

Avifaunal Diversity of Barandabhar Corridor Forest, Chitwan, Nepal

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ABSTRACT

*The main aim of the study was to analyze the avifaunal diversity of Chitwan, Nepal. The avifaunal diversity at six transects of Barandabhar Corridor Forest in Chitwan district was carried out during two visits (autumn and spring) in 2020-2021. The line transect method was used to cover most of the study area. In total, 125 species of birds representing 18 orders and 59 families were recorded. The highest number of bird species i.e. (56) 44.8% were represented by order Passeriformes along with 34 families. The highest number of species was found in family Picidae (9) 7.2% followed by Cuculidae (8) 6.4% and least number (1) 0.8% in other 31 families. The seasonal status of species was Autumn (84) and Spring (116). The relative abundance of species was Very Common (60), Common (40), Uncommon (16), and Rare (9). According to the National Red List of Nepal's Birds, 110 species were in the Least Concern category, eight species were in the Near Threatened category, six species were in the Vulnerable category and one species was in the Critically Endangered category. It was noted that major threats to the birds were illegal fishing, noise pollution, firewood collection, illegal cattle grazing, and invasive alien plant species. One Globally Threatened Bird Lesser Adjutant *Leptoptilos javanicus* was also noted.*

Keywords: Birds, Corridor Forest, Diversity, Family, Season

1. INTRODUCTION

There are around 10,000 live bird species on the planet (Mensing, 2011). Birds vary in their habitats, diversity, abundance, and distribution throughout the world (Singh, 2015). One of the most important ecological indicators for evaluating the quality of habitats is avifaunal diversity. Nowadays, avifaunal diversity has decreased due to the destruction of natural habitats and human disturbances (Sarkar et al., 2009). Forests attract a large number of avifauna because they provide suitable habitats for most birds, especially those birds that are associated with vegetation, and for most, the existing trees are a vital component of their life

cycle (Koli, 2014). Birds are extremely important ecologically because of their important roles as pollinators and seed dispersers (Bibi & Ali, 2013). Nepal's birdlife is one of the richest one in the world considering the country's small size; its biodiversity strength is well reflected with a high number of bird species. So far, 886 species have been recorded in Nepal (BCN & DNPWC, 2018) which are about 9% of the total bird species found worldwide. However, according to Bird Life International (2020), 43 species recorded in Nepal are listed in the IUCN Red List of globally threatened birds. Among these, nine (20.9%) species are Critically Endangered, eight (18.6%) Endangered, and 26 (60.4%) are listed as Vulnerable. A total of 168 species of birds of Nepal has been identified as Nationally Threatened that included 68 (40%) Critically Endangered species, 38 (23%) Endangered species, and 62 (37%) Vulnerable species (Inskipp et al., 2017)). Forests and scrubland hold the highest proportion of 77% of the country's breeding birds (Baral & Inskipp, 2004). These habitats are especially important for Nepal's restricted-range species.

Nepal's only endemic bird is the *Acanthoptila nipalensis* (Spiny Babbler) (Inskipp et al., 2016). As per the National Parks and Wildlife Conservation (NPWC) Act 1973; nine species of birds; Himalayan *Lophophorus impejanus* (Monal), *Catreus wallichii* (Cheer Pheasant), *Tragopan satyra* (Satyr Tragopan), *Houbaropsis bengalensis* (Bengal Florican), *Sypheotides indicus* (Lesser Florican), *Buceros bicornis* (Great Hornbill), *Grus Antigone* (Sarus Crane), *Ciconia nigra* (Black Stork) and *Ciconia ciconia* (White Stork) are protected birds of Nepal (DNPWC 1973). The avifauna of Barandabhar forest has been studied in past by few workers (Dahal, 2002; Baral & Inskipp, 2005) and Barandabhar Corridor Forest (Adhikari et al., 2018). Sharma (2004) studied the diversity of threatened birds and recorded 12 nationally threatened species of birds including two critically endangered birds in Barandabhar Corridor Forest. Ghimire (2009) studied the birds of the Barandabhar forest and recorded 123 species from the Barandabhar forest and wetlands.

1.1 RESEARCH GAP

The avifauna of Barandabhar forest has been studied in past by few workers (Dahal 2002; Baral & Inskipp, 2005) and Barandabhar Corridor Forest (Adhikari et al., 2018). Sharma (2004) found the diversity of threatened birds and recorded 12 nationally threatened species of birds including two critically endangered birds in Barandabhar Corridor Forest. Ghimire (2009) studied the birds of the Barandabhar forest and recorded 123 species from the Barandabhar forest and wetlands. Despite these works, some areas of the Barandabhar forest were unattended; therefore, the present study was undertaken and it aims to give further information about diversity, relative abundance, habitat, and seasonal status of birds.

2. MATERIALS AND METHODS

2.1 Study Area

The Barandabhar forest is located between 84°22'30" E and 84°33'0" E longitude, and 27°34'7" N and 27°43'30" N latitude in the Terai region in Chitwan district of Narayani zone. It covers an area of 12300 hector with an altitude range of 150-400m (Ghimire, 2009). It ranges from 1.8-7 Km in width and stretches from Chitwan National Park in the south to the Mahabharat range in the north. The forest south of the Mahendra Highway lies in the park's buffer zone. This is an extremely important forest corridor, providing a migratory passage

route for birds and other wildlife (Dahal, 2002). The forest area includes *Shorea robusta* forest, riverine forest (*Trewia nudiflora*, *Bombax ceiba*, *Mallotus philippensis*, *Dalbergia sissoo*, *Acacia catechu*), mixed forest, shrubs, and wetlands (streams, lakes, canals and water holes) (Adhikari et al., 2000; Dahal., 2003). Beeshazari Lake; a Ramsar site that lies within the forest corridor is an important wetland for birds and other wildlife (Adhikari et al., 2019). The Barandabhar forest Important Bird Area (IBA) is important for the globally threatened species like *Leptoptilos javanicus* (Lesser Adjutant), *Haliaeetus leucoryphus* (Pallas's Fish Eagle), *Aquila hastate* (Indian Spotted Eagle), *Aquila clanga* (Greater Spotted Eagle), *Buceros bicornis* (Great Hornbill), and near-threatened *Aythya nyroca* (Ferruginous Pochard), *Ichthyophaga ichthyaetus* (Grey-headed Fish Eagle), *Ichthyophaga humilis* (Lesser Fish Eagle), *Mycteria leucocephala* (Painted Stork), *Ephippiorhynchus asiaticus* (Black-necked Stork) and *Anhinga melanogaster* (Darter) (Baral & Inskipp, 2005). The major mammals found in the Barandabhar forest are *Rhinoceros unicornis* (Indian Rhinoceros), *Elephas maximus* (Asian Elephant), *Axis axis* (Chital), *Panthera tigris* (Tiger), etc. The forest area suffers from encroachment for collection of firewood, fodder, and other forest products, livestock grazing, tree felling by local people, illegal timber removal on a larger scale, and forest clearance near villages (Adhikari et al., 2000). The Barandabhar forest has a range of climate season's winter, spring, and monsoon with a subtropical climate. The monsoon begins at the end of May and continues until September and the mean annual rainfall was 192 mm and highest in July (604.8 mm), lowest in January (0.9 mm), and no rainfall in December (Department of Hydrology & Meteorology, overnment of Nepal, 2020).

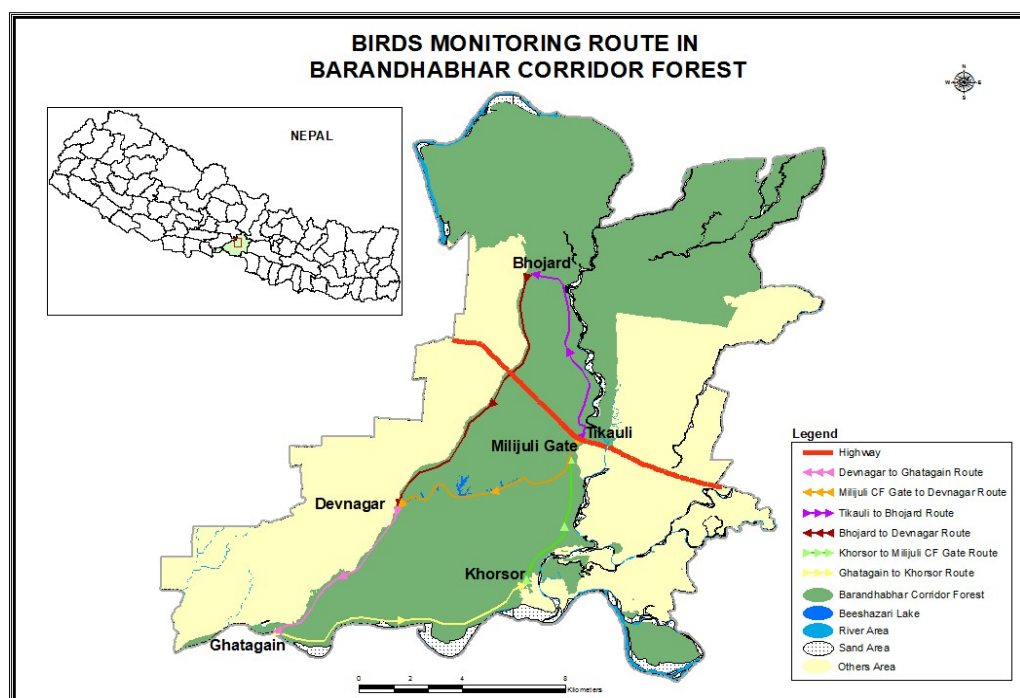


Fig. 1. Location Map of Study Area

2.2 METHODOLOGY

Bird survey was carried out at Barandabhar Corridor Forest in October 2020 and May 2021 covering two different seasons (autumn and spring). The line transect sampling method was used to evaluate the bird diversity and their habitat association. Line transects methods with an ingrained tendency to have lower bias and higher precision are useful for the detection of birds that occur at low densities (Buckland 2006; Gale et al., 2009). A total of six-line transects (Fig. 1) were laid down to cover major habitat types and bird hot spot areas of the study area as well. The birding routes cover different habitats i.e. wetland, Sal- forest, riverine forest, grassland, forest edge, and residential area. Six transects were divided according to the permanent transect made by the Government of Nepal which included: (1) Tikauli gate to Bhozad along the Khageri river (2) Bhozad to Devnagar Range post (3) Devnagar Range Post to Ghatghain (4) Ghatghain to Khorsor (Elephant center) (5) Khorsor to Tikauli (Millijuli CF gate) (6) Tikauli Gate to Devnagar range post along with Beeshazari Lake. The survey was conducted on the designated birding route on foot to record the birds on the left (approximately 20-30 m) or right side (approximately 20-30 m) of the transect line. Minimum 2-3 days were given to each transect during each visit. The observations were made in the morning (7:00-10:00 AM) and evening (15:00-18:00 PM) at the local time under sufficient sunlight, since the peak activity of most birds lasts for one or two hours after sunrise and before the sunset. Once a survey was commenced, not recorded birds were left behind or beyond the transect line. As bright colors easily scare birds, such dresses were not worn. In addition, mist net was avoided during the survey. The relative abundance of bird species was estimated based on the frequency of sightings and the number of birds seen. The seasonal status of bird species was evaluated based on the presence or absence of birds during two different seasons. The IUCN Red List of Threatened Species and the National Red List of Nepal's Birds were also used to compare the national status with the global status. The birds were observed visually by Opticron Verano 8×42, RSPB 8×42 waterproof binoculars, and photographs were taken with a Canon Power Shot 5×40 HS. In addition, field guides Birds of the Indian Subcontinent 2011 by Grimmett, Inskipp and Inskipp, and Birds of Nepal (Grimmett et al. 2016) were used as field guides to identify the birds in field. Finally, a bird list was compiled by a careful recording of all birds observed.

3. RESULTS AND DISCUSSION

3.1 Status of bird species

A total of 125 species of birds belonging to 18 orders and 59 families were recorded from two different seasons (Table 1). The total number of species found in 18 orders were (Table 1; Fig.2): Galliformes (2) 1.6%, Anseriformes (1) 0.8%, Piciformes (10) 8%, Bucerotiformes (2) 1.6%, Coraciiformes (8) 6.4%, Cuculiformes (8) 6.4%, Psittaciformes (4) 3.2%, Caprimulgiformes (1) 0.8%, Strigiformes (2) 1.6%, Columbiformes (5) 4%, Gruiformes (1) 0.8%, Charadriiformes (7) 5.6%, Accipitriformes (6) 4.8%, Falconiformes (1) 0.8%, Suliformes (1) 0.8%, Pelecaniformes (6) 4.8%, Ciconiiformes (4) 3.2%, and Passeriformes (56) 44.8%.

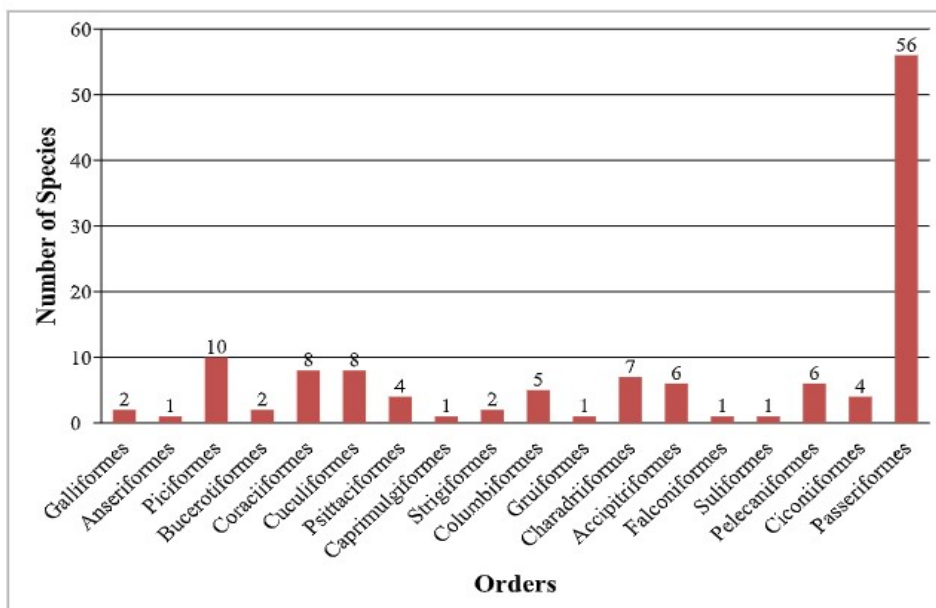


Fig. 2. Order-wise distribution of bird species in Barandabhar forest

The highest number of species was found in family Picidae (9) 7.2% followed by Cuculidae (8) 6.4% and least number (1) 0.8% in other 31 families (Table 1). The highest number of species was found in order Passeriformes (56) 44.8% followed by order Piciformes (10) 8% and least number (1) in other 5 orders. 84 species of birds were recorded in autumn and 116 in the spring season.

Seasonal fluctuation of the species

The seasonal status of species was Autumn (84) and Spring (116)(Table 1; Fig.3). The spring season was found more favourable for bird diversity than autumn.

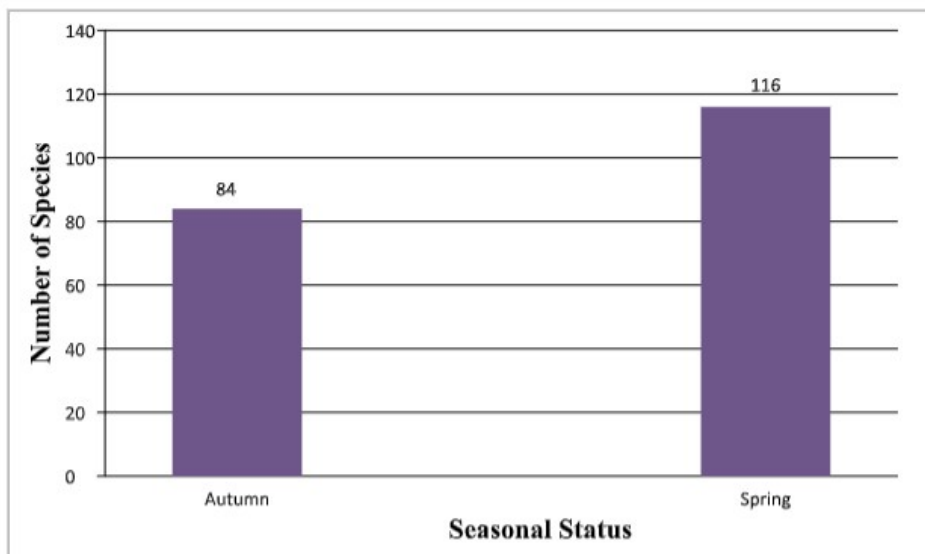
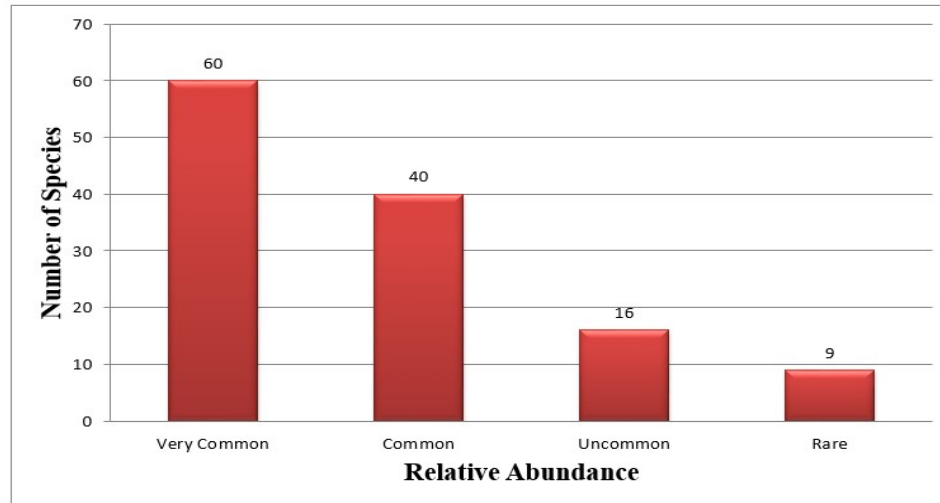


Fig. 3. Seasonal Status of bird species in Barandabhar forest

Relative abundance of the bird species

The relative abundance of species (Fig. 4) was Very Common (60), Common (40), Uncommon (16), and Rare (9). Thus, the highest number of species was found in very common followed by common, uncommon, and



rare.

Fig. 4. Relative abundance of bird species in Barandabhar forest

National Trust for Nature Conservation (NTNC) formerly known as KMTNC (2005) recorded 303 bird species in the Barandabhar forest, which belonged to 15 orders and 54 families. Bird Education Society (1999) recorded 269 bird species in the Barandabhar forest. Similarly, Dahal (2002) has recorded 228 bird species from the same area. Likewise, Baral and Inskipp (2005) reported 282 species of birds from the Barandabhar forest and Beeshazari Lake. The number of bird species in my study seems low when compared to the data recorded by earlier authors. This could be a limitation of this study covering only two seasons (autumn and spring) where birds not to be recorded are left behind or are beyond the transect line.

Habitat wise distribution of bird species

The bird population also showed a great fluctuation within the habitat type. Major eight habitat types were found on the line transect laid down in the Barandabhar forest. Most of the species (46.48%) were recorded from Sal-forest followed by open grassland (22.81%), Sal-forest/grassland forest (13.21%), Sal mixed forest (8.70%), wetland (2.88%), mixed riverine forest (2.47%), grassland associated with few Sal trees (2.02%) and mixed forest (1.39%).

Leptoptilos javanicus (Lesser Adjutant) preferred marshy areas in open grassland. *Anhinga melanogaster* (Oriental Darter) was only seen in Beeshazari Lake resting on the dead wooden log but forest, shrubland, and grassland birds were abundant in all types of habitats. *Metopidius indicus* (Bronze-winged Jacana) was the permanent resident bird for Beeshazari Lake. Similarly, *Pseudibis papillosa* (Black Ibis) was recorded only in the wetlands. The population of *Spilopelia chinensis* (Spotted Dove) was remarkable in the Barandabhar corridor forest and it was highly dominant in the Sal-forest. Rhino Lake, in the Barandabhar forest, was adorned with *Pseudibis papillosa* (Black Ibis) and *Ardeola grayii* (Indian Pond Heron). (Indian Peafowl), *Turdoides striates* (Jungle Babbler), and *Dicrurus macrocercus* (Black

Drongo) were recorded in almost every habitat type. *Hieraaetus pennatus* (Booted Eagle) and *Nisaetus cirrhatus* (Changeable Hawk Eagle) were the least recorded found in *Shorea robusta* (Sal) and grassland habitat. In the *Shorea robusta* (Sal) near Tikauli, 18 nests of *Anastomus oscitans* (Asian Openbill) were seen. That location was the new breeding site for the Asian Openbill. Eight species of Woodpeckers were recorded occupying mostly Sal-forest, grassland, and Sal mix forest. They included *Dendrocopos canicapillus* (Grey-capped Pygmy Woodpecker), *Dendrocopos macei* (Fulvous-breasted Woodpecker), *Picus chlorolophus* (Lesser Yellownape), *Picus xanthopygaeus* (Streak-throated Woodpecker), *Picus canus* (Grey-faced Woodpecker), *Dinopium shorri* (Himalayan Flameback), *Dinopium benghalense* (Black-rumped Flameback), and *Chrysocolaptes lucidus* (Greater Flameback). Woodpeckers are known to be good indicators of forest biodiversity (Ghimire 2009). Similarly, four species of Parakeet such as *Psittacula eupatria* (Alexandrine Parakeet), *Psittacula krameri* (Rose-ringed Parakeet), (Plum-headed Parakeet), and *Psittacula alexandri* (Red-breasted Parakeet) were noticed utilizing mostly Sal-forest. Their population was remarkably high in spring.

Major threats to the bird species

According to the IUCN Red List of Threatened Species, five species were placed as Near Threatened, one species as Vulnerable, and all remaining (119 species) are placed as Least Concern category. Similarly, following the National Red List of Nepal' Birds and IUCN Regional Red List Categories and Criteria, the total number of 110 species out of 125 species are enlisted as Least Concern, eight species were classified under Near Threatened, six species were placed in the Vulnerable category and one species was placed in the Critically Endangered category (Table 1). One Globally Threatened Bird recorded was *Leptoptilos javanicus* (Lesser Adjutant).

This study also revealed that fishing, habitat disturbance, and noise pollution by vehicles inside the Barandabhar forest are responsible factors for the disturbances of birds. Due to fishing, fish-dependent birds such as Kingfisher species, *Anhinga melanogaster* (Oriental Darter), and *Ichthyophaga ichthyaetus* (Grey-headed Fish Eagle) were immensely affected (Ghimire, 2009). Because of the over-growing of alien plant species such as *Eichhornia crassipes* (Water Hyacinth) and *Leersia hexandra* (American Cutgrass) the water birds like *Fulica atra* (Common Coot) were not seen. Beeshazari Lake is in a jeopardized condition due to angler, crocodile hunters, firewood collectors, and edible vegetation collector eg. *Dryopteris sp.* (Nigro), *Bauhinia variegata* (Koiralo), and *Asparagus sp.* (Kurilo).

4. CONCLUSION

This study revealed that the Barandabhar Corridor Forest supports a large number of bird species. Some of the species of birds were enlisted as Least Concern, eight species were classified under Near Threatened, six species were placed in the Vulnerable category and one species was placed in the Critically Endangered category. The study also revealed that fishing, habitat disturbance, and noise pollution by vehicles inside the Barandabhar forest are responsible for the disturbances of birds. According to the migratory pattern of birds, Beeshazari Lake need to be regains its pristine state. The diversity of fruiting plants for

example *Bombaxceiba* (Simal), *Syzygium cumini* (Jamun), *Zizyphus jujube* (Bayer) should be properly maintained. Awareness programs about the conservation of birds should be conducted. In the future, with the improvement in habitat and food availability of Barandabhar Corridor Forest, there will not only be an increment in the number of native birds but it will also attract more migratory birds.



Fig. 5. The collection of photographs observed on study sites

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Appendix-I

Table 1: Checklist of Birds of Barandabhar Forest

S.N.	Checklist of Birds					
	Order/Family/Common Name/Scientific Name	Season		Local Status	Global Status	Rel. Abu
		Autumn	Spring			
	GALLIFORMES					
	Phasianidae					
1	Black Francolin <i>Francolinus francolinus</i> (Linnaeus, 1766)		×	LC	LC	C
2	Indian Peafowl <i>Pavocristatus</i> Linnaeus, 1758	×	×	NT	LC	VC
	ANSERIFORMES					
	Anatidae					
3	Lesser Whistling-duck <i>Dendrocygnajavanica</i> (Horsfield, 1821)		×	LC	LC	C
	PICIFORMES					
	Picidae					
4	Rufous Woodpecker <i>Micropternusbrachyurus</i> (Vieillot, 1818)	×	×	LC	LC	VC
5	Fulvous-breasted Woodpecker <i>Dendrocoposmacei</i> (Vieillot, 1818)	×	×	LC	LC	VC
6	Lesser Yellownape <i>Picuschlorolophus</i> Vieillot, 1818		×	LC	LC	C
7	Greater Yellownape <i>Chrysophlegmaflavinucha</i> (Gould, 1834)		×	LC	LC	UC
8	Streak-throated Woodpecker <i>Picusxanthopygaeus</i> (Gray & Gray, 1846)	×	×	LC	LC	C
9	Grey-faced Woodpecker <i>Picuscanus</i> Gmelin, 1788	×	×	LC	LC	VC
10	Himalayan Flameback <i>Dinopiumshorii</i> (Vigors, 1832)	×	×	LC	LC	VC
11	Greater Flameback <i>Chrysocolapteslucidus</i> (Scopoli, 1786)	×	×	LC	LC	C
12	Black-rumpedFlameback <i>Dinopiumbenghalense</i> (Linnaeus, 1758)	×	×	LC	LC	VC
	Megalaimidae					
13	Lineated Barbet <i>Psilopogonlineatus</i> (Vieillot,	×	×	LC	LC	VC

		1816)					
	BUCEROTIFORMES						
	Bucerotidae						
14	Oriental Pied Hornbill	<i>Anthracoscerosalbirostris</i> (Shaw &Nodder, 1807)		×	NT	LC	C
	Upupidae						
15	Common Hoopoe	<i>Upupaepops</i> Linnaeus, 1758	×	×	LC	LC	C
	CORACIIFORMES						
	Coraciidae						
16	Oriental Dollarbird	<i>Eurystomusorientalis</i> (Linnaeus, 1766)		×	LC	LC	C
17	Indian Roller	<i>Coraciasbenghalensis</i> (Linnaeus, 1758)	×	×	LC	LC	VC
	Alcedinidae						
18	Common Kingfisher	<i>Alcedoatthis</i> (Linnaeus, 1758)	×		LC	LC	VC
19	Stork-billed Kingfisher	<i>Pelargopsiscapensis</i> (Linnaeus, 1766)		×	LC	LC	VC
20	White-throated Kingfisher	<i>Halcyon gularis</i> (Kuhl, 1820)	×	×	LC	LC	VC
21	Pied Kingfisher	<i>Cerylerudis</i> (Linnaeus, 1758)		×	LC	LC	C
	Meropidae						
22	Chestnut-headed Bee-eater	<i>Meropsleschenaulti</i> Vieillot, 1817		×	LC	LC	VC
23	Green Bee-eater	<i>Meropsorientalis</i> Latham, 1802	×	×	LC	LC	C
	CUCULIFORMES						
	Cuculidae						
24	Indian Cuckoo	<i>Cuculusmicropterus</i> Gould, 1837	×	×	LC	LC	VC
25	Common Cuckoo	<i>Cuculuscanorus</i> Linnaeus, 1758	×	×	LC	LC	UC
26	Square-tailed Drongo-cuckoo	<i>Surniculushugubris</i> (Horsfield, 1821)	×	×	LC	LC	C
27	Common Hawk Cuckoo	<i>Hierococcyxvarius</i> (Vahl, 1797)	×	×	LC	LC	VC
28	Asian Koel	<i>Eudynamysscolopaceus</i> (Linnaeus, 1758)		×	LC	LC	VC
29	Green-billed Malkoha	<i>Phaenicophaeustristis</i> (Lesson, 1830)	×	×	LC	LC	C
30	Greater Coucal	<i>Centropussinensis</i> (Stephens, 1815)	×	×	LC	LC	VC
31	Lesser Coucal	<i>Centropusbengalensis</i> (Gmelin, 1788)		×	LC	LC	C
	PSITTACIFORMES						
	Psittacidae						
32	Alexandrine Parakeet	<i>Psittaculaeupatria</i> (Linnaeus, 1766)	×	×	NT	NT	VC
33	Slaty-headed Parakeet	<i>Himalayapsittahimalayana</i> (Lesson, 1832)	×	×	LC	LC	VC
34	Plum-headed Parakeet	<i>Psittaculacyanocephala</i> (Linnaeu	×	×	LC	LC	VC

		s, 1766)					
35	Red-breasted Parakeet	<i>Psittaculaalexandri</i> (Linnaeus, 1758)	×	×	VU	NT	C
	CAPRIMULGIFORMES						
	Apodidae						
36	Silver-backed Needletail	<i>Hirundapuscochinchinensis</i> (Oustalet, 1878)		×	LC	LC	R
	STRIGIFORMES						
	Strigidae						
37	Jungle Owlet	<i>Glaucidiumradiatum</i> (Tickell, 1833)		×	LC	LC	VC
38	Asian Barred Owlet	<i>Glaucidiumcuculoides</i> (Vigors, 1831)		×	LC	LC	R
	COLUMBIFORMES						
	Columbidae						
39	Yellow-footed Green-pigeon	<i>Treronphoenicopterus</i> (Latham, 1790)		×	LC	LC	VC
40	Spotted Dove	<i>Spilopeliachinensis</i> (Scopoli, 1786)	×	×	LC	LC	VC
41	Eurasian Collared-dove	<i>Streptopeliadecaocto</i> Frivaldszky, 1838	×	×	LC	LC	VC
42	Emerald Dove	<i>Chalcophapsindica</i> (Linnaeus, 1758)	×	×	LC	LC	C
43	Red Collared Dove	<i>Streptopeliatranquebarica</i> (Hermann, 1804)	×	×	LC	LC	C
	GRUIFORMES						
	Rallidae						
44	White-breasted Waterhen	<i>Amaurornisphoenicurus</i> (Pennant, 1769)		×	LC	LC	VC
	CHARADRIIFORMES						
	Scolopacidae						
45	Common Greenshank	<i>Tringanebularia</i> (Gunnerus, 1767)	×	×	LC	LC	VC
46	Green Sandpiper	<i>Tringaochropus</i> Linnaeus, 1758	×	×	LC	LC	VC
47	Common Sandpiper	<i>Actitishypoleucos</i> Linnaeus, 1758	×	×	LC	LC	VC
	Jacanidae						
48	Bronze-winged Jacana	<i>Metopidiusindicus</i> (Latham, 1790)	×	×	LC	LC	C
	Burhinidae						
49	Eurasian Thick-knee	<i>Burhinusoedicnemus</i> (Linnaeus, 1758)		×	LC	LC	UC
	Charadriidae						
50	Little Ringed Plover	<i>Charadriusdubius</i> Scopoli, 1786		×	LC	LC	VC
51	Red-wattled Lapwing	<i>Vanellusindicus</i> (Boddaert, 1783)	×	×	LC	LC	VC

	ACCIPITRIFORMES						
	Pandionidae						
52	Osprey	<i>Pandionhaliaetus</i> (Linnaeus, 1758)		×	LC	LC	C
	Accipitridae						
53	Black Baza	<i>Avicedaleuphotes</i> (Dumont, 1820)	×	×	NT	LC	UC
54	Grey-headed Eagle	Fish <i>Ichthyophagaichthyaetus</i> (Horsfield, 1821)	×		CR	NT	UC
55	Changeable Eagle	Hawk <i>Nisaetuscirrhatus</i> (Gmelin, 1788)	×	×	LC	LC	UC
56	Shikra	<i>Accipiter badius</i> (Gmelin, 1788)	×	×	LC	LC	C
57	Booted Eagle	<i>Hieraetus pennatus</i> (Gmelin, 1788)	×		LC	LC	R
	FALCONIFORMES						
	Falconidae						
58	Collared Falconet	<i>Microhieraxcaerulescens</i> (Linnaeus, 1758)	×		NT	LC	UC
	SULIFORMES						
	Anhingidae						
59	Oriental Darter	<i>Anhinga melanogaster</i> Pennant, 1769		×	NT	NT	C
	PELECANIFORMES						
	Ardeidae						
60	Little Egret	<i>Egretta garzetta</i> (Linnaeus, 1766)	×	×	LC	LC	VC
61	Indian Pond Heron	<i>Ardeolagravii</i> (Sykes, 1832)	×	×	LC	LC	VC
62	Great White Egret	<i>Ardea alba</i> Linnaeus, 1758	×	×	LC	LC	C
63	Intermediate Egret	<i>Ardeaintermedia</i> Wagler, 1829	×	×	LC	LC	C
64	Cattle Egret	<i>Bubulcus ibis</i> (Linnaeus, 1758)	×		LC	LC	VC
	Threskiornithidae						
65	Red-naped Ibis	<i>Pseudibispapillosa</i> (Temminck, 1824)	×	×	LC	LC	C
	CICONIIFORMES						
	Ciconiidae						
66	Asian Openbill	<i>Anastomusoscitans</i> (Boddaert, 1783)	×	×	VU	LC	C
67	Asian Woollyneck	<i>Ciconiaepiscopus</i> (Boddaert, 1783)		×	NT	NT	C
68	Lesser Adjutant	<i>Leptoptilosjavanicus</i> (Horsfield, 1821)	×	×	VU	VU	C
69	Black Stork	<i>Ciconianigra</i> (Linnaeus, 1758)	×	×	VU	LC	C
	PASSERIFORMES						
	Pittidae						
70	Hooded Pitta	<i>Pitta sordida</i> (Müller, 1776)		×	VU	LC	C
71	Indian Pitta	<i>Pitta brachyura</i> (Linnaeus,		×	LC	LC	C

		1766)					
	Chloropseidae						
72	Golden-fronted Leaf bird	<i>Chloropsisaurifrons</i> (Temminck, 1829)		×	LC	LC	C
	Laniidae						
73	Long-tailed Shrike	<i>Laniusschach</i> Linnaeus, 1758	×	×	LC	LC	R
74	Grey-backed Shrike	<i>Laniustephronotus</i> (Vigors, 1831)	×	×	LC	LC	R
	Corvidae						
75	Red-billed Blue Magpie	<i>Urocissaerythroryncha</i> (Boddaert, 1783)	×	×	LC	LC	C
76	Rufous Treepie	<i>Dendrocittavagabunda</i> (Latham, 1790)	×	×	LC	LC	VC
77	House Crow	<i>Corvussplendens</i> Vieillot, 1817	×	×	LC	LC	UC
78	Large-billed Crow	<i>Corvusmacrorhynchos</i> Wagler, 1827	×	×	LC	LC	VC
	Artamidae						
79	Ashy Woodswallow	<i>Artamusfuscus</i> Wagler, 1827	×	×	LC	LC	C
	Oriolidae						
80	Eurasian Golden Oriole	<i>Oriolusoriolus</i> (Linnaeus, 1758)	×	×	LC	LC	VC
81	Black-hooded Oriole	<i>Oriolusxanthornus</i> (Linnaeus, 1758)	×		LC	LC	VC
	Campephagidae						
82	Scarlet Minivet	<i>Pericrocotusflammeus</i> (Forster, 1781)	×	×	LC	LC	VC
83	Large Cuckooshrike	<i>Coracinajavensis</i> (Horsfield, 1821)	×	×	LC	LC	VC
	Rhipiduridae						
84	White-throated Fantail	<i>Rhipiduraalbicollis</i> (Vieillot, 1818)	×	×	LC	LC	C
	Dicruridae						
85	Black Drongo	<i>Dicrurusmacrocerus</i> Vieillot, 1817	×	×	LC	LC	VC
86	Spangled Drongo	<i>Dicrurusbracteatus</i> (Gould, 1842)	×	×	LC	LC	VC
87	Crow-billed Drongo	<i>Dicrurusannectens</i> (Hodgson, 1836)		×	LC	LC	R
	Aegithinidae						
88	Common Iora	<i>Aegithinatiphia</i> (Linnaeus, 1758)	×	×	LC	LC	VC
	Vangidae						
89	Common Woodshrike	<i>Tephrodornispondicerianus</i> (Gmelin, 1789)	×	×	LC	LC	C
	Monarchidae						
90	Indian Paradise-flycatcher	<i>Terpsiphonoparadisi</i> (Linnaeus, 1758)		×	LC	LC	VC
	Muscicapidae						
91	Pale-chinned Flycatcher	<i>Cyornispoliogenys</i> Brooks, 1879	×	×	LC	LC	VC

92	Oriental Magpie-robin	<i>Copsychussaularis</i> (Linnaeus, 1758)	×	×	LC	LC	VC
93	White-rumpedShama	<i>Kittacinclamalabarica</i> (Scopoli, 1788)		×	LC	LC	VC
	Stenostiridae						
94	Grey-headed Canary-flycatcher	<i>Culicicapaceylonensis</i> (Swainson, 1820)	×		LC	LC	C
	Sturnidae						
95	Chestnut-tailed Starling	<i>Sturniamalabarica</i> (Gmelin, 1789)		×	LC	LC	VC
96	Asian Pied Starling	<i>Gracupica contra</i> (Linnaeus, 1758)	×	×	LC	LC	C
97	Common Myna	<i>Acridotherestrictis</i> (Linnaeus, 1766)	×	×	LC	LC	UC
98	Jungle Myna	<i>Acridotheresfuscus</i> (Wagler, 1827)	×	×	LC	LC	VC
	Sittidae						
99	Chestnut-bellied Nuthatch	<i>Sittacinnamoventris</i> Blyth, 1842	×	×	LC	LC	VC
100	Velvet-fronted Nuthatch	<i>Sittafrontalis</i> Swainson, 1820			LC	LC	VC
	Paridae						
101	Great Tit	<i>Parus major</i> Linnaeus, 1758	×	×	LC	LC	VC
	Hirundinidae						
102	African Plain Martin	<i>Ripariapaludicola</i> (Vieillot, 1817)	×	×	LC	LC	VC
103	Barn Swallow	<i>Hirundorustica</i> Linnaeus, 1758	×	×	LC	LC	C
104	Red-rumped Swallow	<i>Cecropisdaurica</i> Linnaeus, 1771	×	×	LC	LC	UC
	Pycononotidae						
105	Red-whiskered Bulbul	<i>Pycnonotusjocosus</i> (Linnaeus, 1758)	×	×	LC	LC	VC
106	Red-vented Bulbul	<i>Pycnonotuscafer</i> (Linnaeus, 1766)	×	×	LC	LC	VC
	Cisticolidae						
107	ZittingCisticola	<i>Cisticolajuncidis</i> (Rafinesque, 1810)		×	LC	LC	VC
108	Common Tailorbird	<i>Orthotomussutorius</i> (Pennant, 1769)		×	LC	LC	VC
	Locustellidae						
109	Spotted Grasshopper-warbler	<i>Locustellathoracica</i> (Blyth, 1845)		×	LC	LC	R
	Acrocephalidae						
110	Thick-billed Warbler	<i>Arundinaxaedon</i> (Pallas, 1776)		×	LC	LC	R
	Phylloscopidae						
111	Greenish Warbler	<i>Phylloscopustrochiloides</i> (Sundevall, 1837)		×	LC	LC	VC
	Leiotrichidae						

112	Common Babbler	<i>Argyacaudata</i> (Dumont, 1823)			VU	LC	C
113	Spiny Babbler	<i>Acanthoptilanipalensis</i> (Hodgson, 1836)		×	LC	LC	UC
	Pellorneidae						
114	Puff-throated Babbler	<i>Pellorneumruficeps</i> Swainson, 1832		×	LC	LC	VC
	Pnoepyidae						
115	Pygmy Wren Babbler	<i>Pnoepygapusilla</i> Hodgson, 1845	×	×	LC	LC	R
	Timaliidae						
116	Pin Striped Tit-babbler	<i>Mixornisgularis</i> (Horsfield, 1822)	×	×	LC	LC	VC
	Leiotrichidae						
117	Jungle Babbler	<i>Turdoidesstriata</i> (Dumont, 1823)		×	LC	LC	VC
	Phylloscopidae						
118	Common Chiffchaff	<i>Phylloscopuscollybita</i> (Vieillot, 1817)		×	LC	LC	UC
	Turdidae						
119	Scaly Thrush	<i>Zootheradauma</i> (Latham, 1790)	×	×	LC	LC	UC
	Nectariniidae						
120	Crimson Sunbird	<i>Anthopygasiparaja</i> (Raffles, 1822)		×	LC	LC	UC
	Passeridae						
121	House Sparrow	<i>Passer domesticus</i> (Linnaeus, 1758)	×	×	LC	LC	UC
122	Chestnut-shouldered Bush-sparrow	<i>Gymnorisxanthocollis</i> (Burton, 1838)	×	×	LC	LC	UC
	Motacillidae						
123	Paddyfield Pipit	<i>Anthusrufulus</i> Vieillot, 1818		×	LC	LC	VC
124	White-browed Wagtail	<i>Motacillamaderaspatensis</i> Gmelin, 1789	×		LC	LC	C
	Ploceidae						
125	Baya Weaver	<i>Ploceusphilippinus</i> (Linnaeus, 1766)		×	NT	LC	C

Abbreviation:

NT-near threatened,
 LC-least concerned,
 VU-vulnerable,
 CR-critically endangered,
 VC-very common,
 C-common, UC-uncommon,
 R-rare