

A Single-Day Avifaunal Survey Reveals 132 Species and the First Record of the Blue-and-white Flycatcher *Cyanoptila cyanomelana* in Gujarat

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1. Introduction

Gujarat, located on the western coast of India, constitutes an important nexus for various migratory flyways, notably for species employing the Central Asian Flyway (Ali & Ripley, 1987). Despite substantial ornithological study in the state, numerous ecological niches remain underexplored—notably smaller, non-protected wetland complexes and adjacent terrestrial habitats. The current research focused on three distinct locations—Bherai, Pariej, and Gobhlaj—recognized locally for their avian abundance yet lacking recent, comprehensive surveys. Given the rising threat from habitat fragmentation and land-use change, a rapid assessment was essential to establish a baseline inventory of bird species diversity (Sekercioglu et al., 2004). A primary objective of this

investigation was to document any species not previously recorded within the state's geographical boundaries.

2. Methodology

2.1 Study Sites and Duration

The survey was performed during an intensive single-day field effort on 22 November 2025 across the three specified sites: Bherai (22°46'20.6"N, 72°35'56.6"E), Pariej (22°32'56.8"N, 72°37'28.1"E), and Gobhlaj (22°47'40.4"N, 72°36'50.0"E). These locations comprise a mix of ecosystems, including shallow wetlands, agricultural fields, and degraded scrubland/forest. The complete checklist was submitted to the eBird database under Trip Report 434416 (eBird, 2025).

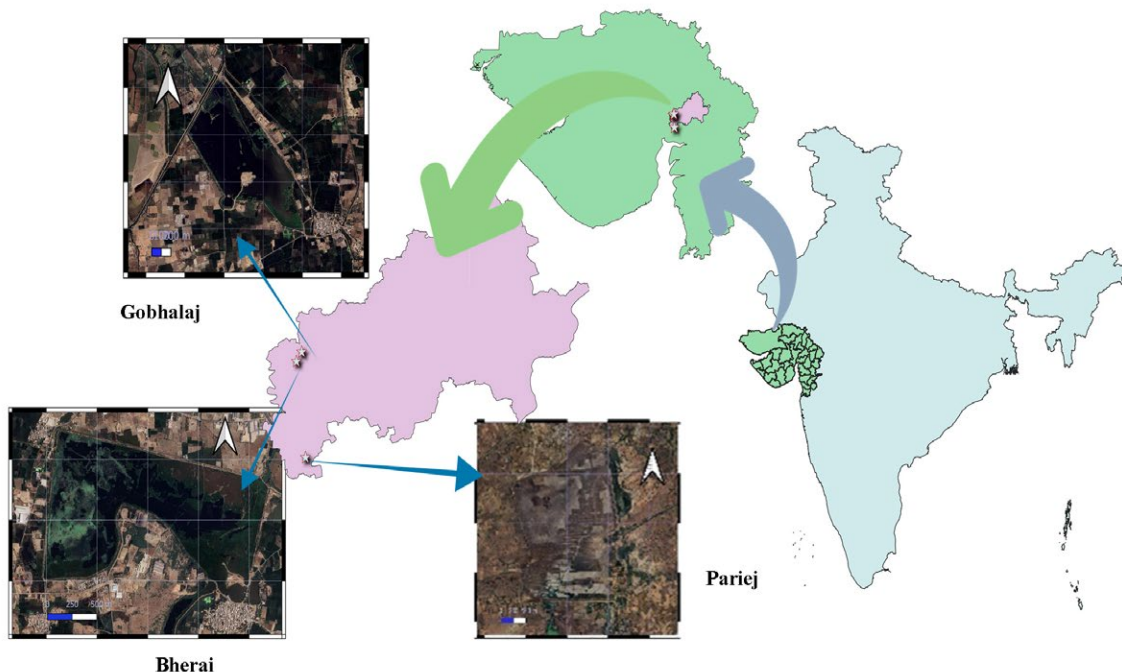


Figure 1: Study site

2.2 Survey Techniques

The study was conducted by a team of 19 observers from the LBALAB Association. The primary methodological approach was point counts, supplemented by opportunistic ad-hoc transect counts along predefined routes:

Point Counts: Fixed observation points (n=10 per site) were deployed, with counts recorded over 15-minute intervals during early morning and late afternoon periods.

Ad-Hoc Surveys: Walking transects were covered across diverse habitat types to maximize spatial coverage, documenting all visual and auditory encounters.

Identification: Species were identified using high-power binoculars and standard field guides, augmented by vocalizations. All species identifications were verified independently by at least two experienced observers.

2.3 Documentation of Rare Species

Any potential first state record was thoroughly documented using high-resolution photography, detailed field notes, and geographic coordinates. This evidence was subsequently cross-referenced with authoritative state and national checklists prior to confirmation (Rasmussen & Anderton, 2012).

3. Results

The single-day survey recorded a total of 132 bird species across the three study sites. This high species richness highlights the combined ecological significance of the Bherai, Pariej, and Gobhlaj wetland-terrestrial complex. The majority of recorded species comprised Palearctic winter migrants and widespread resident species.

3.1 Record: Blue-and-white Flycatcher (*Cyanoptila cyanomelana*)

The most notable finding was the unequivocal sighting and photographic documentation of a female/immature Blue-and-white Flycatcher (*Cyanoptila cyanomelana*) near Pariej. This species is an East Asian migrant that breeds primarily in Northeast Asia and winters in Southeast Asia (Cramp, 1992). This sighting represents the first documented record of *C. cyanomelana* in the state of Gujarat, indicating an extreme extralimital vagrancy event or a notable expansion of its known passage range.

4. Discussion and Conclusion

The documentation of 132 species, along with the first state record of the Blue-and-white Flycatcher, underscores the Pariej region as a critical hotspot for avian biodiversity in Gujarat. The high diversity observed during a rapid single-day survey demonstrates the presence of varied microhabitats capable of supporting both resident birds and diverse migratory populations.



Figure 2: Blue-and-white Flycatcher (*Cyanoptila cyanomelana*)

4.1 Identification Rationale and Confirmation

The individual observed during the survey was identified as a non-adult (female or first-winter male) of the genus *Cyanoptila*. The assignment to Blue-and-white Flycatcher (*C. cyanomelana*) rather than the morphologically similar

Zaprey's Flycatcher (*C. cumatilis*) relies on a conservative application of biogeographical probability, as females and immatures of these two taxa are virtually indistinguishable in the field (Leader & Carey, 2012).

Visually, the bird exhibited greyish-brown upperparts, a light olive-grey wash across the breast contrasting with a paler throat, and a whitish abdomen. Without in-hand biometric measurements (such as wing formula) or genetic samples, field separation between female-type *C. cyanomelana* and *C. cumatilis* is not possible with complete certainty. However, assigning the record to *C. cyanomelana* is justified by established patterns of vagrancy in the Indian Subcontinent: all previous, definitively confirmed male records of *Cyanoptila* in mainland India belong to *C. cyanomelana* (Vittapu & Dey, 2021), whereas Zappey's Flycatcher (*C. cumatilis*) lacks any confirmed record in India (Dharwadkar & Fonseca, 2024). Therefore, following the standard conservative convention, the record is attributed to *C. cyanomelana*.

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Annexure 1: Species Checklist (Observed Avifauna)

Common Name	Scientific Name
Ashy Prinia	<i>Prinia socialis</i>
Ashy-crowned Sparrow-Lark	<i>Eremopterix griseus</i>
Asian Green Bee-eater	<i>Merops orientalis</i>
Asian Koel	<i>Eudynamis scolopaceus</i>
Asian Openbill	<i>Anastomus oscitans</i>
Asian Woolly-necked Stork	<i>Ciconia episcopus</i>
Bank Myna	<i>Acridotheres ginginianus</i>

Common Name	Scientific Name
Bar-headed Goose	<i>Anser indicus</i>
Barn Swallow	<i>Hirundo rustica</i>
Bay-backed Shrike	<i>Lanius vittatus</i>
Baya Weaver	<i>Ploceus philippinus</i>
Black Kite	<i>Milvus migrans</i>
Black-headed Ibis	<i>Threskiornis melanocephalus</i>
Black-tailed Godwit	<i>Limosa limosa</i>
Black-winged Stilt	<i>Himantopus himantopus</i>
Blue-and-white Flycatcher	<i>Cyanoptila cyanomelana</i>
Blue-cheeked Bee-eater	<i>Merops persicus</i>
Blue-tailed Bee-eater	<i>Merops philippinus</i>
Bluethroat	<i>Luscinia svecica</i>
Bronze-winged Jacana	<i>Metopidius indicus</i>
Brown Shrike	<i>Lanius cristatus</i>
Common Babbler	<i>Argya caudata</i>
Common Greenshank	<i>Tringa nebularia</i>
Common Hoopoe	<i>Upupa epops</i>
Common Kingfisher	<i>Alcedo atthis</i>
Common Myna	<i>Acridotheres tristis</i>
Common Pochard	<i>Aythya ferina</i>
Common Redshank	<i>Tringa totanus</i>
Common Sandpiper	<i>Actitis hypoleucos</i>
Common Snipe	<i>Gallinago gallinago</i>
Common Tailorbird	<i>Orthotomus sutorius</i>
Common Woodshrike	<i>Tephrodornis pondicerianus</i>
Diurnal Raptor sp.	Accipitriformes / Falconiformes sp.
Duck sp.	Anatidae sp.
Eastern Cattle Egret	<i>Ardea coromanda</i>
Eurasian Collared-Dove	<i>Streptopelia decaocto</i>
Eurasian Coot	<i>Fulica atra</i>
Eurasian Moorhen	<i>Gallinula chloropus</i>
Eurasian Sparrowhawk	<i>Accipiter nisus</i>
Eurasian Spoonbill	<i>Platalea leucorodia</i>
Gadwall	<i>Mareca strepera</i>
Garganey	<i>Spatula querquedula</i>
Glossy Ibis	<i>Plegadis falcinellus</i>
Grey Francolin	<i>Ortygornis pondicerianus</i>
Grey Heron	<i>Ardea cinerea</i>
Grey Wagtail	<i>Motacilla cinerea</i>
Grey-headed Swampphen	<i>Porphyrio poliocephalus</i>
Greylag Goose	<i>Anser anser</i>

Common Name	Scientific Name
Great Egret	<i>Ardea alba</i>
Great White Pelican	<i>Pelecanus onocrotalus</i>
Greater Coucal	<i>Centropus sinensis</i>
Greater Flamingo	<i>Phoenicopterus roseus</i>
Greater Spotted Eagle	<i>Clanga clanga</i>
Green Warbler	<i>Phylloscopus nitidus</i>
Green-winged Teal	<i>Anas crecca</i>
Greenish Warbler	<i>Phylloscopus trochiloides</i>
Gull-billed Tern	<i>Gelochelidon nilotica</i>
House Crow	<i>Corvus splendens</i>
House Sparrow	<i>Passer domesticus</i>
Hume's Warbler	<i>Phylloscopus humei</i>
Indian Cormorant	<i>Phalacrocorax fuscicollis</i>
Indian Golden Oriole	<i>Oriolus kundoo</i>
Indian Peafowl	<i>Pavo cristatus</i>
Indian Pond-Heron	<i>Ardeola grayii</i>
Indian Robin	<i>Copsychus fulicatus</i>
Indian Roller	<i>Coracias benghalensis</i>
Indian Spot-billed Duck	<i>Anas poecilorhyncha</i>
Indian Spotted Eagle	<i>Clanga hastata</i>
Indian White-eye	<i>Zosterops palpebrosus</i>
Jungle Babbler	<i>Argya striata</i>
Kentish Plover	<i>Anarhynchus alexandrinus</i>
Knob-billed Duck	<i>Sarkidiornis melanotos</i>
Large Grey Babbler	<i>Argya malcolmi</i>
Large-billed Crow	<i>Corvus macrorhynchos</i>
Indian Jungle Crow	<i>Corvus macrorhynchos culminatus</i>
Laughing Dove	<i>Spilopelia senegalensis</i>
Lesser Whitethroat	<i>Curruca curruca</i>
Little Cormorant	<i>Microcarbo niger</i>
Little Egret	<i>Egretta garzetta</i>
Little Grebe	<i>Tachybaptus ruficollis</i>
Little Ringed Plover	<i>Thinornis dubius</i>
Little Stint	<i>Calidris minuta</i>
Little Swift	<i>Apus affinis</i>
Marsh Sandpiper	<i>Tringa stagnatilis</i>
Intermediate Egret	<i>Ardea intermedia</i>
Northern Shoveler	<i>Spatula clypeata</i>
Oriental Darter	<i>Anhinga melanogaster</i>
Oriental Magpie-Robin	<i>Copsychus saularis</i>
Osprey	<i>Pandion haliaetus</i>
Paddyfield Pipit	<i>Anthus rufulus</i>

Common Name	Scientific Name
Painted Stork	<i>Mycteria leucocephala</i>
Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>
Pied Kingfisher	<i>Ceryle rudis</i>
Purple Heron	<i>Ardea purpurea</i>
Purple Sunbird	<i>Cinnyris asiaticus</i>
Purple-rumped Sunbird	<i>Leptocoma zeylonica</i>
Red Collared-Dove	<i>Streptopelia tranquebarica</i>
Red-naped Ibis	<i>Pseudibis papillosa</i>
Red-vented Bulbul	<i>Pycnonotus cafer</i>
Red-wattled Lapwing	<i>Vanellus indicus</i>
River Tern	<i>Sterna aurantia</i>
Rock Pigeon (Feral)	<i>Columba livia</i>
Rose-ringed Parakeet	<i>Psittacula krameri</i>
Rosy Starling	<i>Pastor roseus</i>
Ruddy Shelduck	<i>Tadorna ferruginea</i>
Ruff	<i>Calidris pugnax</i>
Rufous Treepie	<i>Dendrocitta vagabunda</i>
Sarus Crane	<i>Antigone antigone</i>
Scaly-breasted Munia	<i>Lonchura punctulata</i>
Shorebird sp.	<i>Charadriiformes sp.</i>
Siberian Stonechat	<i>Saxicola maurus</i>
Small Pratincole	<i>Glareola lactea</i>
Spotted Dove	<i>Spilopelia chinensis</i>
Spotted Flycatcher	<i>Muscicapa striata</i>
Spotted Owlet	<i>Athene brama</i>
Steppe Eagle	<i>Aquila nipalensis</i>
Streak-throated Swallow	<i>Petrochelidon fluvicola</i>
Sykes's Warbler	<i>Iduna rama</i>
Tawny-bellied Babbler	<i>Dumetia hyperythra</i>
Tricolored Munia	<i>Lonchura malacca</i>
Western Marsh-Harrier	<i>Circus aeruginosus</i>
Western Yellow Wagtail	<i>Motacilla flava</i>
Whiskered Tern	<i>Chlidonias hybrida</i>
White Wagtail	<i>Motacilla alba</i>
White-bellied Drongo	<i>Dicrurus caeruleus</i>
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>
White-eared Bulbul	<i>Pycnonotus leucotis</i>
White-tailed Lapwing	<i>Vanellus leucurus</i>
White-throated Kingfisher	<i>Halcyon smyrnensis</i>
Wire-tailed Swallow	<i>Hirundo smithii</i>
Wood Sandpiper	<i>Tringa glareola</i>
Yellow-footed Green-Pigeon	<i>Treron phoenicopterus</i>

