



# Three New Additions to the Avian Inventory of Lakhimpur District, Assam, India

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## Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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## ABSTRACT

Lakhimpur district of Assam has a high avian diversity distributed among different locations. A study was conducted from October 2023 to June 2024 to create avian inventories of the district. Field surveys are important tools to not only observe and evaluate the avian diversity of an area, but also speaks about the rising threats and need of its conservation. Lakhimpur district has many high avian diversity zones of which Satajan wetland, situated between the latitudes 27°12'23.7"N - 27°12'40"N and longitudes 94°03'08.5"E - 94°03'08.8"E, and Ghagor Ghat located between the latitudes 27°13'41 " N - 27°15'15" N and longitudes 94°11 '25"E - 94°12'19"E were selected for area under the present study. The study recorded three species viz., Eurasian Hobby (*Falco subbuteo*), Thick-billed Warbler (*Arundinax aedon*) and Eastern Yellow Wagtail (*Motacilla tschutschensis*) which were sighted for the first time in the district. Sighting of species, which has not been reported before, implies about the availability of shelter, sufficient food resources and better quality of the

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ecosystem in Lakhimpur district. All the three species that were recorded during the study are categorized as 'least concern' in the IUCN Red List as per latest assessment and all of them were winter visitors to Lakhimpur district of Assam, India. These areas should be protected and managed properly for better survival of the inhabiting wildlife. The findings of this study will encourage more research in these areas for creating a richer avian inventory.

**Keywords:** Diversity; Ghagor; IUCN; Lakhimpur; migratory; Satajan.

## 1. INTRODUCTION

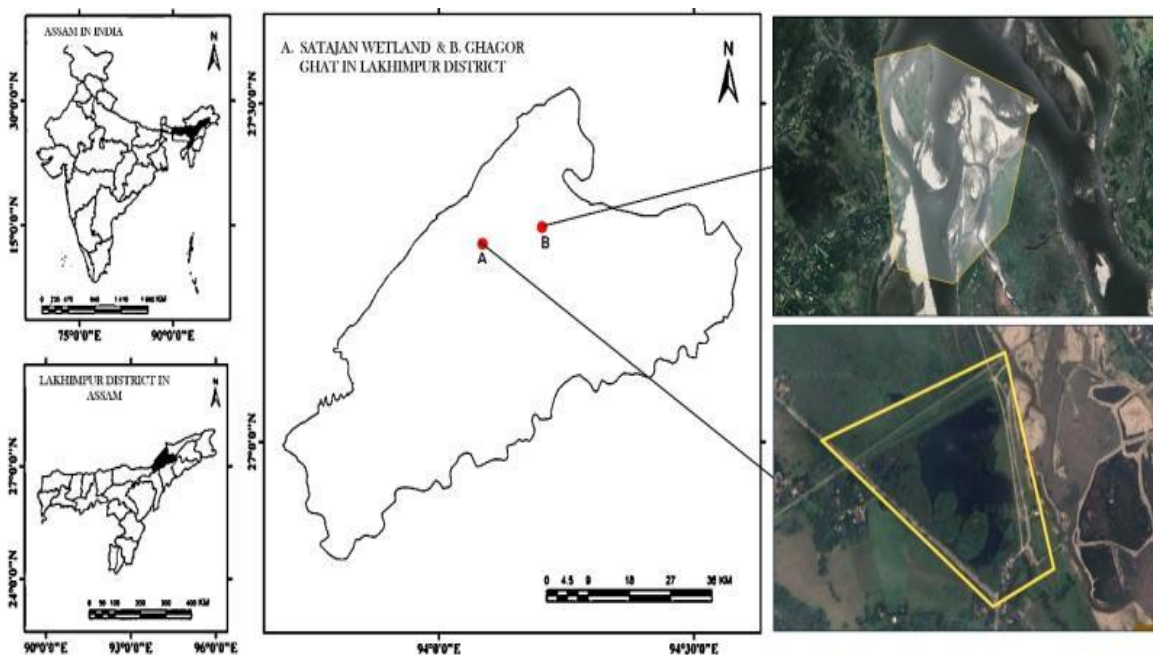
Birds are one of the most gorgeous and magnificent creatures in the world. Bird surveys have become a standard tool for assessing the health of ecosystems, especially in areas where data is scarce or limited [1]. Birds are also known to be ideal bio-indicators and very useful models for studying a variety of environmental problems [2]. By monitoring bird populations, scientists and conservationists can gather valuable information on climate change impacts, land use practices, and habitat degradation [3]. There are approximately 1313 species of birds inhabiting in Indian Subcontinent [4], out of which Assam harbours about 950 species, of which 17 species are endemic to Assam only [5]. The state of Assam in the Northeast India is a region with high biodiversity, where two global biodiversity hotspots meet, viz., the Himalayan and the Indo-Burma regions [6]. Many scientific studies available from Assam which describes about its avian diversity [7-20].

Lakhimpur district of Assam is also a bio-diversity rich region. The reserve forests and wetlands of the district is home to many resident birds and resting and breeding ground for huge number of migratory birds. Thapa et al [21] have reported a total of 197 species of birds from 64 families in Ranga Reserve Forest of Lakhimpur district. Bhaduri et al [22] have reported a total of 87 species from Satajan wetland of the district. From Bordoibam-Bilmukh Bird Sanctuary, a total of 133 species have been recorded [23]. The purpose of this research was to carry out surveys to create avian inventories as well as conducting further research in Lakhimpur district.

## 2. MATERIALS AND METHODS

### 2.1 Study Area

The present study was conducted in Satajan wetland and Ghagor Ghat of Lakhimpur district (Map 1). The Satajan wetland is situated between the latitudes 27°12'23.7" N - 27°12'40" N and longitudes 94°03'08.5" E - 94°03'08.8" E it



Map 1. Map of Study Area. (A) Satajan Wetland, (B) Ghagor Ghat

has an area of 0.16 square km. At a height of 94 meters, it is situated in the floodplain of the Ranga River. According to Gogoi et al [24], the wetland is covered by rich vegetation with approximately 262 species of vascular plants. The Ghagor Ghat is a sand bank of Subansiri River, located between the latitudes 27°13'41" N - 27°15'15" N and longitudes 94°11'25" E - 94°12'19" E and has an area of 3.2 square km. The district has maximum and minimum temperatures of 31°C and 7°C, respectively, and has annual rainfall of 300 cm on average [25].

## 2.2 Study Plan and Methodology

The present study was conducted from October 2023 to June 2024, on a weekly basis. The surveys were conducted by Randomized Walk [26], Point Count Method [1] and Visual Encounter Survey [27]. For observations, binoculars (Nikon Prostaff P3 8x30) and for photographs a DSLR camera (Nikon D3400, 70–300 mm lens) was used. The surveys were carried out in the morning (0600 to 1100 hrs) and in the evening (1500 to 1800 hrs). For the identification of the recorded species, [4,28,29] were used. For updated nomenclature of the species [30] and merlin.allaboutbirds.org were used.

## 3. RESULTS AND DISCUSSION

The current study recorded a total of 62 avian species. 40 species were winter migratory and the rest are residents of the area seen throughout all seasons. Out of these 62 avian

species, three species have not been observed or recorded in the district before this study. Two of these birds were observed in Satajan wetland and one in Ghagor Ghat. These newly sighted species are categorized as 'least concern' in the IUCN Red List as per latest assessment.

### 3.1 Eurasian Hobby

*Falco subbuteo* (Eurasian Hobby) is a streamlined long-winged falcon. It belongs to the family Falconidae under order Falconiformes. It breeds in Himalayas and is a winter visitor to Lakhimpur district. This species also breeds across the Palearctic realm [31]. It is fast and powerful in flight and captures large insects with talons, move it to beak and eats while flying high in air in circles [32]. They nest in deserted nests of other birds such as crows [33]. The tree chosen for nesting is most often one in a hedge or on the extreme edge of a spinney, from where the bird can observe intruders from a considerable distance [33]. On 24 March 2024, an adult Eurasian Hobby was spotted perching on a branch of a tall tree at the boundary of Satajan wetland. It had long pointed wings with a medium length tail. The bird had broad black moustachial stripe, bold blackish streaking and rufous thighs (Fig. 1). Since sexes are very similar, it was not possible to determine the sex from the photograph. It has been reported from Baksa, Sonitpur, Cachar, Kamrup Metropolitan and Tinisukia district of Assam [34]. But, from Lakhimpur district, it was the first record of Eurasian Hobby.



Fig. 1. Eurasian Hobby (*Falco subbuteo*)

### 3.2 Thick-Billed Warbler

*Arundinax aedon* (Thick-billed Warbler) is a Bulbul-sized large warbler with a long tail, a stubby bill, and a plain face. It belongs to the family Acrocephalidae under order Passeriformes. Thick-billed warbler breeds in East Asia; winters in South and Southeast Asia. They are found in dense vegetation such as reeds, bushes and thick undergrowth. Like most warblers, it is insectivorous, but will take other small prey items. On 25 February, an adult male Thick-billed Warbler was spotted perching in a thin branch looking around for food in Satajan wetland of Lakhimpur district. It had a short, stout bill, rounded head with slightly raised crown feathers. The tail appeared long and graduated

and the wings were short (Fig. 2). It has been observed and photographed from Sonitpur, Baksa, Karimganj, Cachar, Tinisukia, Kamrup Metropolitan of Assam [34], but is the first sighting of Thick-billed Warbler from Lakhimpur district, Assam.

### 3.3 Eastern Yellow Wagtail

*Motacilla tschutschensis* (Eastern Yellow Wagtail) is an attractive, ground dwelling bird. It belongs to the family Motacillidae under order Passeriformes. It is a common breeder on Arctic tundra from Alaska to Russia; found in grassy and waterside habitats in Southeast Asian wintering grounds [34]. Eastern Yellow wagtail is an insectivorous bird and nests in tussocks. On



Fig. 2. Thick-billed Warbler (*Arundinax aedon*)



Fig. 3. Eastern Yellow Wagtail (*Motacilla tschutschensis*)



March 31, an immature Eastern Yellow Wagtail was spotted wandering around in sand in Ghagor Ghat. It had broad yellow supercilium contrasting with dark lores and ear-coverts. As it was immature, it lacked green and yellow. Only a little yellow in the neck and breast were seen (Fig. 3). It has been reported from Majuli, Dibrugarh, Kaziranga NP, Maguribeeel grassland, Pobitora WLS, Dibru-Saikhowa NP, Erasuti of Tinisukia district of Assam [34], but from Lakhimpur district, it was the first sighting.

#### 4. CONCLUSION

Lakhimpur district has a very rich avian diversity. The present study, within 8 months of survey, has documented three birds viz., Eurasian Hobby, Thick-billed Warbler and Eastern Yellow Wagtail- which were not reported before from the district. Sighting of species, which has not been reported before, implies about the availability of shelter, sufficient food resources and better quality of the ecosystem in Lakhimpur district. The district possesses diverse ecosystems for which the diversity of birds is very rich. In recent years, a few studies were conducted in some parts (Satajan wetland, Ranga Reserve Forest and Bordoibam-Bilmukh Bird Sanctuary) of the district which speaks about its rich diversity. But there are more locations (such as Ghagor Ghat, Pabha Reserve Forest, Kakoi Reserve Forest, Dulung Reserve Forest) which have a high avian diversity and needs to be studied and documented properly. Some of these bird-rich zones are protected but some are not. All these zones should be protected and kept away from anthropogenic disturbances. Proper management of these zones is quite essential for the survival of the inhabiting wildlife.

#### DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Authors hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

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#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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