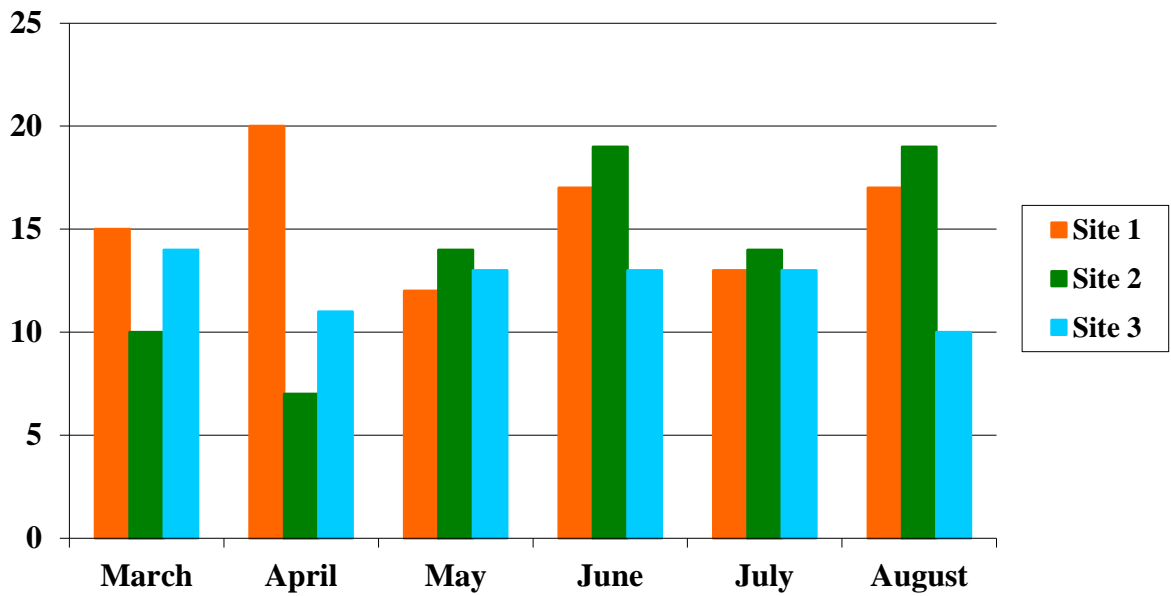


Fig.2 Monthly occurrence of recorded bird species in three study sites of Laihka



Cacomantis merulinus



Centropus rectunguis



Ictinaetusma layensis



Gyps indicus



Gyps himalayensis



Butastur teesa



Butastar liventer



Laniuscollurioides liventer



Lanius schach



Lanius cristatus



Corvus macrohynchus



Pericrocetus flammeus



Crypsirina temi



Artamus fuscus



Dicrurus aeneus



Dicrurus annectans



Pycnonotus jacosus



Acridotheres grandis



Sturnus nigricollis



Sturnus malabaricus



Sitta castanea



Anas zonorhynchos



Nycticorax nycticorax



Ixobrychus cinnamomeus



Porphyrio poliocephalus



Hydrophasianus chirurgus

Plate 1. Recorded of bird species at study site I, site II and site III

Discussion

A total of 62 species, belonging to 48 genera and 27 families under eleven orders were recorded during the study period in three study sites at Laihka from March 2017 to August 2017. In the present study, the most abundant bird species were recorded in order Passeriformes with 24 species (38.70%), followed by Ciconiiformes ten species (16.13%), Accipitriformes with six species (9.6%), Coraciformes with five species (8.06%), Charadriiformes with three species (4.84%) and Columbiformes with two species (3.23%),

In study site I and site II, a total of 31 and 27 species were observed and 20 species of waterbirds were recorded at site III. With regard to the highest number of bird species at site I, it is allotted to the presence of a variety of microhabitats compatible to the bird's choice. Moreover, the more variety of vegetation, bushes, cultivation and paddy fields, the more number of birds species that can thrive on there. Most trees and agricultural areas were used by birds for foraging, resting, nesting and roosting, hence the highest number of bird were recorded in tree dominated areas and in agriculture areas.

In the present study, more number of species and individuals were found in site I compared to site II and Site III. These differences may be due to different habitats and sources of food availability. Many cultivation and paddy fields good habitats for many passerine birds are available at the base of site I. These sites are densely covered with shrubs, woody trees and foothills.

Thu Zar Hlaing (2015) also described a total number of 25 bird species in the Panglong University Campus from September 2014 to January 2015. She recorded 24 terrestrial bird species and one water bird species. She also reported that *Streptopelia chinensis* (Spotted Dove), *Corvus marcorhynchos* (Large-billed Crow), *Pycnonotus jocosus* (Red-whiskered Bulbul) *P. cafer* (Red-vented Bulbul) and *Saxicola caprata* (Pied Bushchat) were categorized as common birds. Aye Thant Zin (2008) also revealed the four species such as *Corvus marcorhynchos* (Large-billed Crow), *Pycnonotus jocosus* (Red-whiskered Bulbul), *Saxicola caprata* (Pied Bushchat) and *Passer montanus* (Eurasian-tree sparrow) as the most commonly bird species. During the study periods, bird species of Passeriformes were also abundantly found among 62 species of birds at all study sites.

During the study period, in site I the highest number of bird species and individuals (20 species, 208) was in April, and (13 species, 34) in July lowest number of species and individuals. In study site II, the highest number of bird species and individuals (14 species, 113) was found in May, and the lowest number of species and individuals (7 species, 31) in April. In study site III, the highest number of waterbird species and individuals (14 species, 60) was found in March, (the lowest number of species and individuals (10 species, 28) in August .

In the site I, *Eudynamys scolopacea* (Asian Koel), *Ictinaetus malayensis* (Black Eagle), *Gyps indicus* (Long-billed Vulture), *G.himalayensis* (Himalayan Griffon), *Buta sturteesa* (White-eyed Buzzard), *B.liventer* (Rufous-winged Buzzard), *Elanus caeruleus* (Black-shouldered Kite), *Upupa epops* (Common Hoopoe), *Halcyon smyrnensis* (White-Throated Kingfisher), *Merops philippinus* (Blue-tailed Bee-eater), *Lanius collurio* (Burmese Shrike), *L.cristatus* (Brown Shrike), *Crypsirina temia* (Rocket-tailed Treepie), *Pycnonotus cafer* (Red-vented Bulbul), and *Prinia polychroa* (Brown Prinia) were rarely found in this site. During the study period, *Pycnonotus jaosus*(Red whiskered Bubul), *Saxicola caprata* (Pied Bushchat) were mostly found in site I and site II.

In the present study, 15 species were rarely found only in site I, whereas twelve species were occurred only in site II. In site II, *Cacomantis merulinus* (Plaintive Cuckoo), *Eudynamys scolopacea* (Asian Koel), *Gyps himalayensis* (Himalayan Griffon), *Butastur teesa* (White-eyed Buzzard), *B.liventer* (Rufous-winged Buzzard), *Coracias benghalensis* (Indian Roller), *Halcyon smyrnensis* (White-Throated Kingfishes), *Corvus macrorhynchos* (Large-billed Crow), *Copsychus saularis* (Oriental Magpie Robin), *Sturnus nigricollis* (Black-collared Starling), *Sitta castanea* (Chestnut-bellied Nuthatch), and *Passer flaveolus* (Plain-backed Sparrow) were rarely found. *Columba livia* (Rock pigeon) was common and mostly found in this site. In these study sites, 38 species are residents and seven species are winter visitors.

Among the waterbirds recorded in site III, the highest number of species, genus and family belong to order Ciconiiformes. The maximum number of species and genus belong to the family Ardeidae. One species of migrant and 19 species of residents in waterbirds.

Lebbin (2010) stated that the physical environments inhabited by living organisms, are fundamental to their survival. In the case of birds, habitat provides cover from predators, breeding, wintering and migration stop over sites, and places to forage and roost.

The present study gives some information on occurrence of bird species at Laihka environs. Further information and data collection are still necessary because this work was carried out within the very short period. Thus, habitats, migration and seasonal occurrence of bird species are essential for further study in the survey area and different localities.

It is concluded that abundance of bird species depends on food availability and suitable habitat. Habitats can lose and change over time due to the harvesting and utilization of the natural resources by human being and seasonal change. Habitat loss and change affect the threat to bird species and decrease in number. Thus, there need to protect habitats and avian diversity of the study area.

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