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Abundance and distribution of the raptors in Bangladesh

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Abstract

In Bangladesh, are were a total of seventeen types of raptors including species and sub species. These raptors only belongs to one order of Falconiformes and three different families- Falconidae (5), Accipitridae (11) and Pandionidae (1). Among these numbers, they are divided into eight categories, namely, merlin, kestrel, hobby, falconet, baza, vulture, kite and eagle. There are some differences among these birds. The merlin catches their prey in the time of dawn or twilight and its tail narrow during flight. Pointed wing were found in kestrel and broad tail. In case of hobby, their body was almost streamlined and wing is scythe-shaped. Falconets are small in size than the falcon and it differs from falcon; only their swallow-shrike like flying. The tail of baza was exceptional which is equaled tetragonal. Vultures are now endangered species in Bangladesh, its hind tow is reduced and their perforate nostril is their distinguishable characteristic. In sitting condition, the wing of kite is crossed order and larger than the tail; and finally, eagles showed the excess feather in flank, and when it flies, the middle portion of the wing is broad and feathers are loosely arranged.

Key words: Abundance, birds of prey, Bangladesh, distribution.

INTRODUCTION

The raptors are called the 'birds of prey'. It has much biological and ecological significance in nature for its scavenging behavior. It destroys the rotten materials from the nature and catches different pests mainly insects. The Pandionidae family maintains only one species which is Osprey. The Osprey is a medium large sized raptor with a specialist fish-eater and worldwide distributed. Accipitridae is a family of birds of prey including eagles, hawks, harriers and kites, and vultures. These birds have powerful hooked beaks for tearing flesh from their different prey, strong legs, powerful talons, and keen or strong eyesight. There are 233 species of this bird's worldwide of which 26 species occur in Bangladesh. These raptors make their nests on top of long trees. In the case of Bangladesh, these long trees are destroyed on a daily basis. As such, the plantation was programmed to make available an authentic area for the protection of the birds as well as, the soil erosion (Faizuddin and Wahab, 1987). Nearly all the birds of the Indian subcontinent were represented in Bangladesh by one or more species, a preliminary survey showed that there are about 500 species of birds in Bangladesh, and this is not a bad score compared to about 1500 species in India or 8600 species in the world all together, 47 of the raptors and 62 in the Indian subcontinent occur in Bangladesh as well. We also have a number of migratory species of harrier, peregrine falcon, hobby and kestrel etc (Husain, 1974). Considering that migratory birds of prey serve as high-level indicators of the ecosystem and climate change around their habitat, many populations of these birds migrate between and within Africa and Eurasia, crossing their territories to the different countries. A total of 315 species of birds have been recorded (Hussain and Acharya, 1994), where the raptors were 38 species in total form (Sarker, 1985b). From the study of Islam et al. (2008), it was observed that only three species belongs to the family Accipitridae of which the black shouldered kite, black kite and Brahminy kite was found. The raptors or birds of prey commence their nesting activities about mid October and are busy throughout the winter months up till about the end of February, March, and April which are the principal months that river birds, tree hole, and ground nesting birds discharge their parental duties by looking after their

eggs before June when tree hole and the tunnel eggs are white. Thus, nesting of birds is a brilliant behaviour (Ali, 2003). In Bangladesh, the faunal survey in Sundarbans on the birds of prey or raptors was observed by Sarker and Sarker (1985). Subspecies of the raptors are distributed worldwide which are well known for their polytypic species (Josselyn and Andrew, 1959). Though, there was a maximum of seventeen types of raptors found but its number is few for demand.

Raptor collects food from semi-desert area, coastal region, hilly place, open land and evergreen forest. Snakes and lizards in semi-desert area, rats in open land, and fishes in coastal region and insects in evergreen forest are the sources of food for them. Most of the vertebrate pests are caught by these raptors. On the other hand, waste products like rotten flesh and blood are also eaten by them. These raptors sometimes catch the selected prey. It is a game called falconry. For this game, the raptors especially, falcons are trained to catch their prey.

MATERIALS AND METHODS

Timing schedule

Regular field visits were paid four days in a week and the working day was divided into two parts of which one is in the morning from 7.00 to 11.00 am and at noon, from 2.00 to 3.00 pm, and then in the evening from 4.00 to 7.00 pm and the areas were Saidpur, Rangpur, Rajshahi and Kushtia. The study period was from 2008 to 2009. For better observation of the birds, some manpower was involved. To identify nocturnal birds and study their movements, the workers always conducted their observation at night.

Observation techniques

Different habitats of Bangladesh mainly lake, coastal region, evergreen forest, open land, semi-desert area were selected and its regular activities were studied for taking more patience in the dense forest daily. Rajshahi District and University Campus, Saidpur Cantonment also included our selected area for observing birds.

Used equipments

In order to study the raptors of Bangladesh, several steps were taken to observe some specific birds for a long period time (winter to summer) by the help of following equipment:

1. Camera: Yashika Camera-2000, Pentax-K-1000 with a zoom lens.
2. Book: All the year round and during the breeding season their colorful or ornamental feathers were helped by some useful field guide books.
3. Binoculars: Birds were generally found with other groups of birds in a scattered way, so a pair of binoculars (8 × 50 m m) was used for their specific detection and availability.

Identifying techniques

Many photographs of the birds were snapped and collected during the working time, which were used for identification of their species and subspecies with consideration on their differences of body color or other characteristics. The collected data from the field were completed in the Rajshahi University zoology museum and seminar library for its classification. 10 volumes from the study of Ali and Ripley (1978 to 1999), Ali (2003), Baker (1922 to 1930) and Husain and Sarker (1971, 1973) have been consulted for proper identification of the birds. Some birds were trapped in order to specify their characteristics with keen observation. Moreover, sexual dimorphism and breeding season were important for species and subspecies identification. Since their feed was mainly fishes and flesh, sometimes, fish or flesh was served to catch them; after studying the caught birds, they were released into the environment.

Characteristics of observed birds

The birds were characterized based on the following qualities:

1. Color pattern: This is common and is a number one criterion for their identification.
2. Size and shape: This helped in their similar varieties.
3. Pattern of flight: In the case of the raptors, the flight pattern was a major event.
4. Feet: Types of feet with claws, toes and toed feathers were important.
5. Beak: Piercing and tearing type of beaks helped in differentiating of same type of species.
6. Habitat: For subspecies, identification of the habitat is a must for birds. In order to observe the distribution and abundance of the raptors in Bangladesh, several areas were considered. The number of these birds is affected by the environmental conditions such as climate, rainfall, and moisture, all played a positive role for this scientific research. The surface of the soil if soft and fertile, whereas it is harder is less suitable for tree growth in the West of Bangladesh and that is why the birds are decreasing on a daily basis (Choudhury, 1968) and the pH of the soil is in average 8.0 (Christensen, 1984). Storms are common in May and October to November, which causes the cyclones, usually accompanied by tidal waves of up to 7.5 m high (Seidensticker and Hai, 1983) so the birds are decreasing. With the formation of the island and silt and soil carries some freshwater which is responsible for shifted of the wildlife and In India they have taken some initiatives for progressively kept open diurnal tidal flow (Seidensticker and Hai, 1983). The idea of the geographical area of Bangladesh was understood by the help of meteorological Department of Rajshahi University.
7. Voices: Sometimes the sound of the birds mainly during the breeding season was helpful for their identification and distribution.

RESULTS AND DISCUSSION

At the time of observation, the distribution and abundance or raptors in Bangladesh, as shown in Table 1, indicates that there are seventeen types of predator birds. These include eleven gena and sub species and a total of sixteen species. Due to lack of food and long tree availability, some of these birds were rare or few that is, vulture, griffon vulture, sea eagle and osprey etc. Though, some raptors like merlin, kestrel, kite, buzzard and vulture were found throughout Bangladesh but its breeding were not remarkable. The northern and southern areas of Bangladesh are a very suitable habitat for them due to the presence of hilly or coastal places,

Table 1. The following table shows the raptors of Bangladesh with their scientific and common names, abundance and distribution respectively.

Scientific name	English name	Abundance	Distribution
Family- Falconidae			
Falco c. chiquera, Daudin	Red-headed merlin	Throughout the area except forest	O
F. t. tinnunculus (Linnaeus)	Kestrel	Throughout the area	C
F. s. subbuteo, Linnaeus	Hobby	Wooded, cultivated and semi-desert area	R
F. s. centralasiae (Buturlin)	Central Asian Hobby	Wooded, cultivated and semi-desert area	R
Microhierax melanoleucos (Blyth)	White-legged falconet	South region, foothill, deciduous and evergreen forest	R
Family- Accipitridae			
Aviceda l. leuphotes (Dumont)	Black-creasted baza	Northern riverine place	O
Gyps bengalensis (Gmelin)	White-backed vulture	Throughout the area	R
G. indicus tenuirostris, G.R. Gray	Long-billed vulture	Northern area	C
G. fulvus fulvescens, Hume	Griffon vulture	Southern and semi-desert area	R
Milvus migrans govinda, Sykes	Periah kite	Throughout the area	C
Haliaster i. indus (Boddaert)	Brahminy kite	Throughout the area	C
Butaster teesa (Franklin)	White-eyed buzzard eagle	Throughout the area and avoid moist forest	O
Haliaeetus leucogaster (Gmelin)	White-bellied sea eagle	East west area, sea board, offshore island	R
Elanus caeruleus vociferus (Latham)	Black-shouldered kite	Laccadive island, Pabna, Dhaka	C
Haliaetus leucoryphus (Pallas)	Ring-tailed fishing eagle	South area, large river, tidal creeks, jheel, inland lake	R
Ichthyophaga i. ichthyaetus (Horsfield)	Grey-headed fishing eagle	East, sluggish, stream, river, lake, well watered and wooded area	O
Family- Pandionidae			
Pandion haliaetus (Linnaeus)	Osprey	Beside the lake	R

O = Occasional, C = common, R = rare.

though, some inhabit the eastern and western regions. This place can be designed for its sanctuary where *in-situ* or *ex-situ* conservation is implemented. Only Red-headed merlin (*Falco c. chiquera*) was observed throughout Bangladesh with an exception of the forest area. Black-shouldered kite (*Elanus caeruleus viciferus*) was also around the native but most of their abundance was observed in the district of Dhaka and Pabna because of huge garbage. On the other hand, the white-legged falconet was rare but was found in the deciduous forest.

Hilly areas of Bangladesh are normally mixed with deciduous, evergreen and semi-evergreen forest (Khan et al., 1998). Similar works are comparable with the study carried out by Asmat et al. (1985), Hari (1986), Husain et al. (1974, 1983), and Husain and Haque (1977). It was observed that seventeen types of birds five were common, four occasional and eight rare. As such, the maximum raptors were less in number. For deforestation, few long trees, use of insecticides, urbanization, water pollution and lack of public awareness destroy the breeding environment, which finally results to all of the birds going into extinction.

Conclusion

From the ongoing findings, the subspecies of the raptorial birds were remarkable though, the numbers were less. There were some minute differences among the birds for their subspecies level. Besides, the location or habitat of those birds was mentionable and it could be a good point for better study in the future. The comparable characteristics of these birds were similar as well as their flying pattern, distribution and abundance in some Northern and Southern part of Bangladesh that was studied.

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