

A Comprehensive Study on the Diversity and Status of Avifauna in East Singhbhum, Jharkhand, India

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ABSTRACT

The current assessment was carried out to inspect the avifauna diversity of the East Singhbhum, which is one among the twenty-four districts of the Jharkhand. For the listing and tabulation of the bird species of the area under study, area search method was employed. A total of 262 different species of bird belonging to 20 orders and 71 families were listed. Among all the orders enlisted, order Passeriformes is recorded to be the most diverse order with total of 34 families and 117 species, followed by order Charadriiformes with 9 families and 21 species under it. Order Accipitriformes, Cuculiformes, and Piciformes was reported to have only 2 families with 14 species. Order Anseriformes were reported with 1 family and 12 species of birds, followed by Order Pelecaniformes with 2 families and 12 species. Order Ciconiiformes together with Podicipediformes, and Suliformes were observed with 1 family and 2 species of birds, hence, these 3 orders were reported to be the smallest orders among the 20 orders. A comprehensive study of the residential and migratory behaviour of the birds were also recorded and it the list shows that out of 262 species of birds, 168 birds were residential to the region with 64.12%, Migratory species was 94 with 35.88% which is further divided into winter migrant i.e., 87 species with 33.21% and rest 7 species are seen as summer migrant with 2.67%. Among 262 species of birds found in the area, Common Pochard (*Aythya farina*) belongs to Vulnerable category of IUCN Red List. Few species such as, Ferruginous Pochard (*Aythya nyroca*), Lesser Adjutant (*Leptoptilos javanicus*), Red Necked Falcon (*Falco chicquera*), Alexandrine Parakeet (*Psittacula eupatria*) is included in the Near Threatened list of IUCN Red List were also sighted during the conduct of study.

Due to rapid urbanisation, agricultural land intensification, deforestation, hunting and poaching along with other anthropogenic activities leads to rapid decline in the diversity and the population of the avifauna in the current study area. This extensive study of the avifauna of the region will serve as a valuable resource of knowledge for the ornithologists and bird watcher of the surrounding area, along with the preventive and conservational parameters to be taken for enrichment of the diversity and ecosystem stability of the area.

Keywords: IUCN, Ornithologists, Urbanisation, Intensification, Deforestation, Poaching.

INTRODUCTION

Mother Nature takes care of all the species as per their requirement of basic needs, which is mandatory for the survival of every single species from microscopic microbes (Unicellular) to macroscopic mammals (multi-cellular). Providing shelter, food, and special adaptive qualities like camouflage and mimicry. The Life cycle is one of the very essential processes to continue the transfer of genetic material, which will ultimately continue the race from one generation to

another & so on. Avifaunal diversity is a quintessential ecological technique for examining and assessing different habitats both statistically and qualitatively. The total number of birds globally has depreciated by 1/5th to a quarter due to the shift in the pattern of land usage by humans since the pre-agricultural times (Gaston et. al., 2003). (Hughes et al., 1997) estimated that nearly 1800 birds are lost every hour, and when broadly calculated, it almost accounts for 16,000,000 i.e., 16 million population loss annually. The International Union for Conservation of Nature (IUCN) has already identified 1226 avian species as endangered worldwide in its Red List of Endangered Birds, and with around 88 threatened species of birds in the country land, India ranks at seventh position globally (Bird Life International, 2010). The significantly accelerated anthropogenic ventures, principally the expanding tourism, agriculture, climate change, deforestation and concrete-based construction, have resulted in remarkable habitat transmogrification. Birds, being an integral part of the food chain and food web, play a pivotal role in the ecosystem and can also be visualised and examined as significant bio-indicators and potent pollinators of diversified plant species. Birds are excellent bio-indicators and convenient models for investigating diverse and distinct environmental complications along with intercepting the relevance of the local landscape for the conservation of avian species, which requires extensive knowledge of the layout of the structure of the avian community of the concerned area (Kattan and Franco et al., 2004). The change in the natural territory is greatly influenced by the presence of human and their anthropogenic activity. In some habitats, the availability of food and the type of vegetation cover greatly impact the diversity of avian species (Rika et al., 2007).

METHODOLOGY

Bird population is sampled by area search method Ralf et. al., (1993). All the species were recorded by walking freely within each vegetation type during the course of the survey for a fixed period of time. During the days of heavy rain and severe winds, survey was avoided. Area search method was performed in the morning, beginning with the maximum activity of birds, starting from 5:30 till 9:30 and in the evening from 3:30 till 6:00 and for nocturnal species evening timing were up to 7:00 to 11:00 pm. Activities along with nesting sites and breeding status of birds were also documented. All the bird species were detected on the basis of visual and call recordings. The sampling of Avian Species was done throughout the year. The current status of species has been determined with the information recorded in the latest list of IUCN Red List of Threatened species. For schedule of the species, Wild Life (Protection) Amendment Act, 2022, has been referred. Bird species that were difficult to identify during the survey were later identified with the assistance of study done by Grimmett et. al., (2011). The Checklist of the Birds of India (v7.0) Praveen et. al., 2025 was used for bird nomenclature. Grimmett et. al., 2011 and Bird Life International provided information on migratory status.

Bird sightings were made using binoculars, with on-site identification facilitated by field guides. Following confirmation of identification, the species were recorded in the data sheet. Birds were photographed using a Nikon camera equipped with super zoom lenses (Nikon D90, Nikon D7500 with zoom 200-500 mm lens and Nikon P1000). Binoculars were used to spotting and identifying the birds at a distance point.

The assessment of the avifaunal diversity of the current study area was conducted from year 2018 to 2025. The survey conducted, was during different times of the day and different seasons of the year. The relative activity, habitats and niche of the different avian species were kept in consideration to maximize the chances of encounter without disturbing their natural behaviour pattern. The current survey was conducted under the guidance of Dr. K.K. Sharma.

Site of study

The southeast extremities of Jharkhand is the position of one in the twenty-four districts of the Jharkhand state named as East Singhbhum (Fig.1-2). It has been formed after isolating 11 blocks from greater Singhbhum on 16th January 1990. In terms of industrial activities and expansion along with the mining quarry, the district holds a prominent position in Jharkhand. The same area that is chosen for study and survey, was the part of old Manbhum District and the old Dhalbhum Estate before the time of Independence. Prior to Independence the East Singhbhum district was the integral part of old Manbhum District and the old Dhalbhum Estate, which post-independence, was integrated into Greater Singhbhum land. The Purbi Singhbhum or East Singhbhum which literally translates to “Home of Lions”. Occupying an area of 3533 sq. km and located in the Chotanagpur Plateau in Jharkhand, the district encompasses 86° 04' and 86° 54' East Longitudes and 22° 12' and 23° 01' North latitudes. It falls under survey of India toposheet no. 73 J/01-03, J/05-12, J/14-16. The district headquarter is at Jamshedpur.

Geography

The district is bounded on the east by Jhargram district, on the north by Purulia district, both of West Bengal, on the west by Saraikela Kharsawan District, and on the south by Mayurbhanj District of Odisha. Total area of the district is 3,562 kilometres.

The mineral wealth and industrialisation characterise the area. The major portion of the well know Dalma Wildlife Sanctuary which is a famous biosphere reserve for its diverse wildlife population. The hills of Dalma extend its range from Jharkhand and West Bengal. The geographic location of Dalma relative to the position of industrial town of

Jamshedpur is towards the Northern side. Plethora of minerals are found here which paves the way for rapid industrialisation and expanding economy.



Fig. 1: District-wise Map of Jharkhand showing East Singhbhum.

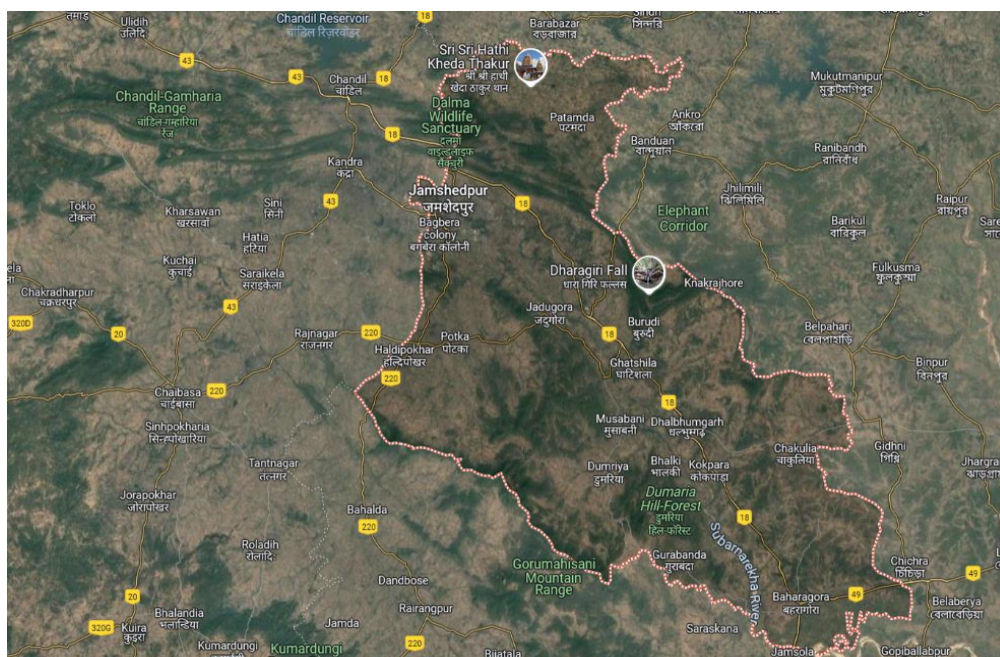


Fig. 2: Showing GPS Map of East Singhbhum District.

Land Use Pattern

The pattern of land utilisation of area under study shows that, the total forest cover is whopping 28.10% which is more than the national coverage which is around 25.17%. The East Singhbhum district shows variable land pattern which has wasteland, wetland.

Fallow land which is left uncultivated for a period of time to elevate the quality of soil is also found in the region and covers around 17.37%. Agricultural land is also found which covers 17.37%, on which avifauna also depends (Table.1).

The diverse range of avifauna of the East Singhbhum is also attributed to the land which has diverse range of habitat harbouring various species of birds in different zones and season.

Table. 1: Land Utilisation Pattern

Sr. No.	Land Use Type	Area (in ha)	Percentage
1.	Reporting Area for land Utilisation	7970	100.00
2.	Forest Cover	2239	28.10
3.	Not available for land cultivation	1274	15.98
4.	Permanent pasture and other grazing lands	113	1.43
5.	Land under misc. tree crops and groves	98	1.23
6.	Culturable wastelands	353	4.43
7.	Fallow land other than current fallow	1122	14.08
8.	Current fallows	1386	17.38
9.	Net area sown	1385	17.37

A Brief Overview of Forest Scenario

The forest is the home to many species of birds. The dependency of Avifauna on the natural resources, habitat, feeding resources and nesting place is provided by the forest. The richer is the forest the more stable the ecosystem is thought to be due to less force exerted on the single species or single resources. The food chain turns into complex food web and hence brings about more stability to the ecosystem and is less likely to be disturbed by natural fluctuation, and seasonal variations. Hence, it can be inferred that good forest cover endorse better biodiversity of other species and avifauna, which directly or indirectly depends on it. The main nature of the forest of the East Singhbhum includes the Tropical Deciduous trees such as *Shorea robusta*, *Tectona grandis*, *Dalbergia sissoo*, *Ficus bengalensis*, *Ficus religiosa*, *Azadirachta indica* along with sparse and scattered Bamboo forest with species like *Dendrocalamus strictus* and *Bambusa tulda*. East Singhbhum has around 27-28% of forest cover with a mixture of open forest along with dense forest of varieties of trees (Table 1). The forest landscape includes Hills and valleys to river and streams along with protected areas. The dry penninsular and dry mixed deciduous type of tree mainly makes up the forest of this area. The pedological studies and reports suggest the abundance of laterite soil in the singhbhum regions. The formation of this soil type is seen in area of relatively high rainfall and leaching. The general appearance of the soil is red or yellowish red and is not as fertile as the alluvial soil and black soil. The soil distribution of the singhbhum region supports the deciduous forest along with other types including shrubs and some xeric plants.

Area of Survey

The area of survey is conducted from Domuhani (Sonari-Jamshedpur) to Bahragora and from Patamda (Bodom) to Potka and Hata. The Dalma Wildlife Sanctuary that lies in the heart of Singhbhum was also screened during different time of the days and different time of the year for any seasonal fluctuations and migratory species listing as it is the repository of the avian diversity. The Dalma range as main hill has been extended from west to east, covered by dense forest. The flow of the major river i.e., Subarnarekha is in South-East direction from the west direction. All the tributaries of this area meet with the river. Generally, the height of this area is 700 ft. to 3100 ft. above sea level (Fig.3). The district is rich in minerals and is found abundantly. The prominent mineral of this region is mainly Iron, Copper, Gold, Kyanite along with other minerals which are also found here but in relatively low concentration. It is situated around the Dalma Hills. Dalma Wildlife Sanctuary is a much larger area starting from Chandil to 40 km east. It is spread over 193 km² of forests of East Singhbhum and Saraikela-Kharsawan districts of the state of Jharkhand. The forests of Dalma come under the category "Dry peninsular Sal" and "Northern Dry Mixed Deciduous Forest". The few GPS coordinates of some sites of study area shows variations in habitats which finally contributes to the rich avifauna diversity of the study area (Fig.4).

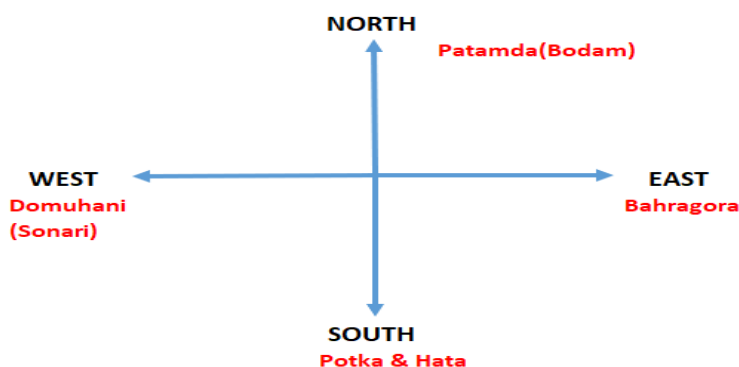


Fig. 3: Showing Direction Map of Area of Study

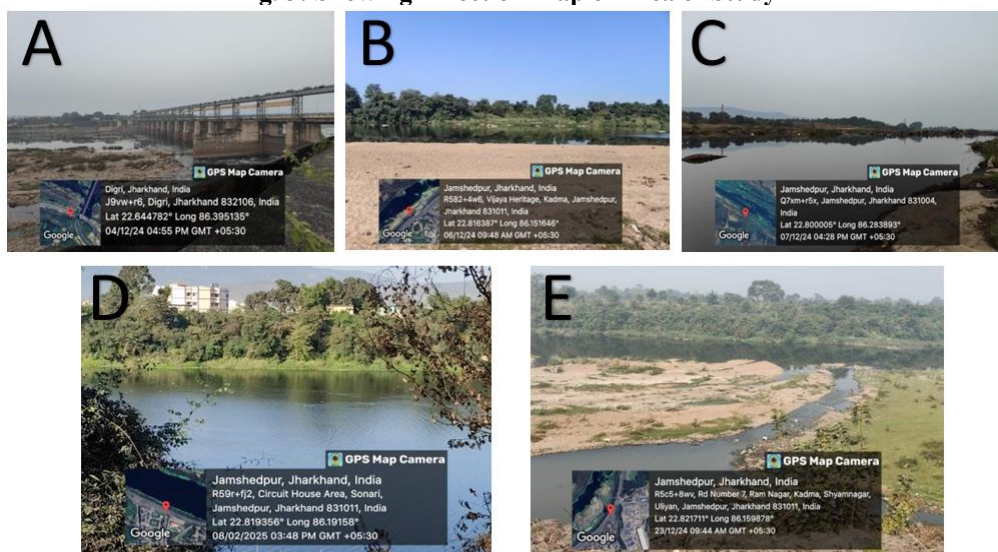


Fig. 4: Showing some sites of study area (A-E) in East Singhbhum.

Climate

The Climate of the district is temperate. Annual rainfall is 1200 mm to 1400 mm (Fig. 5). This area comes under the path of south-west monsoon so sometimes it receives heavy rain during July to September, During the Summer seasons maximum temperature goes up 40°C - 45°C (Fig. 6) whereas in winter it has recorded a minimum of 8°C. Relative humidity scales from 12.9% to as high as 99.8%, with an average relative humidity of 67.6% (Fig. 7).

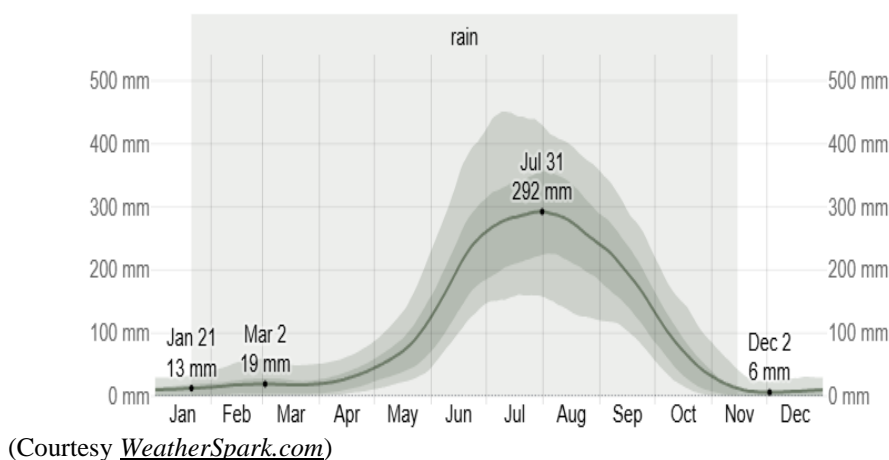


Fig. 5: Showing average monthly precipitation of Jamshedpur (East Singhbhum).

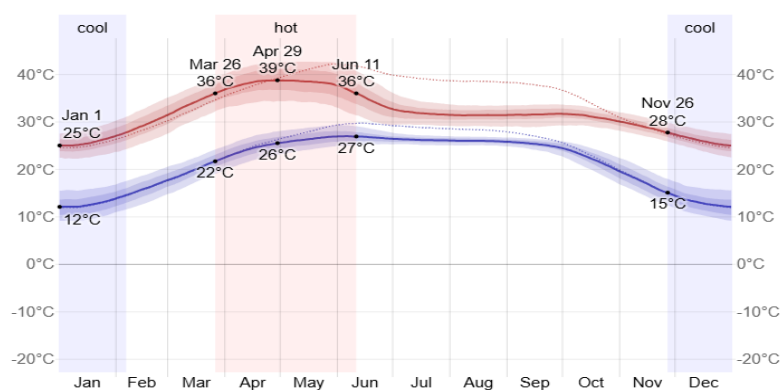
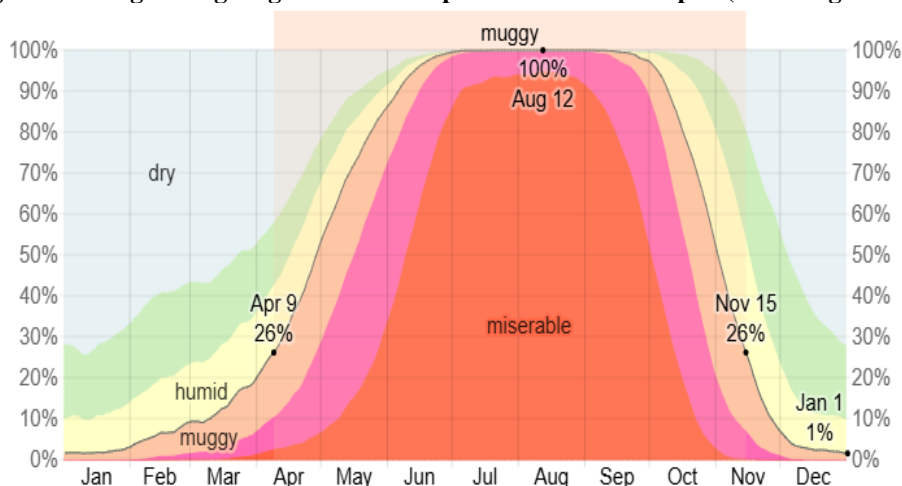


Fig. 6: Showing average high and low temperature of Jamshedpur (East Singhbhum).



(Courtesy WeatherSpark.com)

Fig. 7: Showing humidity comfort level in Jamshedpur and surroundings.

RESULT AND DISCUSSION

In the study, we sighted 262 species of birds which comprises about 19.02% of the total bird diversity of the country which is documented to be 1377 in total as per the recent data available.

Vulnerable (VU) species was recorded with 1, Near Threatened (NT) were 4 and the rest of the other species of birds were of Least Concern (LC) as per the data matched with IUCN Red data book. Of the total 262 species of birds sighted, 87 species of birds are winter migrant, 7 species are of summer migrant, and rest 168 species were resident birds (Table. 2).

The total found of 262 species in correlation with Orders and Families were made known together (Table. 3). The 71 Families in correlation with 20 Orders in Class Aves are also presented (Table. 4). The total number of species can be broadly classified under 71 families and the families can be further classified under 20 orders (Graph. 1). 71 families were plotted in graph in correlation with Orders in Class Aves (Graph. 2). The Avian diversity of East Singhbhum were presented in correlation with various Orders and its Families (Graph. 3).

Out of 262 species of birds here 96 photographs were presented in Plate 1 to Plate 8 (Fig. 8 to 15). Total 262 bird species, in which Residential are 168 and Migratory species were 94, in distribution of Winter migrants 87, together with Summer Migrants 07 of Class Aves (Table. 5); (Graph. 4). Data of total distribution of 94 Migratory species with correlation of 87 winter and 07 summer migrant species of class Aves, against total 262 available species till now shown in table 2 were also presented (Table. 6); (Graph. 5- 6). According to IUCN 3.1, conservation status i.e., Least concern, Nearly Threatened, and Vulnerable of 262 avian diversities found in East Singhbhum were done (Table. 7); (Graph. 7).

Among the 20 Orders, Passeriformes was observed as the largest order with 34 families and 117 species followed by Order Charadriiformes with 09 families and 21 species as second largest. Order Passeriformes are most dominant order of birds due to their evolutionary success, diversified strategies of reproduction and breeding and inhabit almost every terrestrial habitat. Multiple families and species under Order Passeriformes are omnivorous and feeds on varieties of available food resources which also aid to their ecological success.

Order Anseriformes were recorded with 1 family and 12 species, followed by Order Pelecaniformes with 2 families and 12 species. Order Accipitriformes, Cuculiformes, together with, Piciformes has 2 families with 14 species under it. Order Coraciiformes were recorded with 03 families and 09 species. Few other Orders that have relatively fewer families and species are Apodiformes, Bucerotiformes, Caprimulgiformes, Columbiformes, Falconiformes, Galliformes, Gruiformes, Psittaciformes, and Strigiformes. Notably, Orders like Ciconiiformes, Podicipediformes, and Suliformes were observed as the smallest Orders with 01 family and 02 species of birds.

The current work, while addressing the avifauna diversities of the East Singhbhum, also look forward for addition of more species if sighted in the near future in the next extension of the current work. The Ethological parameters of the

avifauna diversity are under observation and study, and the pattern of behavior is separately noted for further study and reference.

Table. 2: Showing the Avian Checklist of East Singhbhum, Jharkhand.

List of Avian Diversity of East Singhbhum							
Sr. No.	Order	Family	Name of Species	Scientific Name	Status (IUCN)	Sighted at	Residential Status
1	Accipitriformes	Accipitridae	Common Buzzard	<i>Buteo buteo</i>	LC	Potka	Migratory (W)
2	Accipitriformes	Accipitridae	Crested honey Buzzard	<i>Pernis ptilorhynchus</i>	LC	Dalma	Resident
3	Accipitriformes	Accipitridae	Long-legged Buzzard	<i>Buteo rufinus</i>	LC	Pichli	Migratory (W)
4	Accipitriformes	Accipitridae	White-eyed Buzzard	<i>Butastur teesa</i>	LC	Hurlung	Resident
5	Accipitriformes	Accipitridae	Himalayan Buzzard	<i>Buteo refectus</i>	LC	Pichli	Migratory (W)
6	Accipitriformes	Accipitridae	Booted Eagle	<i>Hieraaetus pennatus</i>	LC	Chotabanki	Migratory (W)
7	Accipitriformes	Accipitridae	Crested Serpent Eagle	<i>Spilornis cheela</i>	LC	Dalma	Resident
8	Accipitriformes	Accipitridae	Short-toed snake Eagle	<i>Circaetus gallicus</i>	LC	Dalma	Resident
9	Accipitriformes	Accipitridae	Crested Goshawk	<i>Accipiter trivirgatus</i>	LC	Dalma	Resident
10	Accipitriformes	Accipitridae	Pied Harrier	<i>Circus melanoleucos</i>	LC	Chotabanki	Migratory (W)
11	Accipitriformes	Accipitridae	Black Kite	<i>Milvus migrans</i>	LC	Galudih	Resident
12	Accipitriformes	Accipitridae	Black-winged Kite	<i>Elanus caeruleus</i>	LC	Potka	Resident
13	Accipitriformes	Accipitridae	Shikra	<i>Accipiter badius</i>	LC	Uliyan	Resident
14	Accipitriformes	Pandionidae	Osprey	<i>Pandion haliaetus</i>	LC	Galudih	Resident
15	Anseriformes	Anatidae	Bar-headed Goose	<i>Anser indicus</i>	LC	Hurlung	Migratory (W)
16	Anseriformes	Anatidae	Cotton pygmy goose	<i>Nettapus coromandelianus</i>	LC	Dimna	Resident
17	Anseriformes	Anatidae	Ferruginous Pochard	<i>Aythya nyroca</i>	NT	Galudih	Migratory (W)
18	Anseriformes	Anatidae	Red-crested Pochard	<i>Netta rufina</i>	LC	Galudih	Migratory (W)
19	Anseriformes	Anatidae	Common Pochard	<i>Aythya ferina</i>	VU	Dimna	Migratory (W)

20	Anseriformes	Anatidae	Ruddy Shelduck	<i>Tadorna ferruginea</i>	LC	Kharkai River Uliyan	Migratory (W)
21	Anseriformes	Anatidae	Tufted Pochard	<i>Aythya fuligula</i>	LC	Dimna	Migratory (W)
22	Anseriformes	Anatidae	Gadwall	<i>Mareca strepera</i>	LC	Subarnarekha River, XLRI	Migratory (W)
23	Anseriformes	Anatidae	Lesser Whistling teal	<i>Dendrocygna javanica</i>	LC	Uliyan	Resident
24	Anseriformes	Anatidae	Northern Pintail	<i>Anas acuta</i>	LC	Galudih	Migratory (W)
25	Anseriformes	Anatidae	Northern Shoveler	<i>Spatula clypeata</i>	LC	Galudih	Migratory (W)
26	Anseriformes	Anatidae	Eurasian Wigeon	<i>Mareca penelope</i>	LC	Galudih	Migratory (W)
27	Apodiformes	Apodidae	Common Swift	<i>Apus apus</i>	LC	Hurlung	Resident
28	Apodiformes	Apodidae	Asian Palm Swift	<i>Cypsiurus balasiensis</i>	LC	Hurlung	Resident
29	Apodiformes	Hemiprocnidae	Crested treeswift	<i>Hemiprocne coronata</i>	LC	Dalma	Migratory (S)
30	Bucerotiformes	Bucerotidae	Indian Grey Hornbill	<i>Ocyrceros birostris</i>	LC	Dalma	Resident
31	Bucerotiformes	Bucerotidae	Oriental Pied Hornbill	<i>Anthracoceros albirostris</i>	LC	Dalma	Resident
32	Bucerotiformes	Upupidae	Eurasian hoopoe	<i>Upupa epops</i>	LC	Uliyan	Resident
33	Caprimulgiformes	Caprimulgidae	Indian Nightjar	<i>Caprimulgus asiaticus</i>	LC	Pichli	Resident
34	Caprimulgiformes	Caprimulgidae	Jungle Nightjar	<i>Caprimulgus indicus</i>	LC	Dalma	Resident
35	Caprimulgiformes	Caprimulgidae	Savanna Nightjar	<i>Caprimulgus affinis</i>	LC	Patamda	Resident
36	Charadriiformes	Burhinidae	Indian Thick-knee	<i>Burhinus indicus</i>	LC	Dalma	Resident
37	Charadriiformes	Charadriidae	Little Ringed Plover	<i>Charadrius dubius</i>	LC	Kharkai River Uliyan	Migratory (W)
38	Charadriiformes	Charadriidae	Kentish Plover	<i>Charadrius alexandrinus</i>	LC	Kharkai River Uliyan	Migratory (W)
39	Charadriiformes	Charadriidae	Pacific Golden Plover	<i>Pluvialis fulva</i>	LC	Subarnarekha River Jamshedpur	Migratory (W)

40	Charadriiformes	Charadriidae	Grey-headed Lapwing	<i>Vanellus cinereus</i>	LC	Chakulia	Migratory (W)
41	Charadriiformes	Charadriidae	Red-wattled Lapwing	<i>Vanellus indicus</i>	LC	Hurlung	Resident
42	Charadriiformes	Charadriidae	Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>	LC	Potka	Resident
43	Charadriiformes	Glareolidae	Pratincole Little (small)	<i>Glareola lactea</i>	LC	Hurlung	Resident
44	Charadriiformes	Jacaniidae	Bronze-winged Jacana	<i>Metopidius indicus</i>	LC	Uliyan	Resident
45	Charadriiformes	Jacaniidae	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	LC	Uliyan	Resident
46	Charadriiformes	Laridae	Black-headed Gull	<i>Chroicocephalus ridibundus</i>	LC	Hurlung	Migratory (W)
47	Charadriiformes	Laridae	River Tern	<i>Sterna aurantia</i>	LC	Hurlung	Resident
48	Charadriiformes	Recurvirostridae	Black-winged Stilt	<i>Himantopus himantopus</i>	LC	Kharkai River Uliyan	Resident
49	Charadriiformes	Rostratulidae	Greater Painted-Snipe	<i>Rostratula benghalensis</i>	LC	Galudih	Resident
50	Charadriiformes	Scolopacidae	Common Sandpiper	<i>Actitis hypoleucos</i>	LC	Kharkai River Uliyan	Migratory (W)
51	Charadriiformes	Scolopacidae	Green Sandpiper	<i>Tringa ochropus</i>	LC	Kharkai River Uliyan	Migratory (W)
52	Charadriiformes	Scolopacidae	Wood Sandpiper	<i>Tringa glareola</i>	LC	Uliyan River	Resident
53	Charadriiformes	Scolopacidae	Common Snipe	<i>Gallinago gallinago</i>	LC	Dimna	Migratory (W)
54	Charadriiformes	Scolopacidae	Stint Little	<i>Calidris minuta</i>	LC	Galudih	Migratory (W)
55	Charadriiformes	Scolopacidae	Pin-tailed snipe	<i>Gallinago stenura</i>	LC	Kharkai River Uliyan	Migratory (W)
56	Charadriiformes	Turnicidae	Barred Buttonquail	<i>Turnix suscitator</i>	LC	Potka	Resident
57	Ciconiiformes	Ciconiidae	Asian-Openbill Stork	<i>Anastomus oscitans</i>	LC	Dimna	Resident
58	Ciconiiformes	Ciconiidae	Lesser Adjutant	<i>Leptoptilos javanicus</i>	NT	Jaduguda	Resident
59	Columbiformes	Columbidae	Eurasian Collared-Dove	<i>Streptopelia decaocto</i>	LC	Dalma	Resident

60	Columbiformes	Columbidae	Spotted Dove	<i>Spilopelia chinensis</i>	LC	Uliyan	Resident
61	Columbiformes	Columbidae	Oriental turtle Dove	<i>Streptopelia orientalis</i>	LC	Dalma	Migratory (W)
62	Columbiformes	Columbidae	Red Collared (Turtle) Dove	<i>Streptopelia tranquebarica</i>	LC	Hurlung	Resident
63	Columbiformes	Columbidae	Rock Pigeon	<i>Columba livia</i>	LC	Uliyan	Resident
64	Columbiformes	Columbidae	Yellow-footed Green-Pigeon	<i>Treron phoenicopterus</i>	LC	Pichli	Resident
65	Columbiformes	Dicruridae	Laughing Dove	<i>Streptopelia senegalensis</i>	LC	Hurlung	Resident
66	Coraciiformes	Alcedinidae	Common Kingfisher	<i>Alcedo atthis</i>	LC	Dimna	Resident
67	Coraciiformes	Alcedinidae	Pied Kingfisher	<i>Ceryle rudis</i>	LC	Uliyan	Resident
68	Coraciiformes	Alcedinidae	Stork-billed Kingfisher	<i>Pelargopsis capensis</i>	LC	Ghatshila	Resident
69	Coraciiformes	Alcedinidae	White Breasted Kingfisher	<i>Halcyon smyrnensis</i>	LC	Uliyan	Resident
70	Coraciiformes	Coraciidae	Indian Roller	<i>Coracias benghalensis</i>	LC	Pichli	Resident
71	Coraciiformes	Meropidae	Blue-bearded bee-eater	<i>Nyctornis athertoni</i>	LC	Dimna	Resident
72	Coraciiformes	Meropidae	Blue Tailed bee-eater	<i>Merops philippinus</i>	LC	Hurlung	Migratory (W)
73	Coraciiformes	Meropidae	Chestnut-headed bee-eater	<i>Merops leschenaulti</i>	LC	Potka	Resident
74	Coraciiformes	Meropidae	Green Bee-eater	<i>Merops orientalis</i>	LC	Uliyan	Resident
75	Cuculiformes	Cuculidae	Greater Coucal	<i>Centropus sinensis</i>	LC	Hurlung	Resident
76	Cuculiformes	Cuculidae	Lesser Coucal	<i>Centropus bengalensis</i>	LC	Uliyan	Resident
77	Cuculiformes	Cuculidae	Banded bay Cuckoo	<i>Cacomantis sonneratii</i>	LC	Dalma	Migratory (S)
78	Cuculiformes	Cuculidae	Common Cuckoo	<i>Cuculus canorus</i>	LC	Dalma	Migratory (S)
79	Cuculiformes	Cuculidae	Common Hawk-Cuckoo	<i>Hierococcyx varius</i>	LC	Dalma	Migratory (W)
80	Cuculiformes	Cuculidae	Fork-tailed Drongo Cuckoo	<i>Surniculus dicruroides</i>	LC	Dalma	Migratory (S)
81	Cuculiformes	Cuculidae	Grey-bellied Cuckoo	<i>Cacomantis passerinus</i>	LC	Dimna	Migratory (W)

82	Cuculiformes	Cuculidae	Indian Cuckoo	<i>Cuculus micropterus</i>	LC	Uliyan	Migratory (W)
83	Cuculiformes	Cuculidae	Pied Jacobin Cuckoo	<i>Clamator jacobinus</i>	LC	Dalma	Migratory (S)
84	Cuculiformes	Cuculidae	Plaintive Cuckoo	<i>Cacomantis merulinus</i>	LC	Hurlung	Resident
85	Cuculiformes	Cuculidae	Himalayan Cuckoo	<i>Cuculus saturatus</i>	LC	Uliyan	Migratory (W)
86	Cuculiformes	Cuculidae	Asian Koel	<i>Eudynamis scolopaceus</i>	LC	Uliyan	Resident
87	Cuculiformes	Cuculidae	Sirkeer Malkoha	<i>Taccocua leschenaultii</i>	LC	Dimna	Resident
88	Cuculiformes	Phaenicophaeus	Green Billed Malkoha	<i>Phaenicophaeus tristis</i>	LC	Ghatshila	Resident
89	Falconiformes	Falconidae	Peregrine Falcon	<i>Falco peregrinus</i>	LC	Uliyan	Resident
90	Falconiformes	Falconidae	Red necked Falcon	<i>Falco chicquera</i>	NT	Pichli	Resident
91	Falconiformes	Falconidae	Eurasian Kestrel	<i>Falco tinnunculus</i>	LC	Dalma	Migratory (W)
92	Galliformes	Phasianidae	Grey Francolin	<i>Francolinus pondicerianus</i>	LC	Hurlung	Resident
93	Galliformes	Phasianidae	Red Junglefowl	<i>Gallus gallus</i>	LC	Dalma	Resident
94	Galliformes	Phasianidae	Peafowl Indian (Indian Peacock)	<i>Pavo cristatus</i>	LC	Bandhdih Village, Potka	Resident
95	Galliformes	Phasianidae	Spurfowl Painted	<i>Galloperdix lunulata</i>	LC	Dalma and Barom	Resident
96	Gruiformes	Rallidae	Ruddy-breasted crane	<i>Zapornia fusca</i>	LC	Dalma	Resident
97	Gruiformes	Rallidae	Common Coot	<i>Fulica atra</i>	LC	Galudih	Migratory (W)
98	Gruiformes	Rallidae	Common Moorhen	<i>Gallinula chloropus</i>	LC	Uliyan	Resident
99	Gruiformes	Rallidae	Slaty-breasted Rail	<i>Lewinia striata</i>	LC	Hurlung	Resident
100	Gruiformes	Rallidae	Purple Swampen	<i>Porphyrio porphyrio</i>	LC	Jamshedpur	Resident
101	Gruiformes	Rallidae	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	LC	Chakulia	Resident
102	Gruiformes	Rallidae	Water Cock	<i>Gallix rex cinerea</i>	LC	Patamda	Resident
103	Passeriformes	Acrocephalidae	Blyth's Reed Warbler	<i>Acrocephalus dumetorum</i>	LC	Uliyan	Migratory (W)

104	Passeriformes	Acrocephalidae	Booted warbler	<i>Iduna caligata</i>	LC	Hurlung	Migratory (W)
105	Passeriformes	Acrocephalidae	Clamorous Reed Warbler	<i>Acrocephalus stentoreus</i>	LC	Hurlung	Migratory (W)
106	Passeriformes	Acrocephalidae	Paddy field Warbler	<i>Acrocephalus agricola</i>	LC	Kharkai River Uliyan	Migratory (W)
107	Passeriformes	Aegithinidae	Common Iora	<i>Aegithina tiphia</i>	LC	Dalma	Resident
108	Passeriformes	Alaudidae	Ashy-crowned Sparrow-lark	<i>Eremopterix griseus</i>	LC	Galudih	Resident
109	Passeriformes	Alaudidae	Crested Lark	<i>Galerida cristata</i>	LC	Patamda	Resident
110	Passeriformes	Alaudidae	Bengal Bush lark	<i>Mirafra assamica</i>	LC	Galudih	Migratory (W)
111	Passeriformes	Alaudidae	Indian-bush lark	<i>Mirafra erythroptera</i>	LC	Galudih	Resident
112	Passeriformes	Alaudidae	Jerdon's Bush lark	<i>Mirafra affinis</i>	LC	Ghatshila	Resident
113	Passeriformes	Artamidae	Ashy Woodswallow	<i>Artamus fuscus</i>	LC	Hurlung	Resident
114	Passeriformes	Campephagidae	Black-winged Cuckooshrike	<i>Coracina melaschistos</i>	LC	Dimna	Resident
115	Passeriformes	Campephagidae	Indian- large Cuckooshrike	<i>Coracina macei</i>	LC	Dalma	Resident
116	Passeriformes	Campephagidae	Small Minivet	<i>Pericrocotus cinnamomeus</i>	LC	Dalma	Resident
117	Passeriformes	Cisticolidae	Grey-breasted Prinia	<i>Prinia hodgsonii</i>	LC	Hurlung	Resident
118	Passeriformes	Cisticolidae	Jungle Prinia	<i>Prinia sylvatica</i>	LC	Hurlung	Resident
119	Passeriformes	Cisticolidae	Plain Prinia	<i>Prinia inornata</i>	LC	Uliyan	Resident
120	Passeriformes	Cisticolidae	Ashy Prinia	<i>Prinia socialis</i>	LC	Uliyan	Resident
121	Passeriformes	Cisticolidae	Common Tailorbird	<i>Orthotomus sutorius</i>	LC	Uliyan	Resident
122	Passeriformes	Cisticolidae	Zitting Cisticola	<i>Cisticola juncidis</i>	LC	Hurlung	Resident
123	Passeriformes	Chloropseidae	Golden fronted Leaf Bird	<i>Chloropsis aurifrons</i>	LC	Dalma	Resident
124	Passeriformes	Chloropseidae	Jerdon's Leaf Bird	<i>Chloropsis jerdoni</i>	LC	Dalma	Resident
125	Passeriformes	Corvidae	Rufous treepie	<i>Dendrocitta vagabunda</i>	LC	Uliyan	Resident

126	Passeriformes	Corvidae	Indian Jungle Crow	<i>Corvus culminatus</i>	LC	Hurlung	Resident
127	Passeriformes	Corvidae	House Crow	<i>Corvus splendens</i>	LC	Uliyan	Resident
128	Passeriformes	Dicruridae	Black-headed Cuckooshrike	<i>Lalage melanoptera</i>	LC	Dalma	Migratory (W)
129	Passeriformes	Dicruridae	Ashy Drongo	<i>Dicrurus leucophaeus</i>	LC	Dimna	Resident
130	Passeriformes	Dicruridae	Black Drongo	<i>Dicrurus macrocercus</i>	LC	Uliyan	Resident
131	Passeriformes	Dicruridae	Lesser racket-tailed Drongo	<i>Dicrurus remifer</i>	LC	Dalma	Migratory (W)
132	Passeriformes	Dicruridae	Hair crested Drongo	<i>Dicrurus hottentottus</i>	LC	Dalma	Resident
133	Passeriformes	Dicruridae	White bellied Drongo	<i>Dicrurus caerulescens</i>	LC	Dalma	Resident
134	Passeriformes	Dicaeidae	Thick-billed Flowerpecker	<i>Dicaeum agile</i>	LC	Dalma	Resident
135	Passeriformes	Dicaeidae	Pale-billed Flowerpecker	<i>Dicaeum erythrorhynchos</i>	LC	Dalma	Resident
136	Passeriformes	Emberizidae	Black Headed Bunting	<i>Emberiza melanocephala</i>	LC	Hurlung	Migratory (W)
137	Passeriformes	Estrildidae	Strawberry finch (Red Avadavat)	<i>Amandava amandava</i>	LC	Hurlung	Resident
138	Passeriformes	Estrildidae	Black-faced Munia	<i>Lonchura molucca</i>	LC	Hurlung	Resident
139	Passeriformes	Estrildidae	Tricoloured Munia	<i>Lonchura malacca</i>	LC	Hurlung	Resident
140	Passeriformes	Estrildidae	Scaly-breasted Munia	<i>Lonchura punctulata</i>	LC	Uliyan	Resident
141	Passeriformes	Estrildidae	Indian Silverbill	<i>Euodice malabarica</i>	LC	Uliyan	Resident
142	Passeriformes	Estrildidae	White rumped Munia	<i>Lonchura striata</i>	LC	Hurlung	Resident
143	Passeriformes	Fringillidae	Common Rosefinch	<i>Carpodacus erythrinus</i>	LC	Hurlung	Migratory (W)
144	Passeriformes	Hirundinidae	Barn Swallow	<i>Hirundo rustica</i>	LC	Hurlung	Migratory (W)
145	Passeriformes	Hirundinidae	Red-rumped Swallow	<i>Cecropis daurica</i>	LC	Hurlung	Resident
146	Passeriformes	Hirundinidae	Streak-throated Swallow	<i>Petrochelidon fluvicola</i>	LC	Hurlung	Resident
147	Passeriformes	Hirundinidae	Wire-tailed	<i>Hirundo smithii</i>	LC	Hurlung	Resident

			Swallow				
148	Passeriformes	Laniidae	Bay-backed Shrike	<i>Lanius vittatus</i>	LC	Dalma	Migratory (W)
149	Passeriformes	Laniidae	Brown Shrike	<i>Lanius cristatus</i>	LC	Uliyan	Migratory (W)
150	Passeriformes	Laniidae	Isabelline Shrike	<i>Lanius isabellinus</i>	LC	Dalma	Migratory (W)
151	Passeriformes	Laniidae	Long-tailed Shrike	<i>Lanius schach</i>	LC	Dalma	Migratory (W)
152	Passeriformes	Leiothrichidae	Common Babbler	<i>Turdoides caudatus</i>	LC	Potka	Resident
153	Passeriformes	Leiothrichidae	Jungle Babbler	<i>Turdoides striata</i>	LC	Dalma	Resident
154	Passeriformes	Monarchidae	Asian Paradise Flycatcher	<i>Terpsiphone paradisi</i>	LC	Dalma and Uliyan	Migratory (S)
155	Passeriformes	Motacillidae	Olive-backed Pipit	<i>Anthus hodgsoni</i>	LC	Dalma	Migratory (W)
156	Passeriformes	Motacillidae	Paddyfield Pipit	<i>Anthus rufulus</i>	LC	Hurlung	Resident
157	Passeriformes	Motacillidae	Tree Pipit	<i>Anthus trivialis</i>	LC	Hurlung	Migratory (W)
158	Passeriformes	Motacillidae	Tawny Pipit	<i>Anthus campestris</i>	LC	Hurlung	Migratory (W)
159	Passeriformes	Motacillidae	Citrine Wagtail	<i>Motacilla citreola</i>	LC	Galudih	Migratory (W)
160	Passeriformes	Motacillidae	Eastern Yellow Wagtail	<i>Motacilla tshutschensis</i>	LC	Uliyan	Migratory (W)
161	Passeriformes	Motacillidae	Forest Wagtail	<i>Dendronanthus indicus</i>	LC	Dalma	Migratory (W)
162	Passeriformes	Motacillidae	White Wagtail	<i>Motacilla alba</i>	LC	Uliyan	Migratory (W)
163	Passeriformes	Motacillidae	Western Yellow Wagtail	<i>Motacilla flava</i>	LC	Uliyan	Migratory (W)
164	Passeriformes	Motacillidae	White-browed Wagtail	<i>Motacilla maderaspatensis</i>	LC	Uliyan	Migratory (W)
165	Passeriformes	Motacillidae	Grey Wagtail	<i>Motacilla cinerea</i>	LC	Galudih	Migratory (W)
166	Passeriformes	Muscicapidae	Bluethroat	<i>Luscinia svecica</i>	LC	Hurlung	Migratory (W)
167	Passeriformes	Muscicapidae	Himalayan Bluetail	<i>Tarsiger rufilatus</i>	LC	Dalma	Migratory (W)
168	Passeriformes	Muscicapidae	Brown Rock - Chat	<i>Oenanthe fusca</i>	LC	Pichli	Resident

169	Passeriformes	Muscicapidae	Siberian Stonechat	<i>Saxicola maurus</i>	LC	Hurlung	Migratory (W)
170	Passeriformes	Muscicapidae	Blue throated blue Flycatcher	<i>Cyornis rubeculoides</i>	LC	Dalma	Migratory (W)
171	Passeriformes	Muscicapidae	Brown-breasted Flycatcher	<i>Muscicapa muttui</i>	LC	Uliyan	Migratory (W)
172	Passeriformes	Muscicapidae	Dark Sided Flycatcher	<i>Muscicapa sibirica</i>	LC	Uliyan	Migratory (W)
173	Passeriformes	Muscicapidae	Taiga Flycatcher	<i>Ficedula albicilla</i>	LC	Uliyan	Migratory (W)
174	Passeriformes	Muscicapidae	Tickell's Blue Flycatcher	<i>Cyornis tickelliae</i>	LC	Kharkai River Uliyan	Migratory (W)
175	Passeriformes	Muscicapidae	Ultramarine Flycatcher	<i>Ficedula superciliaris</i>	LC	Dalma	Migratory (W)
176	Passeriformes	Muscicapidae	Verditer Flycatcher	<i>Eumyias thalassinus</i>	LC	Dalma	Migratory (W)
177	Passeriformes	Muscicapidae	Black Redstart	<i>Phoenicurus ochruros</i>	LC	Pichli	Migratory (W)
178	Passeriformes	Muscicapidae	Indian Robin	<i>Copsychus fulicatus</i>	LC	Hurlung	Resident
179	Passeriformes	Muscicapidae	Oriental Magpie-Robin	<i>Copsychus saularis</i>	LC	Uliyan	Resident
180	Passeriformes	Muscicapidae	Indian Blue Robin	<i>Larvivora brunnea</i>	LC	Dalma	Migratory (W)
181	Passeriformes	Muscicapidae	Siberian rubythroat	<i>Calliope calliope</i>	LC	Chotabanki	Migratory (W)
182	Passeriformes	Muscicapidae	White-rumped Shama	<i>Copsychus malabaricus</i>	LC	Dalma	Resident
183	Passeriformes	Muscicapidae	Blue-capped Rock thrush	<i>Monticola cinclorhyncha</i>	LC	Dalma	Migratory (W)
184	Passeriformes	Muscicapidae	Blue-rock Thrush	<i>Monticola solitarius</i>	LC	Dalma	Migratory (W)
185	Passeriformes	Muscicapidae	Pied bush chat	<i>Saxicola caprata</i>	LC	Hurlung	Resident
186	Passeriformes	Muscicapidae	Common Rock Thrush	<i>Monticola saxatilis</i>	LC	Dalma	Migratory (W)
187	Passeriformes	Monarchidae	Black Naped Monarch	<i>Hypothymis azurea</i>	LC	Uliyan	Resident
188	Passeriformes	Nectariniidae	Crimson Sunbird	<i>Aethopyga siparaja</i>	LC	Dalma	Resident
189	Passeriformes	Nectariniidae	Purple Sunbird	<i>Cinnyris asiaticus</i>	LC	Uliyan	Resident

190	Passeriformes	Nectariniidae	Purple rumped Sunbird	<i>Leptocoma zeylonica</i>	LC	Dimna	Resident
191	Passeriformes	Oriolidae	Black-naped Oriole	<i>Oriolus chinensis</i>	LC	Dalma	Resident
192	Passeriformes	Oriolidae	Indian Golden Oriole	<i>Oriolus kundoo</i>	LC	Uliyan	Resident
193	Passeriformes	Oriolidae	Black-hooded Oriole	<i>Oriolus xanthornus</i>	LC	Dalma	Resident
194	Passeriformes	Paradoxornithidae	Yellow-eyed Babbler	<i>Chrysomma sinense</i>	LC	Dalma	Resident
195	Passeriformes	Passeridae	House Sparrow	<i>Passer domesticus</i>	LC	Uliyan	Resident
196	Passeriformes	Passeridae	Yellow-throated sparrow or Chestnut Shouldered Petronia	<i>Petronia xanthocollis</i>	LC	Dalma	Resident
197	Passeriformes	Pellorneidae	Puff Throated Babbler	<i>Pellorneum ruficeps</i>	LC	Dalma	Resident
198	Passeriformes	Phylloscopidae	Dusky Warbler	<i>Phylloscopus fuscatus</i>	LC	Kharkai River Uliyan	Migratory (W)
199	Passeriformes	Phylloscopidae	Greenish Warbler	<i>Phylloscopus trochiloides</i>	LC	Uliyan	Migratory (W)
200	Passeriformes	Phylloscopidae	Hume's Leaf Warbler	<i>Phylloscopus humei</i>	LC	Uliyan	Migratory (W)
201	Passeriformes	Phylloscopidae	Western crowned Warbler	<i>Phylloscopus occipitalis</i>	LC	Uliyan	Migratory (W)
202	Passeriformes	Phylloscopidae	Common Chiffchaff	<i>Phylloscopus collybita</i>	LC	Uliyan	Migratory (W)
203	Passeriformes	Pittidae	Indian Pitta	<i>Pitta brachyura</i>	LC	Dalma	Migratory (S)
204	Passeriformes	Ploceidae	Baya Weaver	<i>Ploceus philippinus</i>	LC	Dalma	Resident
205	Passeriformes	Pycnonotidae	Red-vented Bulbul	<i>Pycnonotus cafer</i>	LC	Uliyan	Resident
206	Passeriformes	Pycnonotidae	Red Whiskered Bulbul	<i>Pycnonotus jocosus</i>	LC	Uliyan	Resident
207	Passeriformes	Pycnonotidae	White browed bulbul	<i>Pycnonotus luteolus</i>	LC	Potka	Resident
208	Passeriformes	Rhipiduridae	White-browed Fantail	<i>Rhipidura aureola</i>	LC	Dalma	Resident
209	Passeriformes	Rhipiduridae	White-throated Fantail	<i>Rhipidura albicollis</i>	LC	Dalma	Resident

210	Passeriformes	Stenostiridae	Grey Headed Canary Flycatcher	<i>Culicicapa ceylonensis</i>	LC	Dalma	Migratory (W)
211	Passeriformes	Sturnidae	Bank Myna	<i>Acridotheres ginginianus</i>	LC	Uliyan River	Resident
212	Passeriformes	Sturnidae	Brahminy Starling (Brahminy Myna)	<i>Sturnia pagodarum</i>	LC	Uliyan	Resident
213	Passeriformes	Sturnidae	Common Myna	<i>Acridotheres tristis</i>	LC	Uliyan	Resident
214	Passeriformes	Sturnidae	Chestnut Starling	<i>Sturnia malabarica</i>	LC	Dalma	Resident
215	Passeriformes	Sturnidae	Rosy Starling	<i>Pastor roseus</i>	LC	Kharkai River Uliyan	Migratory (W)
216	Passeriformes	Turdidae	Orange- headed Thrush	<i>Geokichla citrina</i>	LC	Uliyan	Migratory (W)
217	Passeriformes	Turdidae	Tickel's thrush	<i>Turdus unicolour</i>	LC	Dalma	Migratory (W)
218	Passeriformes	Vangidae	Common Woodshrike	<i>Tephrodornis pondicerianus</i>	LC	Dalma	Resident
219	Passeriformes	Zosteropidae	Indian White-eyed	<i>Zosterops palpebrosus</i>	LC	Dalma	Resident
220	Pelecaniforme s	Ardeidae	Black Bittern	<i>Ixobrychus flavicollis</i>	LC	Hurlung	Resident
221	Pelecaniforme s	Ardeidae	Cinnamon Bittern	<i>Ixobrychus cinnamomeus</i>	LC	Hurlung	Resident
222	Pelecaniforme s	Ardeidae	Yellow Bittern	<i>Ixobrychus sinensis</i>	LC	Hurlung	Resident
223	Pelecaniforme s	Ardeidae	Cattle Egret	<i>Bubulcus coromandus</i>	LC	Hurlung	Resident
224	Pelecaniforme s	Ardeidae	Great Egret	<i>Ardea alba</i>	LC	Chakulia	Resident
225	Pelecaniforme s	Ardeidae	Little Egret	<i>Egretta garzetta</i>	LC	Kharkai River, Uliyan	Resident
226	Pelecaniforme s	Ardeidae	Black- crowned Night Heron	<i>Nycticorax nycticorax</i>	LC	Kadma	Resident
227	Pelecaniforme s	Ardeidae	Grey Heron	<i>Ardea cinerea</i>	LC	Galudih	Resident
228	Pelecaniforme s	Ardeidae	Indian Pond Heron	<i>Ardeola grayii</i>	LC	Galudih	Resident
229	Pelecaniforme s	Ardeidae	Purple Heron	<i>Ardea purpurea</i>	LC	Galudih	Migratory (W)
230	Pelecaniforme s	Threskiornithida e	Black headed Ibis	<i>Threskiornis melanocephalus</i>	LC	Chakulia	Resident

231	Pelecaniformes	Threskiornithidae	Red-naped Ibis	<i>Pseudibis papillosa</i>	LC	Chakulia	Resident
232	Piciformes	Megalaimidae	Blue-throated Barbet	<i>Psilopogon asiaticus</i>	LC	Dalma	Resident
233	Piciformes	Megalaimidae	Brown-headed Barbet	<i>Psilopogon zeylanicus</i>	LC	Dalma	Resident
234	Piciformes	Megalaimidae	Coppersmith Barbet	<i>Megalaima haemacephala</i>	LC	Uliyan	Resident
235	Piciformes	Megalaimidae	Lineated Barbet	<i>Psilopogon lineatus</i>	LC	Dalma	Resident
236	Piciformes	Picidae	Black-rumped flameback	<i>Dinopium benghalense</i>	LC	Dimna	Resident
237	Piciformes	Picidae	Brown-capped Pygmy woodpecker	<i>Dendrocopos nanus</i>	LC	Dalma	Resident
238	Piciformes	Picidae	Fulvous-breasted woodpecker	<i>Dendrocopos macei</i>	LC	Dalma	Resident
239	Piciformes	Picidae	Greater Flameback	<i>Chrysocolaptes guttacristatus</i>	LC	Dalma	Resident
240	Piciformes	Picidae	Greater Yellow-naped	<i>Chrysophlegma flavinucha</i>	LC	Dalma	Resident
241	Piciformes	Picidae	Rufous Woodpecker	<i>Micropternus brachyurus</i>	LC	Dalma	Resident
242	Piciformes	Picidae	Stripe-breasted Wood Pecker	<i>Dendrocopos atratus</i>	LC	Dalma	Resident
243	Piciformes	Picidae	Yellow Crowned Wood Pecker	<i>Leiopicus mahrattensis</i>	LC	Dalma	Resident
244	Piciformes	Picidae	White naped Woodpecker	<i>Chrysocolaptes festivus</i>	LC	Dalma	Resident
245	Piciformes	Picidae	Eurasian Wryneck	<i>Jynx torquilla</i>	LC	Hurlung	Migratory (W)
246	Podicipediformes	Podicipedidae	Little grebe or Dabchick	<i>Tachybaptus ruficollis</i>	LC	Dimna	Migratory (W)
247	Podicipediformes	Podicipedidae	Great crested grebe	<i>Podiceps cristatus</i>	LC	Galudih	Resident
248	Psittaciformes	Psittaculidae	Alexandrine Parakeet	<i>Psittacula eupatria</i>	NT	Uliyan	Resident
249	Psittaciformes	Psittaculidae	Rose-ringed Parakeet	<i>Psittacula krameri</i>	LC	Uliyan	Resident
250	Psittaciformes	Psittaculidae	Plum-headed Parakeet	<i>Psittacula cyanocephala</i>	LC	Dalma	Resident
251	Psittaciformes	Psittaculidae	Red-breasted Parakeet	<i>Psittacula alexandri</i>	LC	Dalma	Resident

252	Strigiformes	Strigidae	Brown wood owl	<i>Strix leptogrammica</i>	LC	Ghatshila	Resident
253	Strigiformes	Strigidae	Brown Hawk Owl or Brown boobook	<i>Ninox scutulata</i>	LC	Uliyan	Resident
254	Strigiformes	Strigidae	Eagle Owl	<i>Bubo bengalensis</i>	LC	Chotabanki	Resident
255	Strigiformes	Strigidae	Short eared owl	<i>Asio flammeus</i>	LC	Dimna	Migratory (W)
256	Strigiformes	Strigidae	Scops Owl	<i>Otus bakkamoena</i>	LC	Dalma	Resident
257	Strigiformes	Strigidae	Oriental Scops Owl	<i>Otus sunia</i>	LC	Dalma	Resident
258	Strigiformes	Strigidae	Jungle Owlet	<i>Glaucidium radiatum</i>	LC	Dalma	Resident
259	Strigiformes	Strigidae	Spotted Owlet	<i>Athene brama</i>	LC	Uliyan	Resident
260	Strigiformes	Tytonidae	Barn Owl	<i>Tyto alba</i>	LC	Uliyan	Resident
261	Suliformes	Phalacrocoracidae	Great Cormorant	<i>Phalacrocorax carbo</i>	LC	Kharkai River Uliyan	Migratory (W)
262	Suliformes	Phalacrocoracidae	Little Cormorant	<i>Microcarbo niger</i>	LC	Uliyan	Resident

(LC: Least Concern, NT: Near Threatened, VU: Vulnerable)

Table. 3: Showing Correlation with Orders and Families of total number of species found in East Singhbhum, Jharkhand.

Nos. of species found with Correlation of Orders and families in East Singhbhum, Jharkhand.			
Sr. No	Order	Nos. of Families	Nos. of Species
1	Accipitriformes	2	14
2	Anseriformes	1	12
3	Apodiformes	2	3
4	Bucerotiformes	2	3
5	Caprimulgiformes	1	3
6	Charadriiformes	9	21
7	Ciconiiformes	1	2
8	Columbiformes	2	7
9	Coraciiformes	3	9
10	Cuculiformes	2	14
11	Falconiformes	1	3
12	Galliformes	1	4
13	Gruiformes	1	7
14	Passeriformes	34	117
15	Pelecaniformes	2	12
16	Piciformes	2	14
17	Podicipediformes	1	2
18	Psittaciformes	1	4

19	Strigiformes	2	9
20	Suliformes	1	2
		71	262

Table. 4: Showing total number of families in correlation with orders in class Aves in East Singhbhum, Jharkhand

Nos. of Families in Correlation With Order in Class Aves in East Singhbhum, Jharkhand.		
Sr. No	Order	Nos. of Families
1	Accipitriformes	2
2	Anseriformes	1
3	Apodiformes	2
4	Bucerotiformes	2
5	Caprimulgiformes	1
6	Charadriiformes	9
7	Ciconiiformes	1
8	Columbiformes	2
9	Coraciiformes	3
10	Cuculiformes	2
11	Falconiformes	1
12	Galliformes	1
13	Gruiformes	1
14	Passeriformes	34
15	Pelecaniformes	2
16	Piciformes	2
17	Podicipediformes	1
18	Psittaciformes	1
19	Strigiformes	2
20	Suliformes	1
Total	20	71

Table. 5: Showing 262 species of total distribution in Residential and Migratory (further divided in winter & summer) species of class Aves in East Singhbhum, Jharkhand.

Total Distribution of Residential and Migratory (Winter & Summer Migrant) Species of Class Aves		
Descriptions	Nos.	Percentage (%) against the Total Species listed
Total Nos of Avian Species	262	
Nos. of Residents Species	168	64.12
Total Migratory Species	94	35.88

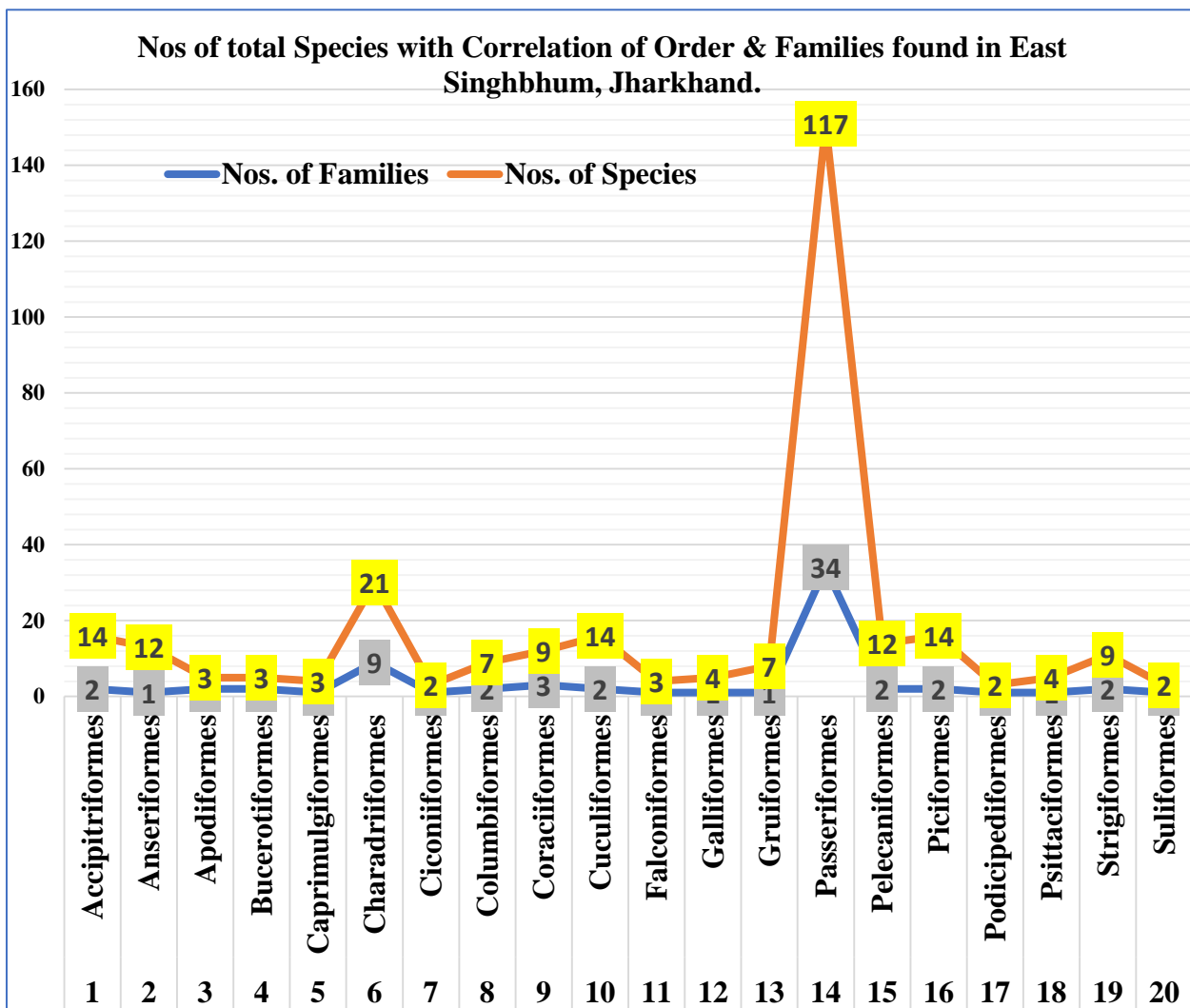
Nos. of Winter Migrant	87	33.21
Nos. of Summer Migrants	7	2.67

Table. 6: Showing total distribution of 94 Migratory species divided in winter and summer migrant species of class Aves in East Singhbhum, Jharkhand.

Total Distribution of 94 Migratory (Winter & Summer Migrant) Species of Class Aves			
Sr. No.	Migratory Species (94)	Distribution	Percentage%
1	Nos. of Winter Migrant	87	92.47
2	Nos. of Summer Migrants	7	7.53

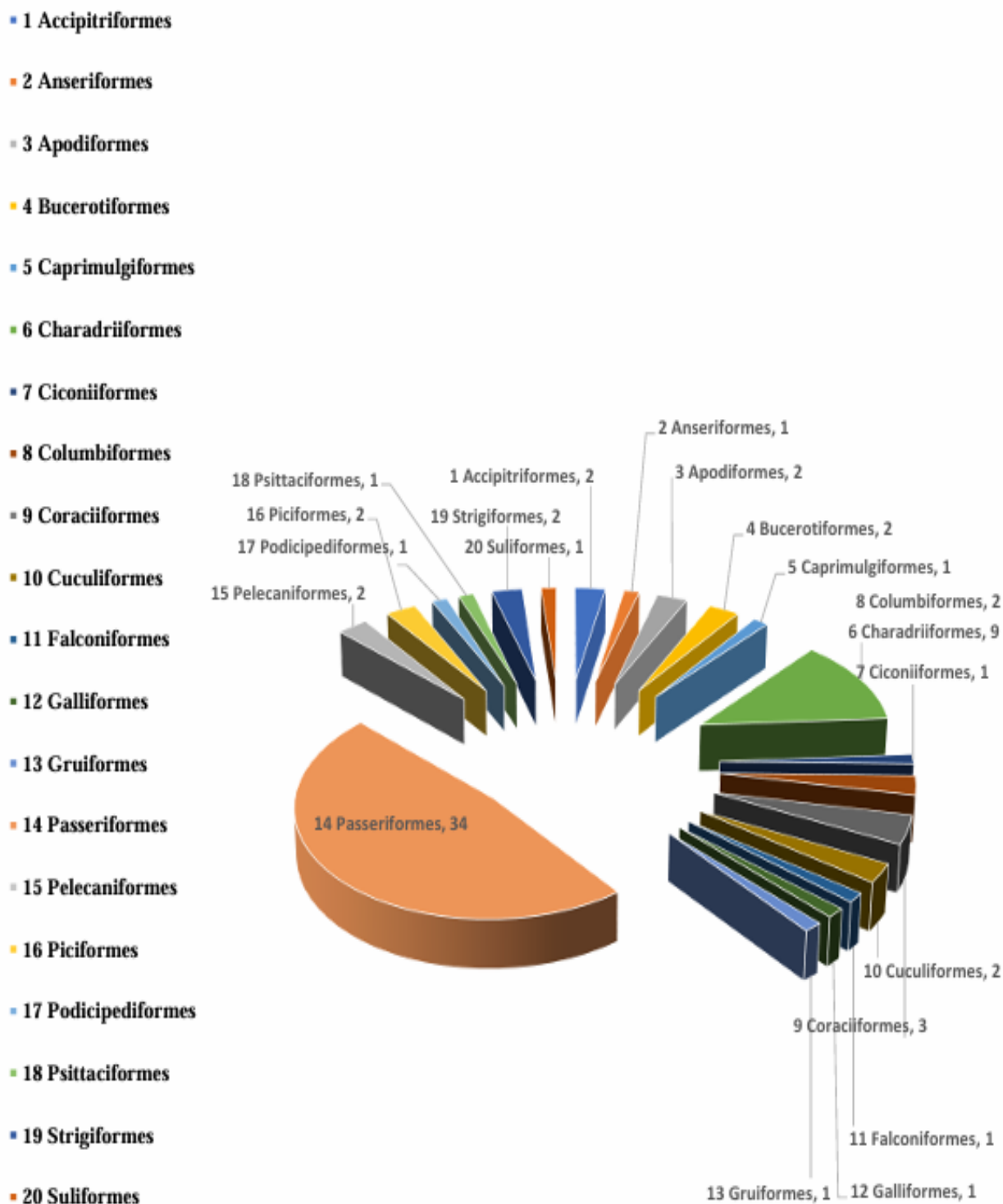
Table. 7: Showing the conservation status of 262 avian diversities of East Singhbhum, Jharkhand.

Conservation Status of Avian Diversity of East Singhbhum as per (IUCN 3.1)			
Sr. No.	Type of Conservation Status	Abbreviation	Nos of Species
A	Least Concern	LC	257
B	Near Threatened	NT	4
C	Vulnerable	VU	1

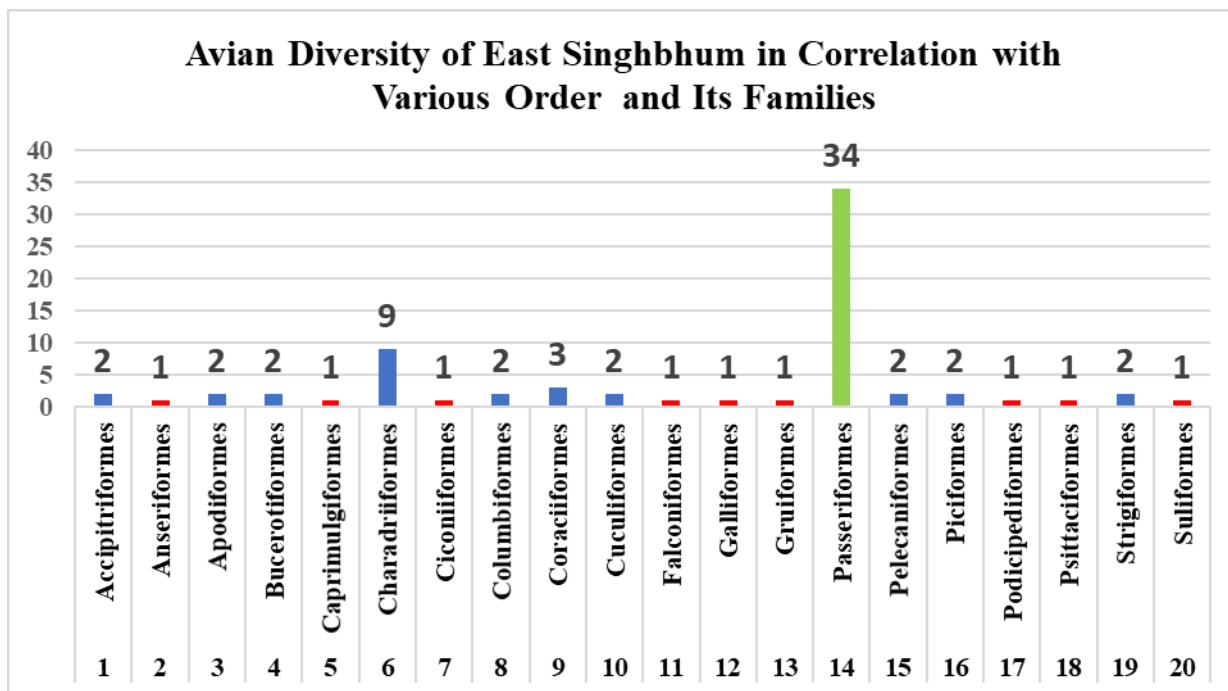


Graph. 1: Showing numbers of species in correlation with Orders and Families.

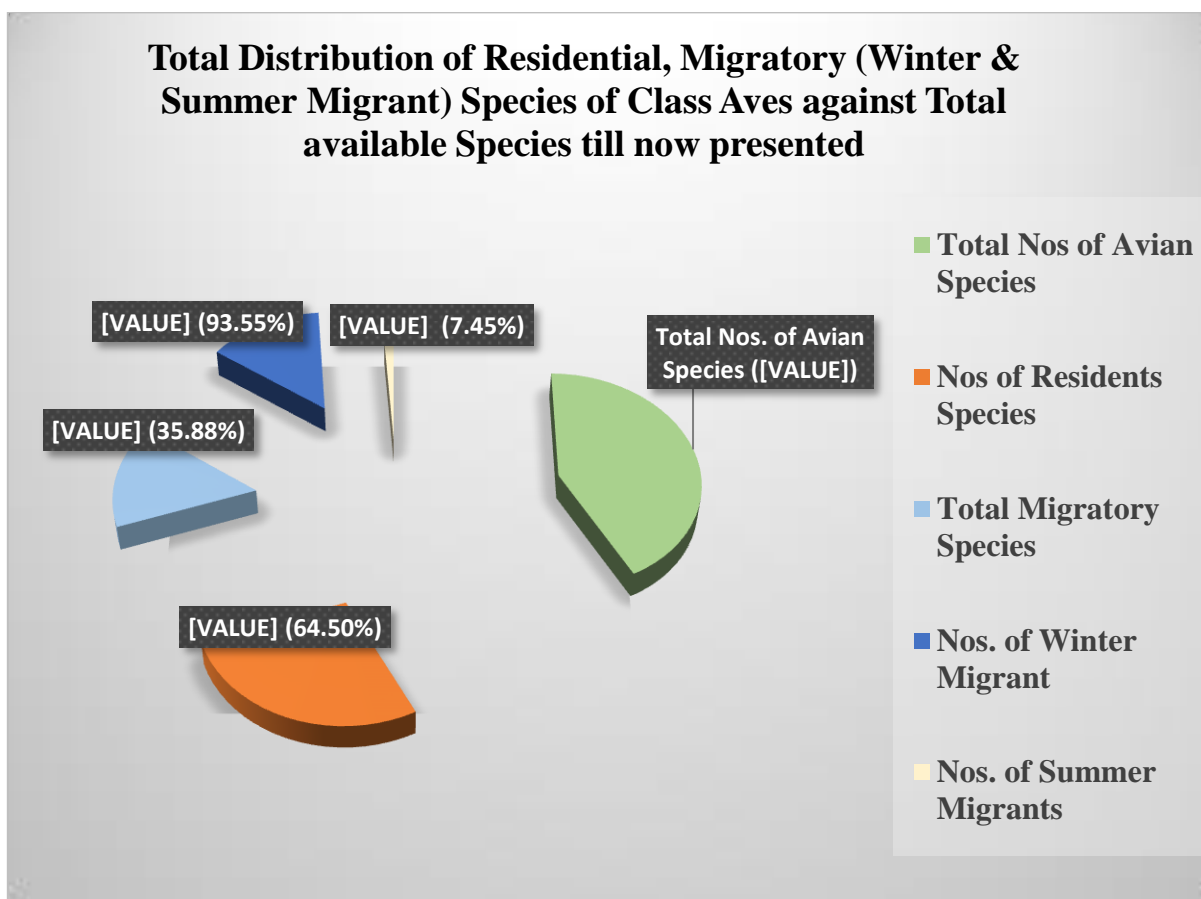
Number of Families in Correlation with Order in Class Aves found in East Singhbhum, Jharkhand.



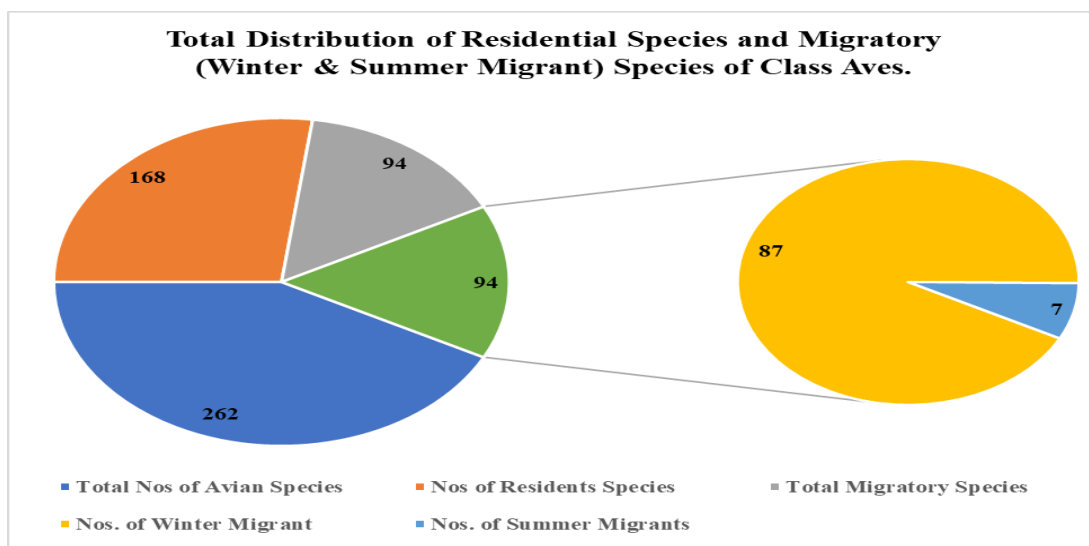
Graph. 2: Showing Pie chart of families in correlation with 20 Orders in class Aves in East Singhbhum, Jharkhand.



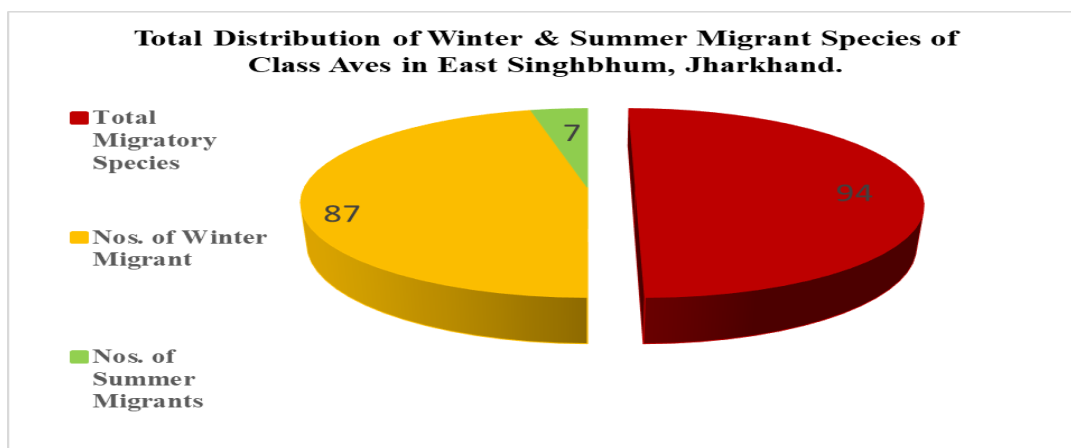
Graph. 3: Showing Avian diversities with correlation of Orders and Families in East Singhbhum, Jharkhand.



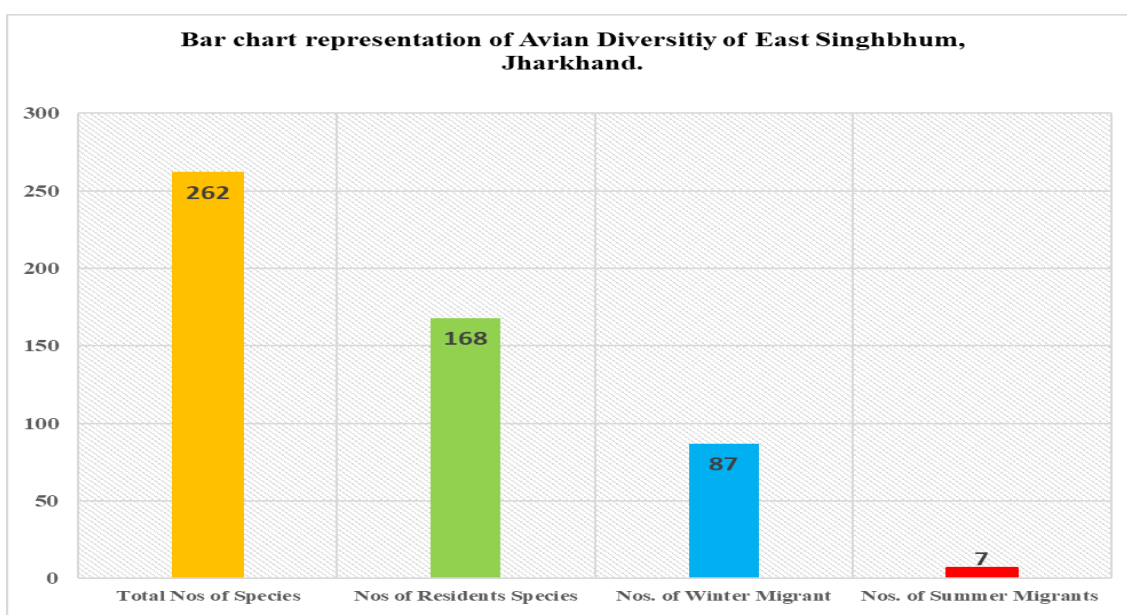
Graph. 4: Showing Percentage Distribution of Total number of Avian species with Residential, Migratory (Winter & Summer Migrant) Species of Class Aves of East Singhbhum, Jharkhand.



Graph. 5: Showing distribution of Residential and Migratory (Winter & Summer migrants) species in East Singhbhum, Jharkhand.



Graph. 6: Showing Pie chart which represents the distribution of Migratory species which further divides into Winter & Summer migrants Species.



Graph. 7: Showing bar graph that represent number of Total Species with number of Residents, Winter, and Summer migrants species of East Singhbhum, Jharkhand.

Plate 1



Spotted Owl



Brown wood Owl



Brown Boobook Owl



Barn Owl



Jungle Owlet



Black headed Ibis



Red naped Ibis



Alexandrine Parakeet



Rose ringed Parakeet



Great Egret



Cattle Egret



Little Egret

Fig. 8: Showing Plate 1 of some bird species (1-12) found in East Singhbhum during the survey.

Plate 2



Red avadavat Munia



Indian Silverbilled



Tricoloured Munia



Scaly breasted Munia



Brahminy Starling



White rumped Shama



Eurasian Hoopoe



Indian Pitta



Baya Weaver



Asian paradise flycatcher
(Male)



Asian paradise flycatcher
(Female)



Yellow-footed Green pigeon

Fig. 9: Showing Plate 2 of some bird species (13-24) found in East Singhbhum during the survey.

Plate 3



Laughing Dove



Coppersmith Barbet



Brown-headed Barbet



Yellow-eyed Babbler



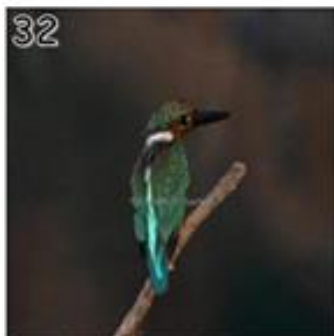
Western Crown Warbler



Stork-billed Kingfisher



White breasted Kingfisher



Common Kingfisher



Pied Kingfisher



Pied Jacobin Cuckoo



Orange headed Thrush



Barn Swallow

Fig. 10: Showing Plate 3 of some bird species (24-36) found in East Singhbhum during the survey.

Plate 4



Bluethroat



Black Redstart



Yellow wattled Lapwing



Grey-headed Lapwing



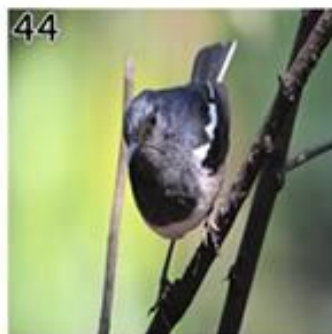
Black Kite



Shikra



Crested serpent Eagle



Oriental Magpie Robin



Indian Robin



Rufous Treepie



Siberian Rubythroat



Common Sandpiper

Fig. 11: Showing Plate 4 of some bird species (37-48) found in East Singhbhum during the survey.

Plate 5



Wood Sandpiper



Taiga Flycatcher



Indian Roller



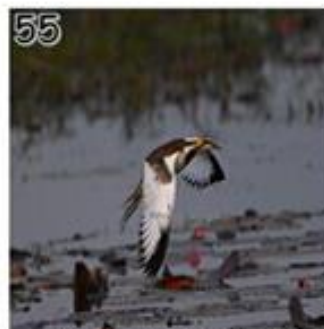
Green Bee-eater



Little ringed Plover



Black Drongo



Pheasant tailed Jacana



Bronze winged Jacana



Ashy Prinia



Purple Sunbird
(Male)



Siberian Stonechat



Common Tailor bird

Fig. 12: Showing Plate 5 of some bird species (49-60) found in East Singhbhum during the survey.

Plate 6



House Sparrow



Gadwall



Indian thick-knee



Brown Shrike



Indian Bush lark



Tickel's Thrush



Indian Grey Hornbill



Grey Francolin



Little Cormorant



Lesser whistling Teal



Ruddy Shelduck



Red crested Pochard

Fig. 13: Showing Plate 6 of some bird species (61-72) found in East Singhbhum during the survey.

Plate 7



Eurasian common Coot



Black crowned night Heron



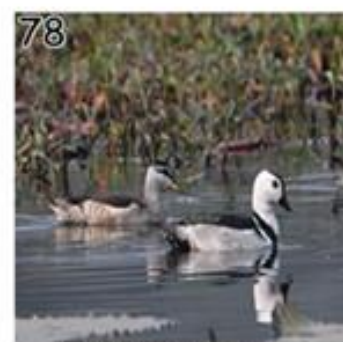
Pond Heron



Water-breasted Hen



Purple Swampphen



Cotton pygmy Goose



Open Stockbill



Common Moorhen



Black hooded Oriole



Cinnamon Bittern



Black Bittern



Bank Myna

Fig. 14: Showing Plate 7 of some bird species (73-84) found in East Singhbhum during the survey.

Plate 8



Common Iora



Crested Treeswift



Red wattled Lapwing



Indian Nightjar



Indian White Eyed



Sirkeer Malkoha



Verditer Flycatcher



Western Yellow Wagtail



Red necked Falcon



Grey bellied Cuckoo



White naped Woodpecker



Small Minivet

Fig. 15: Showing Plate 8 of some bird species (85-96) found in East Singhbhum during the survey.

CONCLUSION

Singhbhum region which is topologically vivid due to the presence of waterbodies i.e. rivers, ponds, wetlands along with thick forest covers of the Dalma Wildlife Sanctuary which provides ample and suitable nesting and feeding ground for the birds. The vegetation of the area is also diverse, comprising mainly of shrubs such as *Lantana camara* and *Ziziphus jujuba*, along with tall trees such as *Shorea robusta*, *Bombax ceiba*, *Butea monosperma*, *Dalbergia sissoo*, *Ficus religiosa*, *Ficus benghalensis*, *Phoenix sylvestris*, *Artocarpus heterophyllus*, *Syzygium cumini*, etc, are few to name. This wide variety of vegetational cover of different trees and shrubs thus provides suitable habitat for feeding, mating, nesting and hiding. The current assessment lists the bird species along with the conservation status, site of the watch and migratory behaviour, which can play a pivotal role in future exploration, protection, conservation strategies and routine monitoring to ensure survival and to construct a blueprint for effective management. During the assessment and field tour, it came to our notice that the vast diversity of avifaunal loss is due to encroachment of the habitat for economic purposes along with the diverse human activities that directly or indirectly harm the avifauna. The retrospective thought process of the native community and stakeholders, which focuses mainly on the narrow utilitarian prospect of the forest and wildlife, is causing severe fundamental and ecological degradation of the biodiversity of the region. The role of habitat is even more severe for specialised species which has a narrow range of geographical distribution, as the quality of the dwelling ground is an important parameter for their survival. The findings also emphasise on the urgent need for an action plan for sustainable land use to safeguard the region for avifaunal diversity in varieties of habitats such as wetland, forest, riverine, grassland and a few of the ecotone and transition of the area. The development and promotion of forest areas into a tourist hotspot should be closely monitored as the ethological parameters of the dwelling animals change due to anthropogenic activities if a safe limit is not set at the earliest. Strict implications of conservation strategies need to be implemented to retard the rate of loss of diversity of the bird population. Furthermore, the role of the community and their active participation should be encouraged for effective management of the forest land, wetlands, and every habitat inhabited by the birds and also those species of lifeforms on which the lifecycle of these avifauna depends. Additional studies of behavioural patterns, seasonal variations, and migration patterns can provide a better view of the health of the diversity of avifauna present in the area. Further we conclude that, remarkably, the species data of avian birds present here in this paper, probably, is the first report with 262 species as per our knowledge, before this no one has reported this much species in East Singhbhum, Jharkhand.

ACKNOWLEDGEMENT

Authors convey their deep gratitude to (*Late.*) *Dr. K. K. Sharma*, Former Head, Department of Zoology, Jamshedpur Cooperative College, who was a renowned ethologist, ornithologist, conservationist and a keen birdwatcher of the region and had in depth knowledge of the ecological parameters and provided his valuable guidance and his scientific remarks. Authors are grateful to Dr. Shaba Alam Ansari (DFO, Jamshedpur), together with respected Mrs. Smitha Pankaj (RCCF Jamshedpur) for the immense support. Authors give heartfelt thanks to Mrs. Soma Sarkar, Mrs. Gouri Guria, Mr. Hari Kumar, and Mr. Akash Jaiswal for their support, guidance, and assisting in the photography sessions along with field tour, and guiding us to local areas. Authors further shows their appreciation to Dr. Amar Singh (Principal); Dr. Amar Kumar, (Head) Department of Zoology; and Dr. Swati Soren (Asst. Professor), Jamshedpur Cooperative College, Jamshedpur, for brief sessions of knowledge sharing on the related topics. Authors would also like to thank their young friend Sangita Guria for extending the helping hand. Furthermore, Authors are grateful to their family for their continuous support, encouragement, and love along with their friends who helped directly or indirectly during this study. This paper is dedicated to our beloved Sir (*Late.*) *Dr. K. K. Sharma*. Last but not the least, authors owe to their team members for the team work and for reporting 262 species of birds for the first time as per their knowledge in East Singhbhum, Jharkhand.

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