

Wildlife Diversity of Madhupur National Park, Bangladesh

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Abstract

The study was conducted to know the wildlife diversity of Madhupur National Park of Bangladesh from June 2014 to March 2015. A total of 151 species of wildlife (amphibians to mammals) belonging to 23 orders and 62 families were recorded which covers 16.41% of total wildlife species in our country. Among them 10 (7%) were amphibians, 15 (10%) reptiles, 111 (73%) birds and 15 (10%) mammals while 65 (43.05%) were very common, 41 (27.16%) common, 25 (16.55%) uncommon and 20 (13.24%) were rare. Among the 20 species of migratory birds, 15 (75%) were winter visitors and 5 (25%) summer visitors. The forests and other wildlife habitats in and around Madhupur National Park are decreasing rapidly due to illegal logging, land conversion for agriculture and human settlements.

Key words: Diversity, wildlife, amphibian, reptile, bird, mammal, Madhupur National Park.

INTRODUCTION

In Bangladesh the diversity at the species level is commonly referred, because the species level can be sampled easily. This study was conducted to sample the wildlife diversity of Madhupur National Park in central Bangladesh and to compare the status across the different groups. Literally wildlife means the life forms living in the wild i.e., the life forms living independently of humans. Official definition of wildlife differs from country to country, but typically focuses on wild vertebrates except fish, i.e. mammals, birds, reptiles and amphibians. As many as 31 species of wildlife have been identified as Regionally Extinct (RE) by IUCN-Bangladesh (IUCN, 2015). Among them 11 species were mammals (Striped Hyena, Grey Wolf, Swamp Deer, Sloth Deer, Blackbuck, Nilgai, Banteng, Wild Water Buffalo, Sumatran Rhinoceros, Javan Rhinoceros, and Indian Rhinoceros), 19 birds (Rufous-throated Partridge, Indian Peafowl, Green Peafowl, Grey Francolin, Swamp Francolin, White-winged Duck, Pink-headed Duck, Sarus Crane, Bengal Florican, Lesser Florican, Greater Adjutant, White-bellied Heron, Spot-billed Pelican, Red-headed Vulture, Rusty-fronted Barwing, Black-breasted Parrotbill, Spot-breasted Parrotbill, Rufous-headed Parrotbill, and Bar-tailed Treecreeper), and 1 reptile (Marsh Crocodile). Some relevant works have been done on the birds of Madhupur forest or Tangail district (Islam 1983, Khan & Islam 2000, Haque 1975, Khan & Ahsan 2011).

Study Area: Madhupur National Park is the largest deciduous forest of Bangladesh, located in the Madhupur Garh, comprises an area of 8436 ha (DoE, 2015 & IUCN, 2015). The Park is situated in the northeastern part of Tangail Forest Division along the

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boundary with Mymensingh district (it also extends slightly into the district) and 125 km away from Dhaka. It is located from 24°36' to 24°42' North latitudes and 90°00' to 90°06' East longitudes (Figure 1). The altitude of the park is about 20 m above the mean sea level (Khan & Ahsan, 2011). Madhupur National Park began as Madhupur Shal (*Shorea robusta*) Forest, but was finally declared as National Park on 24 February 1982 (Bangladesh Forest Department 2015), although justify for national park status began as early as 1962 (Bangladesh Forest Department 2015).

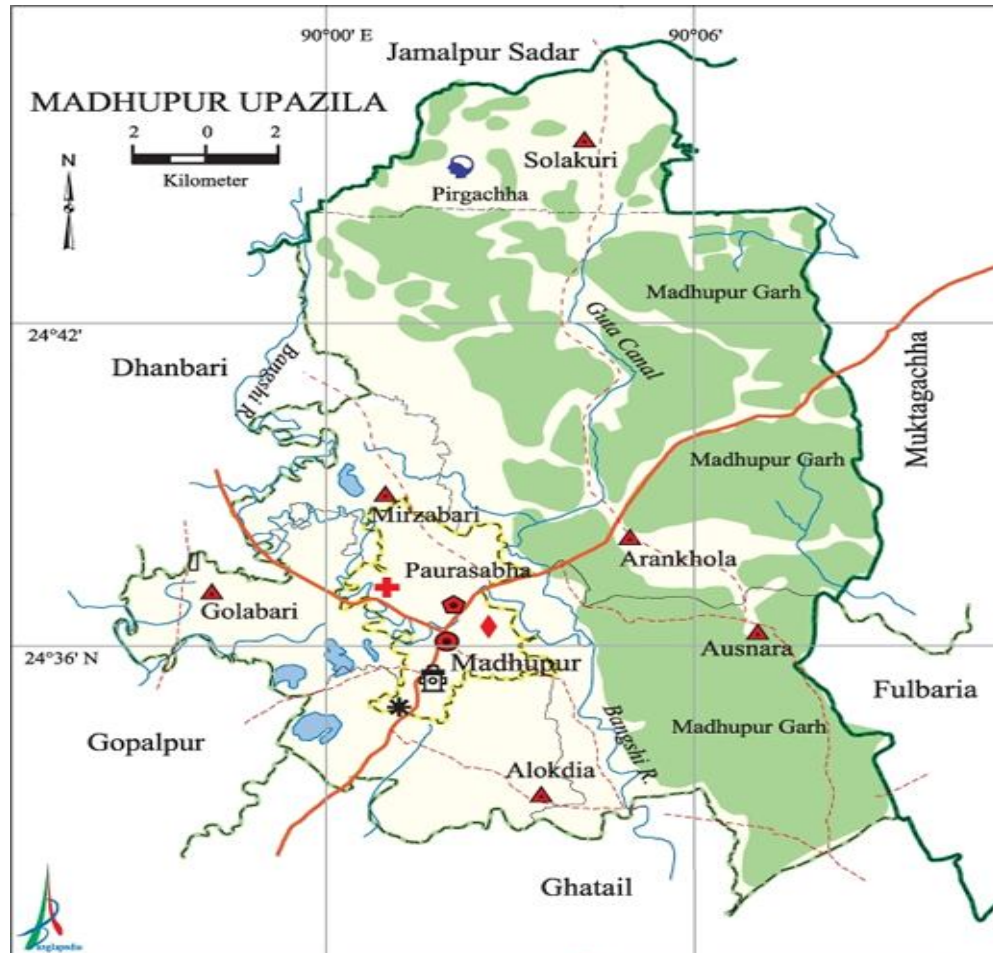


Fig. 1. Map of Madhupur Upazila showing the Madhupur National Park

MATERIALS AND METHODS

Study on wildlife diversity of Madhupur National Park was done from June 2014 to March 2015. The observation was made for four or five days per month. A total of 47 days (spending 510 hours) were spent to collect data. The observations started early in the

morning, immediate after sunrise and continued after sunset till 8.00 pm, with midday break. Wildlife species were identified by using Encyclopedia of Flora and Fauna Bangladesh, 2009, references books and publications (Grimmett 2011, Halder 2010, Hasan 2014, Khan 2008). The methods that were followed are plot counting, line transect sampling and interviews of local people.

Direct Observation: Materials and Methods used by the authors, Daniel (1963), Husain & Rahman (1978), Rahman (1985), Sarker & Sarker (1985), Khan (1998) were used in the direct field observation -

Line-transect Sampling: Data regarding the different species available in the study areas were recorded by line-transect sampling. Counting was conducted along the roads in the villages and cultivated lands.

Plot Counting: To observe the amphibian fauna, plot counting methods were used.

Calls and Songs: Some bird species which were normally not hut seen, but recorded by hearing songs and calls.

The observation and data collection methods used for different groups of wildlife are described below -

Amphibians: Plot counting method was applied for collecting data about amphibian species. Each of 300 m × 300 m of plots were selected in the study area and they were further divided into few mini transect lines.

Reptiles: For the lizards and snakes plot counting method and line-transect method as well as information through questionnaire were used. The questionnaire based information could only provide the presence and abundance of the species.

Birds: Only line-transect method was applied for collecting data on birds. The length and width of each transect line were 500 m and 30 m, respectively.

Mammals: For the information about the mammalian species line-transect method, plot counting method and information through questionnaire were used. Plot counting method was preferably applied for counting rats, mice, monkeys, shrews, and so on.

Four categories were used to express the status of different species (Khan, 2008): Very Common (VC) - a species seen during 76-100% of the visits; Common (C) - a species seen during 51-75% of the visits; Uncommon (UC) - a species seen during 26-50% of the visits; and Rare (R) - a species seen single or in small number of occasions, i.e. up to 25% of the visits when it is most active.

RESULTS AND DISCUSSION

Overall 151 species of wildlife (amphibians to mammals) belonging to 23 orders and 62 families were recorded in the Madhupur National Park (Table 1-4), which is (16.41%) of

the total wildlife 920 species (IUCN, 2015) in Bangladesh. Among these 10 (7%) were amphibians, 15 (10%) reptiles, 111 (73%) birds, and 15 (10%) mammals. Out of 151 species, 65 (43.05%) were very common, 25 (16.55%) uncommon, 20 (13.24%) rare and 41 (27.16%) common (Figure 2). Birds were relatively very common than others and are easily noticeable than other species of wildlife.

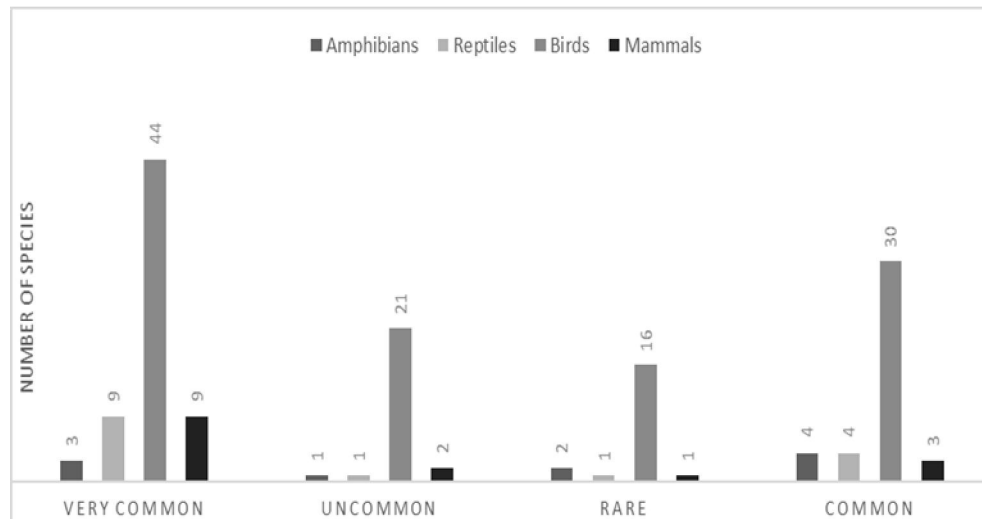


Fig. 2. Number of very common, uncommon, rare, and common species of amphibians, reptiles birds and mammals

Ninety six species of wildlife were recorded in the starting month (June 2014) of this study and 151 species at the end of (March 2015). The monthly cumulative frequency of total number of wildlife species (Figure 3) indicates near to saturation, though might be changed by long-term study.

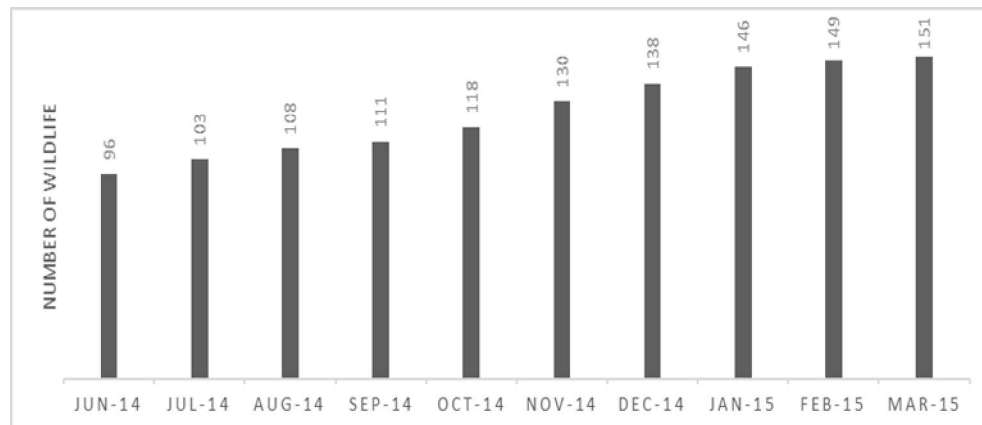


Fig. 3. Total number of wildlife species (cumulative) recorded in Madhupur National Park showing the saturation of recorded

Amphibians: Ten species of anuran amphibians under 5 families (Bufonidae, Dicroglossidae, Ranidae, Microhylidae and Rhacophoridae) were recorded (Table 1). The Madhupur National Park supports (20.4%) amphibians considering 49 species from Bangladesh (IUCN, 2015). Of the recorded species 1 (10%) was toad and 9 (90%) were frogs; among them 3 (30%) were very common, 4 (40%) common, 1 (10%) uncommon, 2 (20%) rare species.

Table 1. Amphibians observed in the Madhupur National Park during June 2014 to March 2015

Sl No.	Common name	Scientific name	Family	Status
Order: Anura				
01	Common Asian Toad	<i>Duttaphrynus melanostictus</i> (Schneider, 1799)	Bufonida	VC
02	Skipper Frog	<i>Euphlyctis cyanophlyctis</i> (Schneider, 1799)	Dicroglossidae	VC
03	Green Pond Frog	<i>Euphlyctis hexadactylus</i> (Lesson, 1834)	Dicroglossidae	R
04	Terai Cricket Frog	<i>Fejervarya teraiensis</i> (Dubois, 1984)	Dicroglossidae	C
05	Jerdon's Bull Frog	<i>Hoplobatrachus crassus</i> (Jerdon, 1853)	Dicroglossidae	R
06	Indian Bull Frog	<i>Hoplobatrachus tigerinus</i> (Daudin, 1803)	Dicroglossidae	VC
07	Cope's Frog	<i>Hylarana leptoglossa</i> (Cope, 1868)	Ranidae	C
08	Mymensingh Microhylid Frog	<i>Microhyla mymensinghensis</i> (Hasan, 2014)	Microhylidae	C
09	Indian Balloon Frog	<i>Uperodon globulosus</i> (Gunther, 1864)	Microhylidae	C
10	Indian Tree Frog	<i>Polypedates maculatus</i> (J.E.Gray, 1830)	Rhacophoridae	UC

[VC= very common, UC= uncommon, C= common, and R= rare]

Reptiles: Fifteen species of reptiles under 2 orders (Squamata and Serpentes) and 7 families (Agamidae, Varanidae, Elapidae, Typhlopidae, Scinidae, Colubridae, and Gekkonidae) were recorded (Table 2). The Madhupur National Park supports (8.98%) reptiles considering 168 species from Bangladesh (IUCN, 2015). Of the recorded species 1 (7%) was monitor, 5 (33%) were lizards, 3 (20%) skinks and 6 (40%) snakes; among them 9 (60%) were very common, 4 (26.66%) common, 1 (6.67%) uncommon, 1 (6.67%) rare species. Turtle is rare in the study area, no turtle was observed during the study period. Many reptiles, particularly snakes and lizards, play an important role in biological pest control by consuming insects and rodents that are harmful for crops.

Table 2. Reptiles observed in the Madhupur National Park during June 2014 to March 2015

Sl No.	Common name	Scientific name	Family	Status
Order: Squamata				
01	Common Garden Lizard	<i>Calotes versicolor</i> (Daudin, 1802)	Agamidae	VC
02	Tokay Gecko	<i>Gekko gekko</i> (Linnaeus, 1758)	Gekkonidae	C
03	Common House Gecko	<i>Hemidactylus frenatus</i> (Schlegel, 1836)	Gekkonidae	VC
04	Flat-tailed House Gecko	<i>Hemidactylus platyurus</i> (Schneider, 1792)	Gekkonidae	UC
05	Brook's House Gecko	<i>Hemidactylus brookii</i> (Gray, 1845)	Gekkonidae	R
06	Keeled Grass Skink	<i>Mabuya carinata</i> (Schneider, 1801)	Scincidae	VC
07	Bronze Grass Skink	<i>Mabuya macularia</i> (Blyth, 1853)	Scincidae	C
08	Bowring's Supple Skink	<i>Lygosoma bowringii</i> (Cogger, 1994)	Scincidae	C
09	Bengal Monitor	<i>Varanus bengalensis</i> (Daudin, 1802)	Varanidae	VC
Order: Serpentes				
10	Diard's Blind Snake	<i>Typhlops diardii</i> (Schlegel, 1839)	Typhlopidae	VC
11	Jerdon's Blind Snake	<i>Typhlops jerdoni</i> (Boulenger, 1890)	Typhlopidae	C
12	Common Vine Snake	<i>Ahaetulla nasuta</i> (Lacépède, 1789)	Colubridae	VC
13	Checkered Keelback	<i>Xenochrophis piscator</i> (Schneider, 1799)	Colubridae	VC
14	Common Smooth Water Snake	<i>Enhydris enhydris</i> (Schneider, 1799)	Colubridae	VC
15	Spectacled Cobra	<i>Naja naja</i> (Linnaeus, 1758)	Elapidae	VC

[VC= very common, UC= uncommon, C= common, and R= rare]

Birds: One hundred and eleven species of birds under 13 orders (Galliformes, Anseriformes, Piciformes, Upupiformes, Coraciformes, Cuculiformes, Psittaciformes, Apodiformes, Strigiformes, Columbiformes, Gruiformes, Ciconiiformes, and Passeriformes) and 38 families were recorded (Table 3). Among these 59 (53.15%) were non-passerines where 52 (46.85%) were passerines. The Madhupur National Park supports (19.61%) birds considering 566 species from Bangladesh (IUCN, 2015). Of the recorded species 94 (84.69%) were resident and 17 (15.31%) migratory birds. Among migratory birds, 13 (76.47%) were winter visitors and 4 (23.53%) summer visitors. The number of very common birds were 44 (39.64%), whereas 30 (27.03%) common, 21 (18.91%) uncommon, and 16 (14.42%) rare species.

Table 3. Birds observed in the Madhupur National Park during June 2014 to March 2015

Sl. No	Common name	Scientific name	Family	Status
Order: Galliformes				
01	Red Junglefowl	<i>Gallus gallus</i> (Linnaeus, 1758)	Phasianidae	C, L
Order: Anseriformes				
02	Fulvous Whistling-duck	<i>Dendrocygna bicolor</i> (Vieillot, 1816)	Dendrocygnidae	R, L
03	Northern Pintail	<i>Anas acuta</i> (Linnaeus, 1758)	Anatidae	R, Mw
04	Spot-billed Duck	<i>Anas poecilorhyncha</i> (Forster, 1781)	Anatidae	R, L
05	Cotton Pygmy-goose	<i>Nettapus coromandelianus</i> (Gmelin, 1789)	Anatidae	R, L
Order: Piciformes				
06	Rufous Woodpecker	<i>Celeus brachyurus</i> (Vieillot, 1818)	Picidae	VC, L
07	Greater Flameback	<i>Chrysocolaptes guttacristatus</i> (Tickell, 1833)	Picidae	C, L
08	Grey-capped Pygmy Woodpecker	<i>Dendrocopos canicapillus</i> (Blyth, 1845)	Picidae	VC, L
09	Fulvous-breasted Woodpecker	<i>Dendrocopos macei</i> (Vieillot, 1818)	Picidae	VC, L
10	Black-rumped Flamback	<i>Dinopium benghalense</i> (Linnaeus, 1758)	Picidae	C, L
11	Streak-throated Woodpecker	<i>Picus xanthopygaeus</i> (Gray & Gray, 1847)	Picidae	R, L
12	Blue-throated Barbet	<i>Psilopogon asiaticus</i> (Latham, 1790)	Megalaimidae	VC, L
13	Coppersmith Barbet	<i>Psilopogon haemacephalus</i> (Statius Muller, 1776)	Megalaimidae	VC, L
Order: Upupiformes				
14	Common Hoopoe	<i>Upupa epops</i> (Linnaeus, 1758)	Upupidae	C, L
Order: Coraciiformes				
15	Indian Roller	<i>Coracias benghalensis</i> (Linnaeus, 1758)	Coraciidae	VC, L
16	Common Kingfisher	<i>Alcedo atthis</i> (Linnaeus, 1758)	Alcedinidae	VC, L
17	White-throated Kingfisher	<i>Halcyon smyrnensis</i> (Linnaeus, 1758)	Halcyonidae	C, L
18	Stork-billed Kingfisher	<i>Pelargopsis capensis</i> (Linnaeus, 1758)	Halcyonidae	C, L
19	Chestnut-headed Bee-eater	<i>Merops leschenaulti</i> (Vieillot, 1817)	Meropidae	C, L
20	Green Bee-eater	<i>Merops orientalis</i> (Latham, 1801)	Meropidae	C, L
21	Blue-tailed Bee-eater	<i>Merops philippinus</i> (Linnaeus, 1766)	Meropidae	C, Ms
Order: Cuculiformes				
22	Jacobin Cuckoo	<i>Clamator jacobinus</i> (Boddaert,	Cuculidae	C, Ms

23	Indian Cuckoo	1783) <i>Cuculus micropterus</i> (Gould, 1837)	Cuculidae	C, Ms
24	Asian Koel	<i>Endynamys scolopaceus</i> (Linnaeus, 1758)	Cuculidae	VC, L
25	Lesser Coucal	<i>Centropus bengalensis</i> (Gmelin, 1788)	Centropodidae	C, L
26	Greater Coucal	<i>Centropus sinensis</i> (Stephens, 1815)	Centropodidae	C, L
Order: Psittaciformes				
27	Red-breasted Parakeet	<i>Psittacula alexandri</i> (Linnaeus, 1758)	Psittacidae	VC, L
28	Rose-ringed Parakeet	<i>Psittacula krameri</i> (Scopoli, 1769)	Psittacidae	VC, L
Order: Apodiformes				
29	Asian Palm Swift	<i>Cypsiurus balasiensis</i> (J.E. Gray, 1829)	Apodidae	C, L
Order: Strigiformes				
30	Barn Owl	<i>Tyto alba</i> (Scopoli, 1769)	Tytonidae	VC, L
31	Spotted Owlet	<i>Athene brama</i> (Temminck, 1821)	Strigidae	R, Mw
32	Dusky Eagle Owl	<i>Bubo coromandus</i> (Latham, 1790)	Strigidae	R, L
33	Brown Fish Owl	<i>Ketupa zeylonensis</i> (Gmelin, 1788)	Strigidae	UC, L
34	Brown Hawk Owl	<i>Ninox scutulata</i> (Raffles, 1822)	Strigidae	UC, L
Order: Columbiformes				
35	Emerald Dove	<i>Chalcophaps indica</i> (Linnaeus, 1758)	Columbidae	UC, L
36	Rock Pigeon	<i>Columba livia</i> (Gmelin, 1789)	Columbidae	VC, L
37	Spotted Dove	<i>Streptopelia chinensis</i> (Scopoli, 1768)	Columbidae	VC, L
38	Eurasian Collared Dove	<i>Streptopelia decaocto</i> (Frisvaldszky, 1838)	Columbidae	UC, L
39	Red Collared Dove	<i>Streptopelia tranquebarica</i> (Hermann, 1804)	Columbidae	UC, L
40	Orange-breasted Green Pigeon	<i>Treron bicincta</i> (Jerdon, 1840)	Columbidae	R, L
41	Yellow-footed Green Pigeon	<i>Treron phoenicoptera</i> (Latham, 1790)	Columbidae	VC, L
Order: Gruiformes				
42	White-breasted Waterhen	<i>Amaurornis phoenicurus</i> (Pennant, 1769)	Rallidae	UC, L
43	Common Coot	<i>Fulica atra</i> (Linnaeus, 1758)	Rallidae	UC, L
44	Purple Swampphen	<i>Porphyrio porphyrio</i> (Linnaeus, 1758)	Rallidae	R, Mw
Order: Ciconiiformes				
45	Bronze-winged	<i>Metopidius indicus</i> (Latham,	Jacanidae	UC, L

46	Jacana Red-wattled Lapwing	1790) <i>Vanellus indicus</i> (Boddaert, 1783)	Charadriidae	UC, L
47	Brahminy Kite	<i>Haliastur indus</i> (Boddaert, 1783)	Accipitridae	VC, L
48	Black Kite	<i>Milvus migrans</i> (Boddaert, 1783)	Accipitridae	VC, L
49	Great Cormorant	<i>Phalacrocorax carbo</i> (Linnaeus, 1758)	Phalacrocoracidae	C, L
50	Little Cormorant	<i>Phalacrocorax niger</i> (Vieillot, 1817)	Phalacrocoracidae	C, L
51	Gray Heron	<i>Ardea cinerea</i> (Linnaeus, 1758)	Ardeidae	C, L
52	Indian Pond Heron	<i>Ardeola grayii</i> (Sykes, 1832)	Ardeidae	VC, L
53	Cattle Egret	<i>Bubulcus ibis</i> (Linnaeus, 1758)	Ardeidae	VC, L
54	Little Heron	<i>Butorides striatus</i> (Linnaeus, 1758)	Ardeidae	VC, L
55	Great Egret	<i>Ardea alba</i> (Linnaeus, 1758)	Ardeidae	VC, L
56	Little Egret	<i>Egretta garzetta</i> (Linnaeus, 1766)	Ardeidae	VC, L
57	Black-crowned Night Heron	<i>Nycticorax nycticorax</i> (Linnaeus, 1758)	Ardeidae	UC, L
58	Asian Openbill	<i>Anastomus oscitans</i> (Boddaert, 1783)	Ciconiidae	C, L
59	Lesser Adjutant	<i>Leptoptilos javanicus</i> (Horsfield, 1821)	Ciconiidae	R, L
Order: Passeriformes				
60	Indian Pitta	<i>Pitta brachyura</i> (Linnaeus, 1758)	Pittidae	C, Ms
61	Golden-fronted Leafbird	<i>Chloropsis aurifrons</i> (Temminck, 1829)	Irenidae	UC, L
62	Brown Shrike	<i>Lanius cristatus</i> (Linnaeus, 1758)	Laniidae	UC, Mw
63	Long-tailed Shrike	<i>Lanius schach</i> (Linnaeus, 1758)	Laniidae	VC, L
64	Gray-backed Shrike	<i>Lanius tephronotus</i> (Vigors, 1831)	Laniidae	VC, Mw
65	Common Iora	<i>Aegithina tiphia</i> (Linnaeus, 1758)	Corvidae	VC, L
66	Large-billed Crow	<i>Corvus macrorhynchos</i> (Wagler, 1827)	Corvidae	VC, L
67	House Crow	<i>Corvus splendens</i> (Vieillot, 1817)	Corvidae	VC, L
68	Rufous Treepie	<i>Dendrocitta vagabunda</i> (Latham, 1790)	Corvidae	VC, L
69	Bronzed Drongo	<i>Dicrurus aeneus</i> (Vieillot, 1817)	Corvidae	VC, L
70	Spangled Drongo	<i>Dicrurus bracteatus</i> (Gould, 1842)	Corvidae	UC, L
71	Ashy Drongo	<i>Dicrurus leucophaeus</i> (Vieillot, 1817)	Corvidae	C, Mw
72	Black Drongo	<i>Dicrurus macrocercus</i> (Vieillot, 1817)	Corvidae	VC, L

73	Greater Racket-tailed Drongo	<i>Dicrurus paradiseus</i> (Linnaeus, 1766)	Corvidae	R, L
74	Bar-winged Flycatcher-shrike	<i>Hemipus picatus</i> (Sykes, 1832)	Corvidae	C, L
75	Black-naped Oriole	<i>Oriolus chinensis</i> (Linnaeus, 1766)	Corvidae	C, Mw
76	Black-hooded Oriole	<i>Oriolus xanthornus</i> (Linnaeus, 1758)	Corvidae	VC, L
77	Small Minivet	<i>Pericrocotus cinnamomeus</i> (Linnaeus, 1766)	Corvidae	C, L
78	White-rumped Shama	<i>Copsychus malabaricus</i> (Scopoli, 1788)	Muscicapidae	VC, L
79	Oriental Magpie Robin	<i>Copsychus saularis</i> (Linnaeus, 1758)	Muscicapidae	VC, L
80	Gray-headed Canary Flycatcher	<i>Culicicapa ceylonensis</i> (Swainson, 1820)	Muscicapidae	UC, Mw
81	Common Stonechat	<i>Saxicola torquatus</i> (Linnaeus, 1766)	Muscicapidae	UC, Mw
82	Orange-headed Thrush	<i>Geokichla citrine</i> (Latham, 1790)	Muscicapidae	C, L
83	Jungle Myna	<i>Acridotheres fuscus</i> (Wagler, 1872)	Sturnidae	VC, L
84	Bank Myna	<i>Acridotheres ginginianus</i> (Latham, 1790)	Sturnidae	VC, L
85	Common Myna	<i>Acridotheres tristis</i> (Linnaeus, 1766)	Sturnidae	C, L
86	Asian Pied Starling	<i>Gracupica contra</i> (Linnaeus, 1758)	Sturnidae	VC, L
87	Chestnut-tailed Starling	<i>Sturnus malabarica</i> (Gmelin, 1789)	Sturnidae	VC, L
88	Great Tit	<i>Parus major</i> (Linnaeus, 1758)	Sittidae	UC, L
89	Plain Martin	<i>Riparia paludicola</i> (Vieillot, 1817)	Hirundinidae	UC, L
90	Red-vented Bulbul	<i>Pycnonotus cafer</i> (Linnaeus, 1766)	Pycnonotidae	VC, L
91	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i> (Linnaeus, 1758)	Pycnonotidae	C, L
92	Zitting Cisticola	<i>Cisticola juncidis</i> (Rafinesque, 1810)	Cisticolidae	C, L
93	Common Tailorbird	<i>Orthotomus sutorius</i> (Pennant, 1769)	Sylviidae	VC, L
94	Jungle Babbler	<i>Turdoides striata</i> (Dumont, 1823)	Sylviidae	VC, L
95	Crimson Sunbird	<i>Aethopyga siparaja</i> (Raffles, 1822)	Nectariniidae	C, L
96	Ruby-cheeked Sunbird	<i>Chalcoparia singalensis</i> (Gmelin, 1788)	Nectariniidae	UC, L
97	Purple Sunbird	<i>Cinnyris asiaticus</i> (Latham, 1790)	Nectariniidae	VC, L

98	Purple-rumped Sunbird	<i>Leptocoma zeylonica</i> (Linnaeus, 1766)	Nectariniidae	C, L
99	Siberian Rubythroat	<i>Calliope calliope</i> (Pallas, 1776)	Turdidae	UC, L
100	Tawny Pipit	<i>Anthus campstris</i> (Linnaeus, 1758)	Passeridae	R, Mw
101	Olive-backed Pipit	<i>Anthus hodgsoni</i> (Richmond, 1907)	Passeridae	UC, Mw
102	Paddyfield Pipit	<i>Anthus rufulus</i> (Vieillot, 1818)	Passeridae	VC, L
103	Indian Silverbill	<i>Euodice malabarica</i> (Linnaeus, 1758)	Passeridae	R, L
104	Black-headed Munia	<i>Lonchura atricapilla</i> (Vieillot, 1807)	Passeridae	C, L
105	Scaly-breasted Munia	<i>Lonchura punctulata</i> (Linnaeus, 1758)	Passeridae	VC, L
106	White Wagtail	<i>Motacilla alba</i> (Linnaeus, 1758)	Passeridae	R, Mw
107	Gray Wagtail	<i>Motacilla cinerea</i> (Tunstall, 1771)	Passeridae	R, Mw
108	White-browed Wagtail	<i>Motacilla maderaspatensis</i> (Gmelin, 1789)	Passeridae	UC, L
109	House Sparrow	<i>Passer domesticus</i> (Linnaeus, 1758)	Passeridae	VC, L
110	Eurasian Tree Sparrow	<i>Passer montanus</i> (Linnaeus, 1758)	Passeridae	R, L
111	Baya Weaver	<i>Ploceus philippinus</i> (Linnaeus, 1766)	Passeridae	VC, L

[VC= very common, UC= uncommon, C= common, R= rare, L= local or resident, Mw= migratory winter visitor, and Ms= migratory summer visitor]

Mammals: Fifteen species of mammals under 7 orders, and 12 families were recorded (Table 4). The Madhupur National Park supports (10.87%) mammals considering 138 species from Bangladesh (IUCN, 2015). Among these 9 (60%) were very common, 3 (20%) common, 2 (13.33%) uncommon, 1 (6.67%) rare species. Barking Deer was uncommon in natural habitat, but very common in captive deer breeding centre in Lahoria, which is situated in Madhupur National Park. Eurasian Wild Boar was common in this area a few years ago, but no record was found in recent years. The reason might be illegal hunting by Garo community.

Table 4. Mammals observed in the Madhupur National Park during June 2014 to March 2015

Sl No	Common name	Scientific name	Family	Status
Order: Lagomorpha				
01	Indian Hare	<i>Lepus nigricollis</i> (F. Cuvier, 1823)	Leporidae	UC
Order: Rodentia				
02	Irrawaddy Squirrel	<i>Callosciurus pygerythrus</i> (L. Geoffroy Saint Hilaire, 1832)	Sciuridae	VC
03	Asiatic Long Tailed Climbing Mouse	<i>Vandeleuria oleracea</i> (Bennett, 1832)	Muridae	VC
04	Greater Bandicoot-	<i>Bandicota indica</i> (Bechstein,	Muridae	VC

	rat	1800)		
Order: Carnivora				
05	Large Indian Civet	<i>Viverra zibetha</i> (Linnaeus, 1758)	Viverridae	C
06	Jangal Cat	<i>Felis chaus</i> (Schreber, 1777)	Felidae	VC
07	Fishing Cat	<i>Prionailurus viverrinus</i> (Bennett, 1833)	Felidae	C
08	Small Indian Mongoose	<i>Herpestes auro-punctatus</i> (Hodgson, 1836)	Herpestidae	VC
09	Golden Jackal	<i>Canis aureus</i> (Linnaeus, 1758)	Canidae	VC
Order: Chiroptera				
10	Indian Flying Fox	<i>Pteropus giganteus</i> (Brünnich, 1782)	Pteropodidae	VC
11	Indian Pipistrelle	<i>Pipistrellus coromandra</i> (Gray, 1838)	Vespertilionidae	C
Order: Primates				
12	Rhesus Macaque	<i>Macaca mulatta</i> (Zimmermann, 1780)	Cercopithecidae	VC
13	Capped Langur	<i>Trachypithecus pileatus</i> (Blyth, 1843)	Cercopithecidae	VC
Order: Scandentia				
14	Common Tree Shrew	<i>Tupaia glis</i> (Diard & Duvaucel, 1820)	Tupaiaidae	R
Order: Artiodactyla				
15	Barking Deer	<i>Muntiacus muntjak</i> (Zimmermann, 1780)	Cervidae	UC

[VC= very common, UC= uncommon, C= common, and R= rare]

The study area covered (14.36%) of total wildlife species. Husain and Haque (1977) reported the occurrence of 170 species (and 1 subspecies) from the Madhupur forest in Tangail and Mymensingh districts. Khan & Ahsan (2011) reported that, 115 species of birds were found in Madhupur National Park, under the 12 orders, 36 families and 87 genera. Khan (1998), studied the taxonomy and ecology of the birds of Tangail and recorded a total of 216 species of birds under 48 families has been registered which represents nearly one-third of the total bird species found in Bangladesh. Out of 216 species, 59 (27%) were migratory and 157 (73%) resident. Husain (1991) reported the occurrence of 169 species of birds from the Jamuna Multipurpose Bridge Area of Tangail and Sirajganj. There is no significant difference between the number of non-passerines, passerines, resident and migratory birds recorded in 2011 and the present study year. Although the previous research by Hssain & Haque (1977), Husain (1991) and Khan (1998) reveals that wildlife populations here decreased remarkably at present.

Once Eurasian Wild Boar, Tiger, Leopard, Sambar Deer, Wild Water Buffalo, Red Jungle Fowl, Peacock, Turtle, Green Frog and many other animals were very common, but now because of continuous hunting by the Garo community, these species are becoming rare in this forest (Zaman, 2015). Habitat loss, illegal hunting, trapping and collecting of wild species, random use of agrochemicals, and lack of awareness were identified as threats to wildlife species in Madhupur National Park. Human encroachment, illegal hunting or

trapping of wild animal should be controlled by creating public awareness to conserve wildlife of Madhupur National Park.

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