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Birds of Behali Wildlife Sanctuary – an Important Bird Area of Assam, India

Introduction

Avifauna is an indicator of the environmental health of any country (Collar, Andrew, 1988; Gregory, van Strien, 2010). The high and low diversity of bird species is directly related to the environmental condition of an area (Devi, Saikia, 2010). Geographically, India is the 7th largest country in terms of total area i.e., 3 287 263 km^2, and ranks 10th in bird diversity of the world (Lepage, 2016). Globally 11 158 species of bird are so far known of which 159 are extinct, 5 are extinct in the wild, 225 are critically endangered, 461 endangered, 800 are vulnerable, 1017 are near threatened, 8427 are least concern and 53 are data deficient (*BirdLife International*, 2022a). Birds also comprise one of the most threatened taxa of the world, *i.e.* 13% of the world's species (1 313 out of 10 064) are categorised under threatened categories (*IUCN*, 2022). The Indian subcontinent has rich avian diversity with about 1263 species (Praveen et al., 2016), falling under 23 orders, 107 families and 498 genera which is approximately 12.5% of the world's bird species (Praveen et al., 2016; Grimmett et al., 2000). To recognise the important habitats of the highest bird diversity and concentration, 554 Important Bird Areas (IBAs) are designated globally and they cover an area of about 19 415 798 ha (Islam, Rahmani, 2004).

Assam, the heart of north-eastern India, harbours around 820 bird species, which includes 280 species of migratory birds (Choudhury, 2000). The geographical area of Assam is 7.84 million ha., which covers 2.39% of the country's total area and has 55 recognised Important Bird Areas (IBAs) (Rahmani et al., 2016). However, many of the IBAs are very poorly studied to date, without any complete accounts of the diversity which complicates carrying out conservational programs throughout the landscape. Behali Wildlife Sanctuary (earlier Behali Reserve Forest) is recognised as an "Important

Bird Area IN-AS-05 (A1 and A3)" by the Bombay Natural History Society (Rahmani et al., 2016). The forest falls under the East Himalayan Biodiversity hotspot and is a part of the Sonitpur-Kameng Elephant Reserve notified in 2003 (Islam, Rahmani, 2004). So far a single report on the faunal diversity of the area has been published by Kafley (2016–2017) in a regional journal, but comprehensive checklist of these different faunal groups is yet to be compiled. Hence the present study was carried out with a vision to assess the diversity of bird species in Behali Wildlife Sanctuary and to assess the local status of birds.

This present work aims to augment the information about the bird diversity of the IBA and the data generated in the present work will also serve as a benchmark for devising better conservation strategies for avian diversity in the future.

Study area

Behali Wildlife Sanctuary (BWLS), located in the Biswanath district of Assam (Fig. 1) has a total area of about 14 000 hectares, but now less than 8000 hectares of forested area is left intact (Choudhury, 2000). The total area of the wildlife sanctuary is 157.25 km^2 and is located between 26.941701 N and 26.937960 N longitudes and 93.188950 E and 93.466136 E latitudes. The elevation ranges between 80 and 250 m. The mean annual rainfall is > 2300 mm and the temperature ranges from 6°C to 34°C (Rahmani et al., 2016). Many annual and perennial tributaries viz. Bihmari, Deojan, Naharjan, Bedeti, Dikal, Dihiri, Thandapani, Singlijan, etc. drain the water to the Buroi and the Borgang River, and finally to the Brahmaputra. In the east, flows the Singlijan River which is connected to the Singlijan reserve forest. To the west, the boundary is marked by the Borgang River. Numerous annual and perennial streams, wetlands, swamps, and mixed grasslands are also present within the reserve that provides shelter to different forms of life. The northern boundary is shared by the Papum Reserve Forest of Arunachal Pradesh. The southern boundary has many tea plantations and human habitation areas which include Rangagorha Tea Estate, Khorang-Line, Serelia-Pathar, Hatimara-Pathar, Sialmari, Bihmari, Serelia-Bongaon, Bihmari-Bongaon, etc.

This forest is a part of the greater Sonitpur Elephant Reserve and was declared as a reserved forest in 1917. It lies between the two famous protected areas, the Nameri National Park on its west and Kaziranga National Park on its south (Borah et al., 2009). It acts as an important corridor for migration of species between these protected areas. The reserve forest is an important area for mammals like Indian Elephant (*Elephas maximus* L.), Slow Loris (*Nycticebus coucang* Boddaert), Capped Langur (*Trachypithecus pileatus* Blyth), Malayan Giant Squirrel (*Ratufa bicolor* Sparrman), etc. (Islam, Rahmani, 2004; Borah et al., 2021a). This area is also recognised as an Important Bird Area in 1994 and a Key Biodiversity Area in 2004.

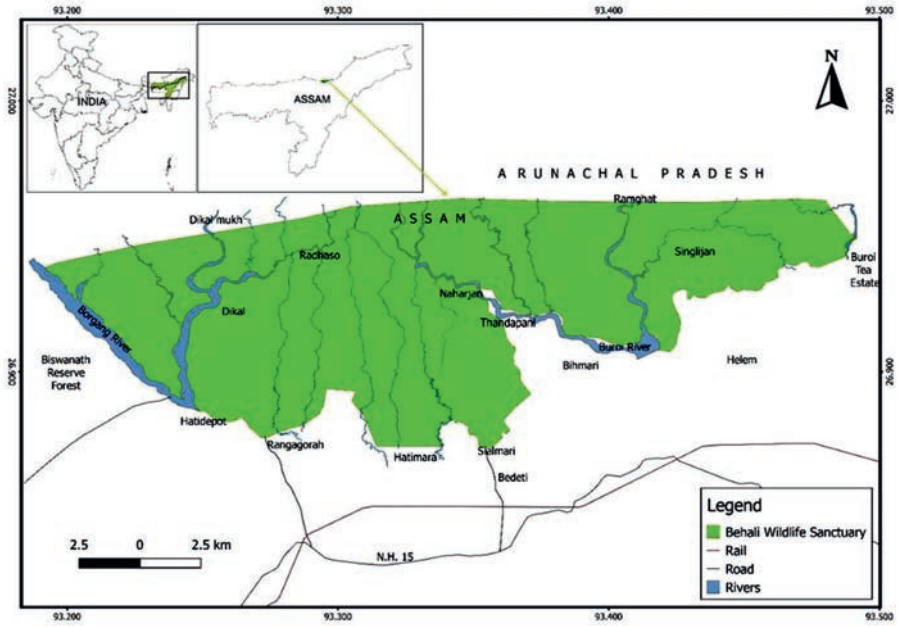

Fig. 1. Map of the study area

The area is flat with gentle slopes, typical of bhabar and terai. Though the area is dominated by plains, however, some hills lie in the extreme north of the forest. The flora of the forest has been partially worked out (Borah et al., 2020a), as well as the plant community structure as elucidated by Borah et al. (2021a), shows the presence of various fig (*Ficus* sp.) species, as well as other fruit trees forming a suitable refuge for many residential and migratory birds. It is characterised as a semi-evergreen formation with Lauraceae, Euphorbiaceae, and Phyllanthaceae being the most diverse families and *Magnolia hodgsonii* (Hook.,Thom.) H. Keng, *Mesua ferrea* L. and *Dillenia indica* L. are the dominant tree species of the reserve (Champion, Seth, 1968; Borah et al., 2021b). It also includes many rare plants or is of interest to the area's biodiversity (Borah et al., 2019a, b; Borah et al., 2020b, c; Borah et al., 2021a). The soil is mostly composed of new and old alluvium, which is unconsolidated and loose in structure (Bhattacharjya, Bhagawati, 2009). Agriculture is present on almost all sides of the forest and degradation has severely hampered its boundaries. Shifting cultivation is seen in the North boundaries, whereas settled agriculture is predominant in the south and east.

Methods

The bird species were identified by their primary calls, sight, photographs, and relevant literature (Ali, Ripley, 1987; Grimmett et al., 2020, 2011). All recorded bird species are

tabulated and characterised by the following characteristics: common name, scientific name, and vernacular names of the birds (Datta, 2013) systematic affiliation according to Praveen et al., (2015), threat status: CR – Critically Endangered, EN – Endangered, VU – Vulnerable, NT – Near Threatened, LC – Least Concern (*IUCN, 2022*; *BirdLife International*, 2022a); residential status: R – widespread resident, r – very local resident, W – widespread winter visitor, w – sparse winter visitor, p – sparse migrant, V – vagrant or irregular visitor, s – local summer breeder (according to Grewal, Bhatia, 2014); occurrence in Behali Wildlife Sanctuary (BWLS): Rare – R, Common – C. In addition, a general characterisation of 10 selected species found in BWLS with CR, EN, and VU categories was carried out.

Results

The study documented altogether 283 species of avifauna belonging to 21 orders, 69 families, and 194 genera in the study area (Tab. 1 – Appendix 1). Among the orders, Passeriformes recorded the highest number of birds species i.e. 125 followed by Charadriiformes (19 species) and Accipitriformes (18 species), Piciformes and Columbiformes with (14 species) each, Coraciiformes with (13 species), Pelecaniformes (12 species), Strigiformes and Cuculiformes with (11 species) each, Anseriformes (8 species), Ciconiiformes, Falconiformes (6 species) each, Psittaciformes, Bucerotiformes and Gruiformes with (5 species) each, Galliformes (4 species), Suliformes (3 species), Podicipediformes (2 species), and lowest of (1 species) each from Trogoniformes, Caprimulgiformes and Apodriformes (Fig. 2).

The study found altogether:

- 1 (0.35%) critically endangered species namely Red-necked Vulture (*Sacrogyps calvus*);
- 2 (0.71%) endangered species (White winged duck *Asarcornis scutulata* and Steppe Eagle *Aquila nipalensis*);
- 7 (2.47%) vulnerable species (Lesser Adjutant Stork *Leptoptilos javanicus*, Wreathed Hornbill *Rhyticeros undulatus*, Rufous-necked Hornbill *Aceros nipalensis*, Great Hornbill *Buceros bicornis*, Greater Spotted Eagle *Clanga clanga*, Eastern Imperial Eagle *Aquila heliac*) and River Tern *Sterna auranti*);
- 13 (4.59%) near threatend species (White-cheeked Partridge *Arborophila atrogularis*, Black-necked Stork *Ephippiorhynchus asiaticus*, Woolly-necked Stork *Ciconia episcopus*, Black-headed Ibis *Threskiornis melanocephalus*, Oriental Darter *Anhinga melanogaster*, Red-necked Falcon *Falco chiquera*, Pallid Harrier *Circus macrourus*, Grey-headed Fish Eagle *Haliaeetus icthyaetus*, Alexandrine Parakeet *Psittacula eupatria*, Blossom-headed Parakeet *P. roseata*, Red-breasted Parakeet *P. alexandri*), River Lapwing (*Vanellus duvaucelii*) and Great stone-curlew (*Esacus recurvirostris*),

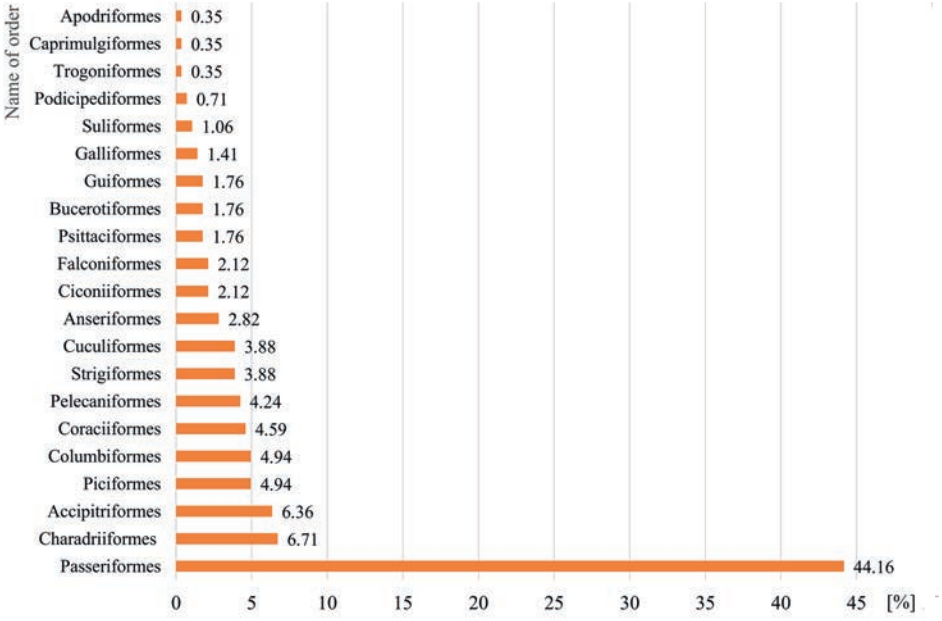

Fig. 2. Comparison of the percentage share of species belonging to 21 orders in the avifauna of Behali Wildlife Sanctuary

and other 260 (84.8%) species were least concern. Some of them are illustrated in figure (3) (Tab. 1 – Appendix 1).

Among 283 bird species, 95 (33.56%) species were very local residents (r), 124 (43.82%) species were widespread residents (R), 9 (3.18%) species were sparse winter visitors (w), 15 (5.3%) species were widespread winter visitors (W), 14 (4.95%) species were widespread resident winter visitors (RW), 8 (2.83%) species were residents and widespread winter visitors (rW), 3 (1.06%) species were residents which were also sparse winter visitors (rw) and 3 (1.06%) species were local summer breeders but widespread winter visitors (sW), one (0.35%) species was widespread summer breeder (sw), one (0.35%) species was vagrant or irregular visitor (V), one (0.35%) species was widespread winter visitor (Rw), one (0.35%) species was local migrant (rp) and one (0.35%) species was a sparse visitor (p) (Tab. 1 – Appendix 1).

Some of the notable resident and migratory bird species of the Behali Wildlife Sanctuary includes Grey Peacock Pheasant (*Polyplectron bicalcaratum*), White-cheeked Partridge (*Arborophila atrogularis*), Bar-headed Goose (*Anser indicus*), White-winged Duck (*Asarcornis scutulata*), Great Crested Grebe (*Podiceps cristatus*), Common Merganser (*Mergus merganser*), Glossy Ibis (*Plegadis falcinellus*), Oriental Honey-Buzzard (*Pernis ptilorhynchus*), Steppe Eagle (*Aquila nipalensis*), Greater-spotted Eagle (*Clanga clanga*), Ruddy Kingfisher (*Halcyon coromanda*), Common Sandpiper (*Actitis hypo-*

Fig. 3. Few avian species of Behali Wildlife Sanctuary: A – White winged Duck (*Asarcornis scutulata*); B – Great Hornbill (*Buceros bicornis*); C – Lesser adjutant Stork (*Leptoptilos javanicus*); D – Woolly-necked Stork (*Ciconia episcopus*); E – Steppe Eagle (*Aquila nipalensis*); F – River Tern (*Sterna auranti*); G – Osprey (*Pandion haliaetus*); H– Kalij Pheasant (*Lophura leucomelanos*) (Photo A by Chirantanu Saikia, B-E,G-H by Ranjit Kakati; F by Sahas Gjoel)

leucos), Green Sandpiper (*Tringa ochropus*), Pacific-golden Plover (*Pluvialis fulva*), Barred-Cuckoo Dove (*Macropygia unchall*), Vernal hanging Parrot (*Loriculus vernalis*), Wreathed Hornbill (*Rhyticeros undulatus*), Taiga Flycatcher (*Ficedula albicilla*), Blue-bearded Bee-eater (*Nyctyornis athertoni*), Red-headed Trogan (*Harpactes erythrocephalus*), Hooded Pitta (*Pitta sordida*), Maroon Oriole (*Oriolus traillii*), White-spectacled Warbler (*Phylloscopus intermedius*), Silver-eared Mesia (*Leiothrix argentauris*), Scaly Thrush (*Zoothera dauma*) and Amur Falcon (*Falco amurensis*) (Tab. 1. – Appendix 1). As many as 29% of species are rare in the study area.

Short notes on some threatened birds of Behali Wildlife Sanctuary

Below is a short general characterisation of the selected species that in the BWLS belong to the group CR – Critically Endangered, EN – Endangered, VU – Vulnerable. In the characterisation, previous records of those species noticed in the Assam were also taken into account.

1) **Red-necked vulture**, *Sacrogyps calvus*, CR: It is a large-sized scavenging bird, which feeds mainly on the carcasses of dead animals, and was once found on every continent except Antarctica and Oceania (Del Hoyo et al., 1994). It is a residential species for India and its population in India has declined at the rate of 91% from the year 1999 to 2003 (Cuthbert et al., 2006). Now the estimated population of this threatened species is about 2500–9999 individuals. (*Birdlife International*, 2022b). This species has suffered an extremely rapid population reduction in the recent past which is likely to continue into the near future, probably largely as a result of feeding on carcasses of animals treated with the veterinary drug diclofenac (*Birdlife International*, 2022b), perhaps in combination with other causes like demise of wild ungulates, unintentional poisoning, the intensification of agriculture, increased sophistication of waste disposal techniques, direct persecution and disease (Clements et al., 2013).

   Earlier records from Assam: Chakrashila Wildlife Sanctuary, Jamjing and Sengajan, Kaziranga National Park (Choudhury, 2000; Baruah, Sharma, 1999), Behali Reserve Forest (Choudhury, 2000), Dibru-saikhowa National Park (Choudhury, 2006a), Manas National Park (Choudhury, 2006b), Nameri National Park (Das, Deori, 2010), Orang National Park (Talukdar, Sharma, 1995).

2) **White-winged duck**, *Asarcornis scutulata*, EN: It is one of the most endangered avian species in the world according to the IUCN Red List and also listed as a Schedule I species under the Indian Wildlife Protection Act, 1972. It inhabits dense tropical evergreen forests, near swamps, and rivers or any form of wetland and lay their eggs in tree cavities nearer to the water sources. Only 800 individuals are estimated to be left in the wild globally and out of them, only 450 individuals (Choudhury, 2007) are known to be present in the Eastern Himalayan Foothills of Northeast India, 200 in Laos, Thailand, Vietnam, and Cambodia and 150 in Sumatra (*BirdLife International*, 2012). Due to habitat destruction, forest fragmentation, loss of large trees with nesting holes (*Birdlife International*, 2022b), hunting, and collection of eggs their population has been tremendously decreased (Rahmani et al. 2016). It is locally called "Deo-hah" in Assamese language, due to their ghostly call.

   Earlier records from Assam: Dibru-Saikhowa National Park, Dangori Reserve forest, Dumduma Reserve forest & Kumsong Reserve Forests (Choudhury, 1996, 2006a; Yanha, 1994),

Joypur Reserve Forest (Choudhury, 1996), Morioni (Mukherjee, 1961), North Cachar hills (Green, 1992), Dibrugarh, Lakhimpur, Nowgong, Silchar and Sonitpur Districts (Mackenzie, 1985; Yanha, 1994), Tinsukia and Dibrugarh districts (Hume, Marshall, 1879–1889), Upper Dihing East and West Complex (Choudhury, 1996, 1998; Rahmani et al., 2016), Tirap-Burhidihing (Choudhury, 1996, 1998), Manas National Park (Choudhury, 2006b), Nameri National Park (Das, 1995, 1998, 1999; Saikia, Saikia, 2011; Das, Deori, 2012), Behali Reserve Forest (Choudhury, 2000, Sonai Rupai Wildlife Sanctuary (Choudhury, 2002), Barail Range, Dhansiri Reserve Forest, Dum Duma-Dangori, East and North Karbi Anglong Wildlife Sanctuaries, Garampani, Nambor and Doigrung, Hollongapar Gibbon Sanctuary, Inner Line (East), Katakhal and Barak Reserve Forests, Jamjing and Sengajan, Jatinga, Langting-Mupa Reserve Forest, Lumding Reserve Forest, Subansiri Dulung (Rahmani et al., 2016).

3) **Steppe Eagle**, *Aquila nipalensis*, EN: This species mainly breeds in Eastern Europe, Russia, Republic of Kalmykia (Karyakin et al., 2016), Kazakhstan, Kyrgyzstan, China, Mongolia (Meyburg, Boesman, 2013), Moldova, Romania, Ukraine, and Turkey (Ebird, 2020). In winter they migrate to the Middle East, Arabia, and southeast Africa (Meyburg, Boesman, 2013). The total global population is estimated at more than 37000 pairs (Karyakin et al., 2016). Habitat loss (Meyburg, Boesman, 2013) and high voltage powerline (*Birdlife International*, 2022b) are the major causes of its decline.

   Earlier records from Assam: Nameri National Park (Das, Deori, 2010), Orang National Park (Chakdar et al., 2019), Biswanath district (Kakati et al., 2021).

4) **Lesser adjutant stork**, *Leptoptilos javanicus*, VU: They are distributed in Cambodia, India, Malaysia, Nepal, Indonesia, Sri Lanka, Bangladesh, Myanmar, Laos, Bhutan, Brunei, Vietnam, and Thailand (*BirdLife International*, 2022a). Globally, around 6500–8000 mature individuals of the lesser adjutant stork are left in the world and a few substantial populations occur primarily in India (about 2000 birds in Assam, West Bengal and Bihar). Cutting down their nesting trees, habitat destruction, urbanisation, collection of eggs and chicks, hunting of adults, conversion of wetlands in to agricultural lands, fisheries and the use of fertilizers and pesticides in agricultural land are threatening the survival of this species. Practise of poisoning pools to catch fishes also leads to incidental mortality of this species (Gyawali, 2004)

   Earlier records from Assam: Dibru-Saikhowa National Park (Choudhury, 1995; Saikia, 1995), Orang National Park (Saikia, 1995), Kaziranga National Park (Saikia, 1995; Bhattacharjee et al., 1996; Baruah, Sharma, 1999), Jengdia beel, Kamrup district (Saikia, 1995), Biswanath district (Choudhury, 2000, Kakati et al., 2021); Dum Duma-Dangori & Kumsong Reserve Forests (Saikia, 1995; Rahmani et al., 2016), Jamjing beel (Choudhury, 1992), Deepor beel

(Saikia, Bhattacharjee, 1989), Nameri National Park (Choudhury, 1991), Majuli, Pobitora Wildlife Sanctuary, Dikhoumukh, Nalbari, Pani Dihing, Chakrashilla Wildlife Sanctuary, Sareswar beel (Saikia, 1995), Laokhowa Wildlife Sanctuary (Kahl, 1971; Saikia, 1995), Bherjan-Borajan-Podumoni Wildlife Sanctuary (Choudhury, 1995), Manas National Park (Rahmani et al., 1988; Saikia, 1995), Jhanjimuk-Kokilamukh, Jorhat (Mahanta et al., 2019), Behali Reserve Forest (Kakati et al., 2021), Amchang Wildlife Sanctuary, Barail Range, Bauwwa Beel, Bordoibam-Bilmukh Bird Sanctuary, Bordoloni-Sampora, Chakrashila Complex, Chandubi Lake and adjoining areas, Deobali Jalah, Dhansiri Reserve Forest, East and North Karbi Anglong Wildlife Sanctuaries, Garampani, Nambor and Doigrung, Hollongapar Gibbon Sanctuary, Inner Line (East), Katakhal and Barak Reserve Forests, Jamjing and Sengajan, Satgaon, Kuarbari-Dalani, Laokhowa and Burhachapori Wildlife Sanctuary, Lumding Reserve Forest, Majuli Island, Pabho Reserve Forest, Ripu Reserve Forest, Sibsagar Tanks, Son Beel, Subansiri Dulung, Tamaranga-Doloni-Bhairab Complex, Tirap-Burhidihing, Upper Dihing (East) Complex, Upper Dihing (West) Complex, Urpod Beel (Rahmani et al., 2016), Raimona National Park (Mahanta et al., 2022).

5) **Greater Spotted Eagle**, *Clanga clanga*, VU: This species is mainly found in Estonia, Poland, Belarus, Russia, Ukraine, Kazakhstan, China, Mongolia (Meyburg et al., 1999), small numbers in Pakistan and North-west India (*BirdLife International*, 2001), Finland, and Lithuania (*BirdLife International*, 2015). During winter they migrate to Eastern Europe, North Africa, East Africa, the Indian subcontinent, South Asia, and Southeast Asia (*BirdLife International*, 2015). The total population is about fewer than 3300–8800 mature individuals (*Birdlife International*, 2022a) and is suspected to be declining at a rate of >30% over three generations as a result of extensive habitat loss due to deforestration, felling of nesting trees and destruction of wetlands (Maciorowski et al., 2014) and persistent persecution (*Birdlife International*, 2022a). Electrocution, collision with wind turbines, hunting and poisoning during times of their migration, as well as heavy metals poisoning from consuming waterbirds, are other major threats to them (Maciorowski et al., 2014; Perez-Garcia et al., 2020).
Earlier records from Assam: Dibru-Saikhowa National Park (Choudhury, 2006a), Kaziranga National Park (Baruah, Sharma, 1999), Nameri National Park (Das, Deori, 2010), Jhanjimuk-Kokilamukh, Jorhat (Mahanta et al., 2019), Orang National Park (Chakdar et al., 2019), Dakra Beel, Chakrashila WLS (Choudhury, 2000), Biswanath district (Kakati et al., 2021).

6) **Eastern Imperial Eagle**, *Aquila heliaca*, VU: This species mainly breeds in Austria, Azerbaijan, Bulgaria, China, Czech Republic, Macedonia, Georgia, Hungary, Kazakhstan, Russia, Mongolia, Serbia, Slovakia, Turkey, and Ukraine (Heredia, 1996). A small population is also found in Armenia, Croatia, Cyprus, Greece,

Kosovo, Moldova, and Romania (*Birdlife International*, 2015). In winter it migrates to the Middle East, East Africa, Tanzania, Arabian Peninsula, Indian Subcontinent, South Asia, and East Asia (*Birdlife International*, 2015). The global population of this species is about 2500–9999 individuals (*BirdLife International*, 2022a). The major threats are loss and alteration of feeding and nesting habitats, shortage of small and medium size prey species, illegal trade, poisoning, hunting and electrocution by powerlines. An average of 450 Eastern Imperial Eagles were killed by powerlines in Altai region – 25% of the total population of the region (Karyakin et al., 2009b).

Earlier records from Assam: Dibru Saikhowa National park (Menzies, Rao, 2019), Kaziranga National Park, Nameri National Park (Rahmani et al., 2016), Biswanath district (Kakati et al., 2021).

7) **River tern**, *Sterna aurantia*, VU: It is distributed throughout southern Asia from India, Pakistan, Sri Lanka, and Bangladesh to Southeast Asia. It is a resident breeder of Iran and the Indian Subcontinent and generally prefers river banks (*BirdLife International*, 2022a). The global population is estimated around 20 000–70 000 mature individuals and 29 577 individuals were recorded during the Asian waterbird census during 2008–2015. During the census, India scored with 17 776 individuals (Mundkur et al., 2017). Flooding, predation and disturbance in wetlands are the factors affecting its population. However, conversion of wetlands into agricultural lands and construction of dams, use of pesticides, deposition of heavy metals in waterbodies, mining, cyclones and other some anthropogenic activities like urbanisation are the major causes of their decline (Debata, 2019; *BirdLife International*, 2022a).

Earlier records from Assam: Nameri National Park (Das, Deori, 2010), Dibru-Saikhowa National Park (Choudhury, 2006a), Kaziranga National Park (Baruah, Sarma, 1999), Orang National Park (Chakdar et al., 2019), Jhanjimuk-Kokilamukh, Jorhat (Mahanta et al., 2019), Biswanath district (Kakati et al., 2021).

8) **Wreathed Hornbill**, *Aceros undulatus*, VU: It inhabits in dense primary rainforest, in the lowlands (Poonswad et al., 2013) of Southern Bhutan, Bangladesh, and Northeast India, east to Laos, Cambodia, and Vietnam and south through Malaysia, Thailand, Indonesia, and Brunei. This species is found in the primary forests of the Northeast India especially in Arunachal Pradesh, Assam, Nagaland etc. The global population is not estimated yet (del Hoyo et al., 2001, *BirdLife International*, 2022a) but is suspected to be declining due to habitat destruction, forest fragmentation, felling of nesting trees and hunting (*BirdLife International*, 2022a).

Earlier records from Assam: Kaziranga National Park (Sarma, Barua, 1999), Dibru-Saikhowa

National Park (Choudhury, 2006), Nameri National Park (Das, Deori, 2010), Raimona National Park (Mahanta et al., 2022).

9) **Rufous necked hornbill**, *Aceros nipalensis*, VU: It is a highly threatened hornbill species known from Bhutan, Northeast India, Myanmar, Southern Yunnan, and southeast Tibet, China, Thailand, Vietnam, and Laos. It is locally extinct from many historic ranges. In India, the largest population is found in Arunachal Pradesh and the northern part of West Bengal. Relatively high densities (<6 birds per km^2) have been recorded from both Namdapha National Park and Eaglenest Wildlife Sanctuary (Naniwadekar et al., 2013). It is also found in eastern Nagaland and Cherrapunji in Meghalaya, Lushai hills in Mizoram, near Jatinga in Assam and Manipur. From the assessment based on the population of densities from sites in Northeast India (Arunachal Pradesh) and Western Thailand, of the suitable habitat remaining within the occupied range of the species, it is estimated that the global population is 12 000–15 000 individuals (*BirdLife International*, 2022a). Deforestration, shifting cultivation, hunting, forest fragmentation, illegal trade and felling of their nesting trees are the major causes of decline (Datta, 2009; Naniwadekar et al., 2015a).

   Earlier records from Assam: Nameri National Park (Das, Deori, 2010), Behali Reserve Forest, Dhansiri Reserve Forest, East and North Karbi Anglong Wildlife Sanctuaries, Jatinga, Langting-Mupa Reserve Forest, Manas National Park, Sonai-Rupai Wildlife Sanctuary, Subansiri Dulung, Upper Dihing (East) Complex, Upper Dihing (West) Complex (Rahmani et al., 2016) , Raimona National Park (Mahanta et al., 2022).

10) **Great hornbill**, *Buceros bicornis*, VU: It is a widely distributed species occurring in China, India, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, Laos, Vietnam, Cambodia, Malaysia and Indonesia. In India, it is restricted to the Himalayan foothills, hill forests of northeast India, and wet evergreen forest of Northeast and West India. Mostly it can be seen in protected forests, however it is now lost from five out of 16 sites from two protected areas (Rahmani, 2012). The estimated population of great hornbill is between 13000–27000 individuals. Deforestration, shifting cultivation, hunting, forest fragmentation, illegal trade and felling of their nesting trees are the major causes of decline (*BirdLife International*, 2022a).

    Earlier records from Assam: Nameri National Park (Das, Deori, 2010), Dibru-Saikhowa National Park (Choudhury, 2006a), Kaziranga National Park (Barua, Sarma, 1999), Behali Reserve Forest, Chakrashila Complex, Dhansiri Reserve Forest, Dibru-Saikhowa Complex, Inner Line (East), Katakhal and Barak Reserve Forests, Langting-Mupa Reserve Forest, Lumding Reserve Forest, Tirap-Burhidihing , Upper Dihing (East) Complex, Upper Dihing (West) Complex (Rahmani et al., 2016), Raimona National Park (Mahanta et al., 2022).

Behali Wildlife Sanctuary (BWLS) holds around 22.41% of the total avian species diversity of India (Praveen et al., 2015) and 34.51% of the total avian species diversity of Assam (Choudhury, 2000). The number of species noticed in this study is almost similar to the report of Chakdar et al., (2019), reporting 284 bird species from Rajib Gandhi Orang National Park (RGNP), Assam. Devi and Saikia (2010) reported 232 species from Gibbon Wildlife Sanctuary and Mahanta et al. (2019) reported 205 species from Jhanjimukh-Kokilamukh IBA complex, Jorhat. It is less than Baruah and Sarmah (1999) reporting 479 species from Kaziranga National Park (KNP) and 374 species from Nameri National Park (NNP) – Fig. 4 (Barua, Sharma, 2005; Das, Deori 2010), which is due to the greater proportion of protection in both the parks. The habitat heterogeneity in the sanctuary is almost similar to NNP, with almost similar vegetation types and native flora. Considering this fact, with increasing protection the reserve will probably host a greater species diversity than here presently recorded.

The lower number of threatened (ten) and near threatened species (thirteen) – Tab. 3 – Appendix 1 – is because despite preferable habitats, the forest has been under high human disturbance for several decades losing several of the large trees which might be possible nesting and roosting sites and also these elusive species avoid being seen or disturbed. Moreover, BWLS lies in between the highlands of Arunachal Pradesh connecting Pakke Tiger Reserve, Nameri National Park (NNP), and the lowlands of Kaziranga National Park (KNP), acting as occasional roosting grounds within their migratory routes across the landscapes, as already mentioned in the characteristics of this area. This is also a long patch of foothills where the dominant landscape comprises semi-evergreen forests and secondary forests with a small number of water reservoirs. Compared to the surrounding parks (Fig. 4), in BWLS a small number of migratory birds (mostly threatened ones) flock together in the wetlands. However, the number of threatened species is half the number of KNP (twenty-five) (Baruah, Sarmah, 1999), and more than NNP (nine) (Das, Deori, 2010), which has a larger area and high protection. Until 2021, BWLS was a reserve forest (an unprotected area) with very less protection and high reports of hunting, as well as habitat loss, extirpating about half of its forests. After a decade-long citizen's movement, it has recently been upgraded to a Wildlife Sanctuary (a protected area) with hopes of an increase in vigilance, forest cover, and strict actions on any felonious activities. Again, the northern side of the forest which was once a connection to the tropical forests of Arunachal Pradesh, is now severely exploited and turned into a monoculture of rubber and other cash crops.

The only solution to the problem of endangered species of avifauna in the area of BWLS is their biotope protection. This is one of the best ways to protect species

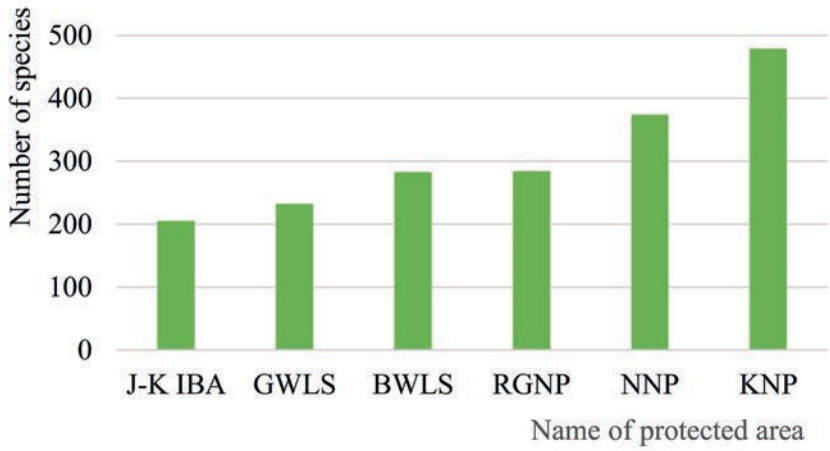

Fig. 4. Comparison of the number of avifauna species in the selected protected areas of India
J-K IBA – Jhanjimukh-Kokilamukh IBA complex, GWLS – Gibbon Wildlife Sanctuary, BWLS – Behali Wildlife Sanctuary, RGNP – Rajib Gandhi Orang National Park, NNP – Nameri National Park, KNP – Kaziranga National Park

in the world. Preservation of feeding, breeding, and living habitats for these species is the only effective way to protect them. Of course, the interests of local farmers must also be taken into account when drawing up a biotopes protection plan in such a way as to reconcile these somewhat opposing aspects. Appropriate ecological awareness among farmers will also play an important role, without which no type of protection will be sufficiently effective. Activation of local societies for biotope protection is a very important and necessary factor of this protection.

Conclusion

The present study on the avifauna of Behali Wildlife Sanctuary with associated threat factors is a first of its kind for this protected area. The agricultural lands and human settlements surrounding the sanctuary are negatively influencing the biodiversity of the reserve. Being a habitat for several species of birds along with some threatened ones viz., Great Hornbill, Wreathed Hornbill, Woolly-necked Stork, Lesser Adjutant Stork, etc., efforts are essential to protect the landscape from anthropogenic pressure. The protection of the forest is not adequate due to the understaffed forest department associated with this reserve. Providing attention to this forest, considering the high diversity and threatened representatives, would safeguard it shortly.

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Conflict of interest

The authors declare no conflict of interest related to this article.

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Tab. 1. Checklist of avifauna in the Behali Wildlife Sanctuary in Assam province (India); Abbreviations: IUCN Status: CR = Critically Endangered, EN = Endangered, VU = Vulnerable, NT = Near Threatened, LC = Least Concern; Residential status: R = widespread resident, r = very local resident, W = widespread winter visitor, w = sparse winter visitor, p = sparse migrant, V = vagrant or irregular visitor, s = local summer breeder; Occurrence in Behali Wildlife Sanctuary (BWLS): Rare = R, Common = C

Si. No.	Family	Common Name	Scientific Name	Vernacular Name	Occurrence in BWLS	Residential status	IUCN Status (2021)
1.	Phasianidae	Red Junglefowl	*Gallus gallus*	Bon Kukura	C	R	LC
2.		Kalij Pheasant	*Lophura leucomelanos*	Deu Dorik	C	R	LC
3.		White-cheeked Partridge	*Arborophila atrogularis*	-	R	r	NT
4.		Grey Peacock Pheasant	*Polyplectron bicalcaratum*	Krishna Dorik	R	r	LC
5.	Anatidae	Ruddy Shelduck	*Tadorna ferruginea*	Sakoi-sokuwa	C	R, W	LC
6.		Lesser Whistling Duck	*Dendrocygna javanica*	Soru-Sorali	C	R	LC
7.		Bar-headed Goose	*Anser indicus*	Dhritoraj	C	r, w	LC
8.		Cotton Pygmy Goose	*Nettapus coromandelianus*	Kiki hah	C	r	LC
9.		Indian Spot-billed Duck	*Anas poecilorhyncha*	Futuki hah	C	R	LC
10.		White-winged Duck	*Asarcornis scutulata*	Deu Hah	R	R	EN
11.		Common Merganser	*Mergus merganser*	Kokila doria hah	R	W	LC
12.		Common Teal	*Anas crecca*	Ghila hah	C	W	LC
13.	Podicipedidae	Great Crested Grebe	*Podiceps cristatus*	Bor dubi	R	r, w	LC
14.		Little Grebe	*Tachybaptus ruficollis*	Pani dubi	C	R	LC
15.	Ciconiidae	Black Stork	*Ciconia nigra*	Kalsor	R	w	LC
16.		Woolly-necked Stork	*Ciconia episcopus*	Konuwa	C	R	NT
17.		Black-necked Stork	*Ephippiorhynchus asiaticus*	Telia sareng	R	r	NT
18.		Lesser Adjutant Stork	*Leptoptilos javanicus*	Bortukula	C	r	VU
19.		Asian Openbill	*Anastomus oscitans*	Samuk-vonga	C	R	LC

20.	Ardeidae	Grey Heron	*Ardea cinerea*	Halkheda	C	R, W	LC
21.		Purple Heron	*Ardea purpurea*	Azan	C	R	LC
22.		Intermediate Egret	*Ardea intermedia*	Maju Bog	C	R	LC
23.		Great Egret	*Ardea alba*	Bor Bog	C	R, W	LC
24.		Cinnamon Bittern	*Ixobrychus cinnamomeus*	Itaguria Sorai	C	r	LC
25.		Indian Pond Heron	*Ardeola grayii*	Konamusuri	C	R	LC
26.		Black-crowned Night Heron	*Nycticorax nycticorax*	Wak sorai	C	R	LC
27.		Striated Heron	*Butorides striata*	Soru-musori	C	r	LC
28.		Cattle Egret	*Bubulcus ibis*	Gu- Bog	C	R	LC
29.		Little Egret	*Egretta garzetta*	Teteri-Bog	C	R	LC
30.	Threskiornithidae	Black-headed Ibis	*Threskiornis melanocephalus*	Kola Akuhi bog	R	R	NT
31.		Glossy Ibis	*Plegadis falcinellus*	Itaguria akuhi bog	R	R, W	LC
32.	Phalacrocoracidae	Little Cormorant	*Microcarbo niger*	Pani kawri	C	R	LC
33.		Great Cormorant	*Phalacrocorax carbo*	Doikola	C	R, W	LC
34.	Anhingidae	Oriental Darter	*Anhinga melanogaster*	Moniyori	C	R	NT
35.	Falconidae	Common Kestrel	*Falco tinnunculus*	Bakuhi Sorai	C	R, W	LC
36.		Eurasian Hobby	*Falco subbuteo*	Sen	R	r, p	LC
37.		Red-necked Falcon	*Falco chicquera*	Ronga dingi sen	R	r	NT
38.		Pied Falconet	*Microhierax melanoleucos*	Pokhora sen	R	r	LC
39.		Amur Falcon	*Falco amurensis*	Sen	R	P	LC
40.		Peregrine Falcon	*Falco peregrinus*	Pahari sen	C	r, w	LC
41.	Accipitridae	Black Baza	*Aviceda leuphotes*	Kola tikoni sen	R	r	LC
42.		Crested Serpent Eagle	*Spilornis cheela*	Sap-kota	C	R	LC
43.		Oriental Honey Buzzard	*Pernis ptilorhynchus*	Sen	C	R, W	LC
44.		Pallid Harrier	*Circus macrourus*	Sen	R	w	NT

45.		Hen harrier	Circus cyaneus	Sen	C	w	LC
46.		Western Marsh Harrier	*Circus aeruginosus*	Masuwa Sen	C	W	LC
47.		Black-winged Kite	*Elanus caeruleus*	Kola pakhi siloni	C	R	LC
48.		Black Kite	*Milvus migrans*	Siloni	C	R, W	LC
49.		Grey-headed Fish Eagle	*Haliaeetus ichthyaetus*	Ukoh	C	r	NT
50.		Red-headed Vulture	*Sarcogyps calvus*	Roja sagun	R	r	CR
51.		Griffon Vulture	*Gyps fulvus*	pahari Sogun	C	r	LC
52.		Shikra	*Accipiter badius*	Sikari Sorai	C	R	LC
53.		Long-legged Buzzard	*Buteo rufinus*	Dighol thengia sen	R	r, W	LC
54.		Greater Spotted Eagle	*Clanga clanga*	Futuki eagle	R	W	VU
55.		Changeable Hawk Eagle	*Nisaetus cirrhatus*	Eagle	R	R	LC
56.		Steppe Eagle	*Aquila nipalensis*	Eagle	R	W	EN
57.		Eastern Imperial Eagle	*Aquila heliaca*	-	R	w	VU
58.		Osprey	*Pandion haliaetus*	Kuruwa	C	r, W	LC
59.	Burhinidae	Great stone-curlew	*Esacus recurvirostris*	Dangor silkotora	R	r	NT
60.		Indian stone-curlew	*Burhinus indicus*	Soru Silkotora	C	R	LC
61.	Turnicidae	Barred Buttonquail	*Turnix suscitator*	Bota Sorai	C	R	LC
62.	Charadriidae	River lapwing	*Vanellus duvaucelii*	Balighura	C	R	NT
63.		Red wattled lapwing	*Vanellus indicus*	Hotitiya	C	R	LC
64.		Grey-headed Lapwing	*Vanellus cinereus*	Dolghura	C	w	LC
65.		Northern Lapwing	*Vanellus vanellus*	Silghura	R	w	LC
66.		Little Ringed Plover	*Charadrius dubius*	Loriyoli	C	R, W	LC
67.	Jacanidae	Bronze-winged Jacana	*Metopidius indicus*	Dolpunga	C	R	LC
68.	Scolopacidae	Common Snipe	*Gallinago gallinago*	Balituka	C	r, W	LC
69.		Greater Painted-snipe	*Rostratula benghalensis*	Rongsongia bali	R	r	LC
70.		Common Greenshank	*Tringa nebularia*	Pat thengi	C	W	LC

71.		Green Sandpiper	*Tringa ochropus*	Bali Boguwa	C	W	LC
72.		Wood Sandpiper	*Tringa glareola*	Murlori Bali Bagua	R	W	LC
73.		Common Sandpiper	*Actitis hypoleucos*	Bali khusora	C	s,W	LC
74.		Pacific Golden Plover	*Pluvialis fulva*	Sunali Lorioli	C	W	LC
75.		Little Stint	*Calidris minuta*	Chereka sorai	C	W	LC
76.	Laridae	River Tern	*Sterna aurantia*	Gonga Siloni	R	R	VU
77.		Black-headed Gull	*Chroicocephalus ridibundus*	Kalfut sagor siloni	R	R	LC
78.	Rallidae	Ruddy-breasted Crake	*Zapornia fusca*	Jikor	C	r	LC
79.		Slaty-breasted Rail	*Lewinia striata*	-	C	r	LC
80.		White-breasted Waterhen	*Amaurornis phoenicurus*	Daok	C	R	LC
81.		Common Moorhen	*Gallinula chloropus*	Desi Kura Dhekor	C	R	LC
82.		Grey-headed Swamphen	*Porphyrio poliocephalus*	Kam sorai	R	R	LC
83.	Columbidae	Yellow-footed Green Pigeon	*Treron phoenicopterus*	Halodhiya thengor Haitha	C	R	LC
84.		Spotted Dove	*Streptopelia chinensis*	Kopou	C	R	LC
85.		Green Imperial Pigeon	*Ducula aenea*	Porghuma	C	r	LC
86.		Rock Pigeon	*Columba livia*	Bonoria paro	C	R	LC
87.		Red Collared Dove	*Streptopelia tranquebarica*	Haruwa kopou	C	R	LC
88.		Eurasian Collared Dove	*Streptopelia decaocto*	Seto kopou	C	R	LC
89.		Pin-tailed Green Pigeon	*Treron apicauda*	Dighol nejia haitha	C	r	LC
90.		Thick-billed Green Pigeon	*Treron curvirostra*	Bor haitha	R	r	LC
91.		Oriental Turtle Dove	*Streptopelia orientalis*	Son kopou	C	R, W	LC
92.		Mountain Imperial Pigeon	*Ducula badia*	Pahari kopou	R	r	LC
93.		Ashy-headed Green Pigeon	*Treron phayrei*	Itaguria haitha	R	r	LC
94.		Wedge-tailed green pigeon	*Treron sphenurus*	-	R	r	LC
95.		Asian Emerald Dove	*Chalcophaps indica*	Sil Kopou	C	R	LC

96.		Barred Cuckoo Dove	*Macropygia unchall*	Deu kopou	C	r	LC
97.	Psittacidae	Vernal Hanging Parrot	*Loriculus vernalis*	vatou	C	R	LC
98.		Rose-ringed Parakeet	*Psittacula krameri*	Golmonika vatou	C	R	LC
99.		Red-breasted Parakeet	*Psittacula alexandri*	Golpura vatou	C	R	NT
100.		Blossom-headed Parakeet	*Psittacula roseata*	Ronga moni vatou	R	R	NT
101.		Alexandrine Parakeet	*Psittacula eupatria*	Raj vatou	C	R	NT
102.	Cuculidae	Common Hawk Cuckoo	*Hierococcyx varius*	Sen Kuli	C	R	LC
103.		Asian Koel	*Eudynamys scolopaceus*	Kuli	C	R	LC
104.		Green-billed Malkoha	*Phaenicophaeus tristis*	Bomura	R	r	LC
105.		Lesser Coucal	*Centropus bengalensis*	Ulu Kukuha	C	r	LC
106.		Greater Coucal	*Centropus sinensis*	Bor Kukuha	C	R	LC
107.		Chestnut-winged Cuckoo	*Clamator coromandus*	Badamipakhia kuli	R	r	LC
108.		Banded Bay Cuckoo	*Cacomantis sonneratii*	-	R	r	LC
109.		Plaintive Cuckoo	*Cacomantis merulinus*	Mamor petia	C	r	LC
110.		Fork-tailed Drongo Cuckoo	*Surniculus dicruroides*	Fesu kuli	R	r	LC
111.		Asian Emerald Cuckoo	*Chrysococcyx maculatus*	Sil kuli	R	r	LC
112.		Indian Cuckoo	*Cuculus micropterus*	Keteki	C	R	LC
113.	Strigidae	Spotted Owlet	*Athene brama*	Futuki fesa	C	R	LC
114.		Short-eared Owl	*Asio flammeus*	hudo	R	w	LC
115.		Brown Hawk Owl	*Ninox scutulata*	Kuo fesa	C	r	LC
116.		Oriental Scops Owl	*Otus sunia*	Niu fesa	C	R	LC
117.		Mountain Scops Owl	*Otus spilocephalus*	Pahari niu fesa	R	r	LC
118.		Collared Scops Owl	*Otus lettia*	Niu fesa	C	r	LC
119.		Brown Fish Owl	*Ketupa zeylonensis*	Masuwa hudu	R	r	LC
120.		Brown Wood Owl	*Strix leptogrammica*	Kath Hudo	R	r	LC
121.		Asian Barred Owlet	*Glaucidium cuculoides*	Uruli fesa	C	r	LC

122.		Collared Owlet	*Glaucidium brodiei*	Fesa	C	r	LC
123.	Tytonidae	Common Barn Owl	*Tyto alba*	Lakhi fesa	R	r	LC
124.	Caprimulgidae	Large-tailed Nightjar	*Caprimulgus macrurus*	Bor dinkona	C	R	LC
125.	Upupidae	Common Hoopoe	*Upupa epops*	Kakoi Sira	C	R, W	LC
126.	Bucerotidae	Oriental Pied Hornbill	*Anthracoceros albirostris*	Pakoidhura, Dhekdheki	C	r	LC
127.		Wreathed Hornbill	*Rhyticeros undulatus*	Munathoka Dhonesh	R	r	VU
128.		Rufous-necked Hornbill	*Aceros nipalensis*	Ronga Dhonesh	R	r	VU
129.		Great Hornbill	*Buceros bicornis*	Raj Dhanesh	R	R	VU
130.	Hemiprocnidae	Asian Palm Swift	*Cypsiurus balasiensis*	Tal Botahi	C	R	LC
131.	Coraciidae	Indian Roller	*Coracias benghalensis*	Kao Sorai	C	R	LC
132.		Dollar bird	*Eurystomus orientalis*	Nila Kao Sorai	C	r	LC
133.	Alcedinidae	White-throated Kingfisher	*Halcyon smyrnensis*	Boga bukuwa masruka	C	R	LC
134.		Pied Kingfisher	*Ceryle rudis*	Pokhora masruka	C	R	LC
135.		Stork-billed Kingfisher	*Pelargopsis capensis*	Borthutia masruka	C	R	LC
136.		Blue-eared Kingfisher	*Alcedo meninting*	-	R	r	LC
137.		Common Kingfisher	*Alcedo atthis*	Masruka	C	R	LC
138.		Ruddy Kingfisher	*Halcyon coromanda*	Rongosuwa masruka	R	r	LC
139.		Oriental Dwarf Kingfisher	*Ceyx erithaca*	-	R	r	LC
140.	Meropidae	Green Bee-eater	*Merops orientalis*	Moukhuwa	C	R	LC
141.		Chestnut-headed Bee-eater	*Merops leschenaulti*	Badamimuria moukhuwa	C	R	LC
142.		Blue-bearded Bee-eater	*Nyctyornis athertoni*	Nilapakhi Moukhuwa	C	r	LC
143.		Blue-tailed Bee-eater	*Merops philippinus*	Nila Nejia Moukhuwa	C	R	LC
144.	Trogonidae	Red-headed Trogon	*Harpactes erythrocephalus*	Kathoni Buwari	R	r	LC

145.	Pramphastidae	Blue-throated Barbet	*Psilopogon asiaticus*	Nilokontho Hetuluka	C	R	LC
146.		Blue-eared Barbet	*Psilopogon duvaucelii*	Nilapakhi Hetuluka	R	r	LC
147.		Lineated Barbet	*Psilopogon lineatus*	Ghungkulung	C	R	LC
148.		Great Barbet	*Psilopogon virens*	Jomdakini	C	R	LC
149.		Coppersmith Barbet	*Psilopogon haemacephalus*	Hetuluka	C	R	LC
150.	Picidae	Black-rumped Flameback	*Dinopium benghalense*	Soru sun barhoituka	C	R	LC
151.		White-browed Piculet	*Sasia ochracea*	Ghila Kathruka	R	r	LC
152.		Rufous Woodpecker	*Micropternus brachyurus*	Muga Kathruka	R	R	LC
153.		Grey-capped Pygmy Woodpecker	*Yungipicus canicapillus*	Soru Barhoituka	C	R	LC
154.		Greater Yellownape	*Chrysophlegma flavinucha*	Bor Halodhiya Barhoituka	C	R	LC
155.		Lesser Yellownape	*Picus chlorolophus*	Soru Halodhiya Barhoituka	C	R	LC
156.		Streak-throated Woodpecker	*Picus xanthopygaeus*	-	C	r	LC
157.		Greater Flameback	*Chrysocolaptes guttacristatus*	Bor sun Barhoituka	C	R	LC
158.		Fulvous-breasted Woodpecker	*Dendrocopos macei*	Pokhora Kathruka	C	R	LC
159.	Pittidae	Hooded Pitta	*Pitta sordida*	-	R	r	LC
160.	Artamidae	Ashy woodswallow	*Artamus fuscus*	Botahi Sorai	C	R	LC
161.	Aegithinidae	Common Iora	*Aegithina tiphia*	Krishna Sorai	C	R	LC
162.	Campephagidae	Large Cuckooshrike	*Coracina macei*	Kuli era-khati	C	r	LC
163.		Scarlet Minivet	*Pericrocotus speciosus*	Rupohi Sorai	C	R	LC
164.		Long-tailed Minivet	*Pericrocotus ethologus*	Dighol nejia rupohi sorai	C	R	LC
165.		Short-billed Minivet	*Pericrocotus brevirostris*	Rupohi Sorai	C	r	LC
166.		Brown Shrike	*Lanius cristatus*	Muga erakhati	C	W	LC
167.		Grey-backed Shrike	*Lanius tephronotus*	Kosai sorai	C	r, W	LC

168.		Long-tailed Shrike	*Lanius schach*	Dighol erakhati	C	R	LC
169.	Dicruridae	Hair-crested drongo	*Dicrurus hottentottus*	Kesraj	C	R	LC
170.		Lesser Racket-tailed Drongo	*Dicrurus remifer*	Vimraj	C	r	LC
171.		Greater Racket-tailed Drongo	*Dicrurus paradiseus*	Bor Vimraj	C	r	LC
172.		Crow-billed Drongo	*Dicrurus annectens*	Kawri thutia fesu	R	r	LC
173.		Black Drongo	*Dicrurus macrocercus*	Fesu	C	R	LC
174.		Ashy Drongo	*Dicrurus leucophaeus*	Kojola Fesu	C	R	LC
175.		Bronzed Drongo	*Dicrurus aeneus*	Matia Fesu	C	r	LC
176.	Oriolidae	Black-hooded Oriole	*Oriolus xanthornus*	Sokhiyoti	C	R	LC
177.		Maroon Oriole	*Oriolus traillii*	-	C	r	LC
178.	Rhipiduridae	White-throated Fantail	*Rhipidura albicollis*	Nasoni Sorai	C	R	LC
179.	Eurylaimidae	Long-tailed broadbill	*Psarisomus dalhousiae*	-	R	r	LC
180.	Corvidae	Large-billed Crow	*Corvus macrorhynchos*	Dhura Kawri	C	R	LC
181.		Rufous Treepie	*Dendrocitta vagabunda*	Kuklunga	C	R	LC
182.		House Crow	*Corvus splendens*	Pati Kawri	C	R	LC
183.	Monarchidae	Black-naped Monarch	*Hypothymis azurea*	Kolataluwa Nasoni	C	r	LC
184.	Paridae	Cinereous Tit	*Parus cinereus*	Vodorkoli	C	R	LC
185.		Sultan Tit	*Melanochlora sultanea*	Mukut Pindha	C	R	LC
186.	Hirundinidae	Barn Swallow	*Hirundo rustica*	Teltupi	C	R, W	LC
187.		Plain Martin	*Riperia paludicola*	Teltupi	C	R	LC
188.	Alaudidae	Sand Lark	*Alaudala raytal*	-	C	R	LC
189.	Pycnonotidae	Red-vented Bulbul	*Pycnonotus cafer*	Bulbuli	C	R	LC
190.		Black-crested Bulbul	*Rubigula flaviventris*	Halodhiya Bulbuli	C	R	LC
191.		Red-whiskered Bulbul	*Pycnonotus jocosus*	Tikoni Bulbuli	C	R	LC
192.		Ashy Bulbul	*Hemixos flavala*	Kojola Fesluka	C	r	LC
193.		Black Bulbul	*Hypsipetes leucocephalus*	Rongathuti Bulbuli	C	R	LC
194.		White-throated Bulbul	*Alophoixus flaveolus*	Golboga Bulbuli	C	r	LC

195.	Locustellidae	Striated Grassbird	*Megalurus palustris*	Kathi Sorai	C	R	LC
196.	Cisticolidae	Common Tailorbird	*Orthotomus sutorius*	Patsia	C	R	LC
197.		Plain Prinia	*Prinia inornata*	Nolsupi	C	R	LC
198.		Zitting Cisticola	*Cisticola juncidis*	Nasoni sorai	C	R	LC
199.	Cettiidae	Brownish-flanked Bush Warbler	*Horornis fortipes*	Tiposi	R	r	LC
200.		Yellow-bellied Warbler	*Abroscopus superciliaris*	Tiposi	C	r	LC
201.		Slaty-bellied Tesia	*Tesia olivea*	-	C	r	LC
202.	Acrocephalidae	Blunt-winged Warbler	*Acrocephalus concinens*	Tiposi	R	r	LC
203.	Phylloscopidae	Greenish Warbler	*Phylloscopus trochiloides*	Tiposi	C	r, W	LC
204.		Tickell's Leaf Warbler	*Phylloscopus affinis*	Tiposi	C	s, W	LC
205.		Chestnut-crowned Warbler	*Phylloscopus castaniceps*	Tiposi	R	r	LC
206.		Whistler's Warbler	*Phylloscopus whistleri*	Tiposi	R	r	LC
207.		Grey-hooded Warbler	*Phylloscopus xanthoschistos*	Tiposi	C	R	LC
208.		Smoky Warbler	*Phylloscopus fuligiventer*	Tiposi	R	s, w	LC
209.		White-spectacled Warbler	*Phylloscopus intermedius*	Tiposi	R	r	LC
210.		Yellow-bellied warbler	*Abroscopus superciliaris*	Tiposi	R	r	LC
211.		Whistler's warbler	*Phylloscopus whistleri*	Tiposi	C	r	LC
212.		Dusky Warbler	*Phylloscopus fuscatus*	Tiposi	C	w	LC
213.		Grey-hooded Warbler	*Phylloscopus xanthoschistos*	Tiposi	R	R	LC
214.	Timaliidae	Pin-striped Tit Babbler	*Mixornis gularis*	-	R	R	LC
215.	Pellorneidae	Abbott's Babbler	*Malacocincla abbotti*	-	R	r	LC
216.		Puff-throated Babbler	*Pellorneum ruficeps*	Khupoti	R	R	LC
217.	Zosteropidae	Whiskered Yuhina	*Yuhina flavicollis*	-	R	R	LC
218.		Indian White-eye	*Zosterops palpebrosus*	Boga Sakuwa Tiposi	C	R	LC

219.	Leiothrichidae	Silver-eared Mesia	*Leiothrix argentauris*	-	C	r	LC
220.		white-crested laughingthrush	*Garrulax leucolophus*	Hahiyoti	R	r	LC
221.		Greater Necklaced Laughingthrush	*Pterorhinus pectoralis*	Bairagi hahiyoti	R	r	LC
222.		Striated Babbler	*Argya earlei*	-	R	R	LC
223.	Vireonida	White-bellied Erpornis	*Erpornis zantholeuca*	-	R	r	LC
224.	Sittidae	Chestnut-bellied Nuthatch	*Sitta cinnamoventris*	Jethi sorai	R	r	LC
225.		Velvet-fronted Nuthatch	*Sitta frontalis*	Nila jethi sorai	R	R	LC
226.	Sturnidae	Common Myna	*Acridotheres tristis*	Ghor Salika	C	R	LC
227.		Asian Pied Starling	*Gracupica contra*	Kan-Kurika	C	R	LC
228.		Great Myna	*Acridotheres grandis*	Kola Salika	C	V	LC
229.		Chestnut-tailed Starling	*Sturnia malabarica*	Kath Salika	C	R	LC
230.		Common Hill Myna	*Gracula religiosa*	Moina	C	r	LC
231.		Jungle myna	*Acridotheres fuscus*	Sutiya Salika	C	R	LC
232.	Turdidae	Orange-headed Thrush	*Geokichla citrina*	Komolamuria matikotora	C	R	LC
233.		Scaly Thrush	*Zoothera dauma*	-	C	r	LC
234.		Grey-winged blackbird	*Turdus boulboul*	-	R	r	LC
235.	Muscicapidae	Blue Whistling Thrush	*Myophonus caeruleus*	Nilomoti	C	R	LC
236.		Little Pied Flycatcher	*Ficedula westermanni*	-	C	r	LC
237.		White-gorgeted flycatcher	*Anthipes monileger*	-	R	r	LC
238.		Snowy-browed flycatcher	*Ficedula hyperythra*	-	C	r	LC
239.		Oriental Magpie Robin	*Copsychus saularis*	Dohikotora	C	R	LC
240.		White-rumped Shama	*Copsychus malabaricus*	-	C	R	LC
241.		Slaty-backed Forktail	*Enicurus schistaceus*	-	C	r	LC
242.		Black-backed Forktail	*Enicurus immaculatus*	Ketepa tip	C	r	LC
243.		Bluethroat	*Luscinia svecica*	-	C	s, W	LC

244.		Siberian Rubythroat	*Calliope calliope*	Tez tip	C	w	LC
245.		Grey Bushchat	*Saxicola ferreus*	-	C	R	LC
246.		Siberian Stonechat	*Saxicola maurus*	-	C	R	LC
247.		Hodgson's Redstart	*Phoenicurus hodgsoni*	-	C	w	LC
248.		Black Redstart	*Phoenicurus ochruros*	-	C	R, w	LC
249.		White-capped Water Redstart	*Phoenicurus leucocephalus*	Boga	C	r	LC
250.		Plumbeous Water Redstart	*Phoenicurus fuliginosus*	-	R	r	LC
251.		Blue Rock Thrush	*Monticola solitarius*	Nila Bonjuri	R	r, W	LC
252.		Slaty-backed Flycatcher	*Ficedula erithacus*	-	C	r	LC
253.		Taiga Flycatcher	*Ficedula albicilla*	-	R	W	LC
254.		Little Pied Flycatcher	*Ficedula westermanni*	-	C	r	LC
255.		Red-breasted Flycatcher	*Ficedula parva*	-	C	W	LC
256.		Pale-chinned Flycatcher	*Cyornis poliogenys*	Makhiyoti	C	r	LC
257.		Verditer Flycatcher	*Eumyias thalassinus*	-	C	R	LC
258.		Pale Blue Flycatcher	*Cyornis unicolor*	-	C	r	LC
259.		Small Niltava	*Niltava macgrigoriae*	Soru nilmoni	R	r	LC
260.	Stenostiridae	Grey-headed Canary-flycatcher	*Culicicapa ceylonensis*	Bari nasoni	R	r	LC
261.	Irenidae	Asian Fairy-bluebird	*Irena puella*	-	C	R	LC
262.	Chloropseidae	Golden-fronted Leafbird	*Chloropsis aurifrons*	Sun Kopali Pat Sorai	C	R	LC
263.		Orange-bellied Leafbird	*Chloropsis hardwickii*	-	R	r	LC
264.	Dicaeidae	Fire-breasted Flowerpecker	*Dicaeum ignipectus*	Ronga bukua Fulthukura	C	r	LC
265.		Plain Flowerpecker	*Dicaeum minullum*	-	C	r	LC
266.		Scarlet-backed Flowerpecker	*Dicaeum cruentatum*	Ronga pithia Fulthukura	C	r	LC
267.	Nectariniidae	Purple Sunbird	*Cinnyris asiaticus*	Moupia	C	R	LC
268.		Little Spiderhunter	*Arachnothera longirostra*	Soru mokora khuwa	C	r	LC

269.		Streaked Spiderhunter	*Arachnothera magna*	Mokora khuwa	C	r	LC
270.		Crimson Sunbird	*Aethopyga siparaja*	Ronga Moupia	C	R	LC
271.	Passeridae	House Sparrow	*Passer domesticus*	Ghor Sirika	C	R	LC
272.		Eurasian Tree Sparrow	*Passer montanus*	-	C	R	LC
273.	Ploceidae	Baya Weaver	*Ploceus philippinus*	Tukura	C	R	LC
274.	Estrildidae	Scaly-breasted Munia	*Lonchura punctulata*	Tuni	C	R	LC
275.		Red Munia	*Amandava amandava*	-	R	R	LC
276.		White-rumped Munia	*Lonchura striata*	Tuni	C	R	LC
277.	Motacillidae	White Wagtail	*Motacilla alba*	Boga Balimahi	C	r, W	LC
278.		Grey Wagtail	*Motacilla cinerea*	-	C	W	LC
279.		Western Yellow Wagtail	*Motacilla flava*	Halodhiya Balimahi	C	W	LC
280.		Citrine Wagtail	*Motacilla citreola*	-	C	r, W	LC
281.		Olive-backed Pipit	*Anthus hodgsoni*	Matimahi	C	R, W	LC
282.		Paddyfield Pipit	*Anthus rufulus*	Matimahi	C	R	LC
283.		Rosy Pipit	*Anthus roseatus*	-	C	r	LC

Abstract

The avian diversity of Behali Wildlife Sanctuary (India), an Important Bird Area IN-AS-05 (A1 and A3) is documented here. A total of 283 species of birds belonging to 21 orders, 69 families, and 194 genera were recorded. The study recorded one critically endangered species, 2 endangered species, 7 vulnerable species, 13 near threatened species and 260 species were least concern. Distribution of birds within the reserve forest and IUCN Red List Categories of them are also provided here.

Key words: Behali Reserve Forest, bird sanctuary, threat status, residential status

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Ostoja Behali Wildlife – ważny obszar dla ptaków w prowincji Assam (Indie)

Streszczenie

W artykule udokumentowano różnorodność ptaków w ostoji Behali Wildlife, ważnego dla ptaków IN-AS-05 (A1 i A3) obszaru Indii. Zarejestrowano łącznie 283 gatunki ptaków należących do 21 rzędów, 69 rodzin i 194 rodzajów. Wśród gatunków stwierdzono jeden krytycznie zagrożony, 2 zagrożone, 7 wrażliwych, 13 potencjalnie zagrożonych i 260 innych gatunków. Udokumentowano również rozmieszczenie ptaków w rezerwacie oraz ich kategorie zagrożeń wg Czerwonej Listy IUCN.

Słowa kluczowe: Behali Reserve Forest, rezerwat ptaków, stan zagrożenia, status zamieszkania

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