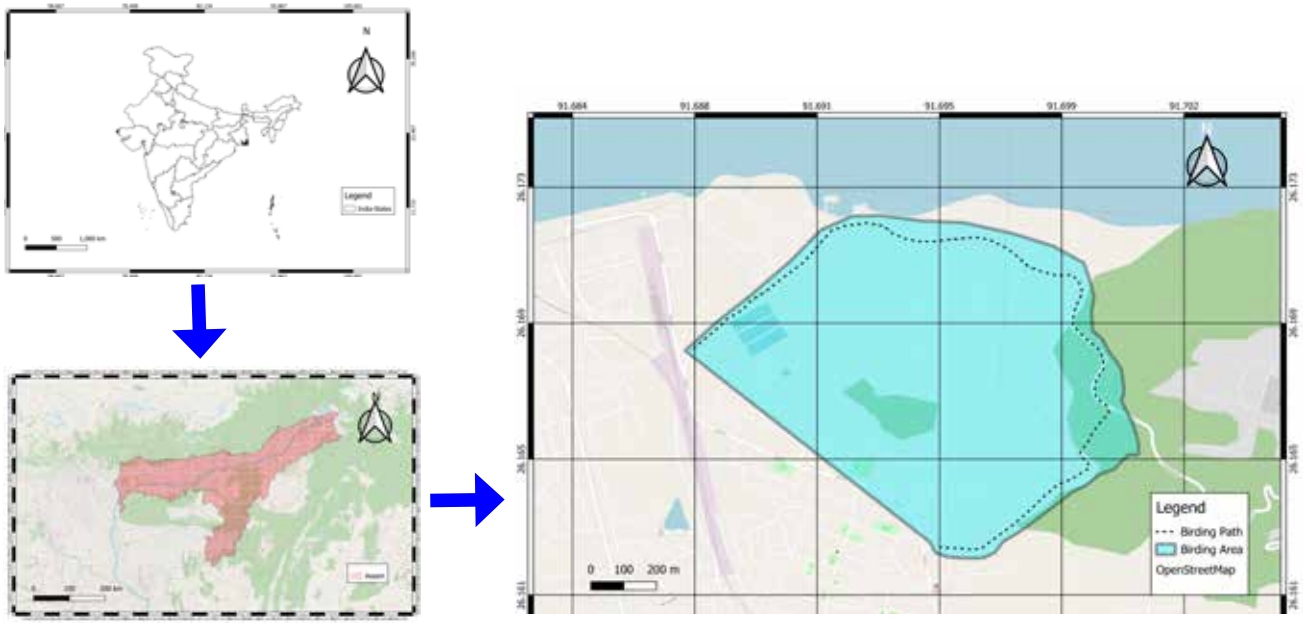
A walk through Nilachal Hills: avifauna observation

Birds are among the most widely distributed and diverse vertebrates on earth, with ~11,000 extant species (BirdLife International 2023).

The study of avifaunal diversity is an essential ecological tool that acts as an important indicator to evaluate different qualitative and quantitative habitats. The Nilachal Hills in the Guwahati area, renowned for their cultural significance and ecological richness, represent a unique gradient where human settlements blend with forested hill tracts. A bird survey was conducted in the Nilachal Hills, Guwahati (26.168°N, 91.687°E) from 0530 to 0700 h for four days (22–25 February 2026) using an opportunistic sampling method. Bird identification was done with the help of Merlin Bird ID app (version: 3.7.1) and the taxonomic key (Grimmett et al. 2011).

The study area was divided into three zones: (i) the urban zone, covering Temple Ghat Colony and Kamakhya Colony, characterised by dense settlements, roads, commercial establishments, and intense human activity where birds species diversity was low due to human disturbances; (ii) the forested zone, comprising the elevated Nilachal Hills, offering greener stretches and a relatively undisturbed natural setting; and (iii) the transition zone, located along the stairway to Kamakhya Colony, functioning as a buffer between the urban landscape and the forested habitat.

A total of 30 bird species belonging to 23 avian families were recorded. Among these, the order *Passeriformes* showed the highest occurrence, accounting 60% of the total observations.



Birding Area (Pandu, Assam) and Path (Using QGIS ver.3.44)

Avifauna observed in the study site.

	Common name	Scientific name	Family	Order	Feeding guild
1	Rock Pigeon (Feral)	*Columba livia domestica*	Columbidae	Columbiformes	Granivore
2	Spotted Dove	*Spilopelia chinensis*	Columbidae	Columbiformes	Granivore
3	Greater Coucal	*Centropus sinensis*	Cuculidae	Cuculiformes	Insectivore / Omnivore
4	Asian Koel	*Eudynamys scolopaceus*	Cuculidae	Cuculiformes	Frugivore / Insectivore
5	Black Kite	*Milvus migrans*	Accipitridae	Accipitriformes	Carnivore / Scavenger
6	White-throated Kingfisher	*Halcyon smyrnensis*	Alcedinidae	Coraciiformes	Carnivore (Insectivore)
7	Blue-throated Barbet	*Psilopogon asiaticus*	Megalaimidae	Piciformes	Frugivore / Insectivore
8	Rose-necked Parakeet	*Psittacula krameri*	Psittaculidae	Psittaciformes	Herbivore (Seeds/Fruits)
9	Black-hooded Oriole	*Oriolus xanthornus*	Oriolidae	Passeriformes	Frugivore / Insectivore
10	Ashy Woodswallow	*Artamus fuscus*	Artamidae	Passeriformes	Insectivore
11	Black Drongo	*Dicrurus macrocercus*	Dicruridae	Passeriformes	Insectivore
12	House Crow	*Corvus splendens*	Corvidae	Passeriformes	Omnivore
13	Cinereous Tit (Asian Tit)	*Parus cinereus*	Paridae	Passeriformes	Insectivore / Granivore
14	Common Tailorbird	*Orthotomus sutorius*	Cisticolidae	Passeriformes	Insectivore
15	Red-vented Bulbul	*Pycnonotus cafer*	Pycnonotidae	Passeriformes	Frugivore / Insectivore
16	Jungle Babbler	*Argya striata*	Leiothrichidae	Passeriformes	Insectivore / Omnivore
17	Common Myna	*Acridotheres tristis*	Sturnidae	Passeriformes	Omnivore
18	Purple Sunbird	*Cinnyris asiaticus*	Nectariniidae	Passeriformes	Nectarivore / Insectivore
19	House Sparrow	*Passer domesticus*	Passeridae	Passeriformes	Granivore / Insectivore
20	Citrine Wagtail	*Motacilla citreola*	Motacillidae	Passeriformes	Insectivore
21	Oriental Magpie-Robin	*Copsychus saularis*	Muscicapidae	Passeriformes	Insectivore
22	Indian Pied Starling	*Gracupica contra*	Sturnidae	Passeriformes	Omnivore
23	Barn Swallow	*Hirundo rustica*	Hirundinidae	Passeriformes	Insectivore
24	Grey-throated Martin	*Riparia chinensis*	Hirundinidae	Passeriformes	Insectivore
25	Grey-headed Canary-Flycatcher	*Culicicapa ceylonensis*	Stenostiridae	Passeriformes	Insectivore
26	Hair-crested Drongo	*Dicrurus hottentottus*	Dicruridae	Passeriformes	Insectivore
27	Western Cattle- Egret	*Ardea ibis*	Ardeidae	Pelecaniformes	Insectivore
28	Asian Palm Swift	*Cypsiurus balasiensis*	Apodidae	Apodiformes	Insectivore
29	Yellow-footed Green Pigeon	*Treron phoenicopterus*	Columbidae	Columbiformes	Frugivore
30	Large-billed Crow	*Corvus macrorhynchos*	Corvidae	Passeriformes	Omnivore

The survey showed clear habitat-linked differences in bird diversity, where urban areas supported species closely associated with human presence, whereas the forested hills favoured birds dependent on natural vegetation. Such patterns emphasize that adaptable birds like crows, sparrows, and doves are more likely to persist in urban landscapes, whereas species with narrower requirements may decline. Thus, urbanization acts as an ecological filter that favours bold and resilient birds while excluding the more sensitive ones. Over time, this may lead to a distinct community of urban specialists.

An unusual finding was the prolonged breeding plumage in Cattle Egrets, possibly influenced by artificial lighting or warmer urban conditions, suggesting that human activity may already be altering avian life cycles. Similar to the present survey, species like Common Tailorbird, Jungle Babbler, Purple Sunbird, and House Sparrow have also been reported from Karnataka (Mahendra et al. 2025). The present survey witnessed only one raptor species, the Black Kite, in a mosaic habitat which was earlier reported from the northeastern region but more in open habitat than mosaic habitat (Mahananda et al. 2024). However, as the survey was conducted over a short duration and within a smaller area, more extensive and long-term avian studies across the region are essential for comprehensive species documentation and effective conservation planning.

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