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FRONT COVER: Slaty-headed Tesia from Bogoli, Assam

PHOTOGRAPHER: Suyog Ghodke

BACK COVER: Rufous-breasted Bush Robin from Mishmi Hills, Arunachal Pradesh

PHOTOGRAPHER: C. Abhinav

Encounter rates and active nests of raptors in the Indian Trans-Himalaya: Towards a long-term monitoring program

Sidharth Srinivasan, Manvi Sharma, Karma Sonam, Rinchen Tobge, Kesang Chunit, Tanzin Thuktan, Tandup Chhering, Kalzang Gurmet, Tanzin Thinley, Munib Khanyari & Kulbhushansingh Suryawanshi

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Abstract:

Raptor populations are declining worldwide, including in India, where populations of several open-landscape raptors are of concern. To understand these declines, monitoring trends in raptor populations is crucial, especially in the long-term. We set up two long-term raptor monitoring projects in Spiti and Ladakh in the Trans-Himalaya, an understudied region for raptors in India, with the goal of monitoring raptor populations over time. To understand patterns of abundance and distribution, we counted raptors along 10 transects laid along roads in valleys, gorges and rolling hills in both regions, twice a year. We calculated overall and species-specific encounter rates per kilometre. To understand breeding raptor populations at the landscape scale in Ladakh, we also enumerated the number of active nests of raptors during peak nesting times, along the same roads. Initial results from two and a half years of raptor monitoring in Spiti and half a year in Ladakh suggest that Spiti harbours relatively lower numbers of raptors that hunt prey when compared to scavenging raptors than Ladakh. We recorded eight species of raptors across both regions and the overall encounter rates of raptors in these regions ranged from 18 (95% CI: 12–23) to 61 (50–72) individuals/100 km, which were higher than or similar to those in other steppe habitats worldwide. We found 58 nests across the landscape in Ladakh, with the nests of the Golden Eagle being the most abundant ($n = 17$), followed by vultures ($n = 16$). The overall number of active nests was low ($n = 11$), and several nests were old and potentially used in previous years. Because raptors use multiple nests in their territory, monitoring unused nests could help understand patterns of nest occupancy in the long-term. We hope that over time, these long-term raptor monitoring projects will help us understand the population trends of raptors across Spiti and Ladakh.

Introduction

Raptors (birds of prey) are apex predators, exhibiting top-down pressures on the ecosystem, thereby helping stabilize food webs and maintain biodiversity (Sergio et al. 2005; Sekercioglu 2006; Ritchie & Johnson 2009; Buechley & Şekercioglu 2016). Because they provide key ecosystem services, such as nutrient recycling, they are used as potential ecological indicators of the habitat and are often characterized as flagship or umbrella species (Sergio et al. 2008; Donazar et al. 2016; McClure et al. 2018). They also play an important role in the culture of human communities and are known to aid in human well-being (Helander et al. 2008; Lu et al. 2009; Negro 2018; O'Bryan et al. 2018) and some species are closely tied to human activities (Kumar et al. 2018).

Their high position in the trophic level, combined with low population densities and low fecundities, makes raptors disproportionately more vulnerable to extinction than taxonomic groups worldwide (McClure et al. 2018; O'Bryan et al. 2022) and their decline in recent decades has been documented globally (Ogada et al. 2016; Ganesh & Prashanth 2018; McClure & Rolek 2020; Shaw et al. 2024). These declines have been associated with habitat loss, changes in land use, depletion of their prey base, collision with human infrastructure, hunting, and poisoning, both intentional and unintentional (Carrete et al. 2009; Ogada et al. 2016; Donazar et al. 2016; Shaw et al. 2024). Unintentional poisoning through the ingestion of diclofenac has caused severe declines in vultures, with steep population crashes in multiple

species from different parts of the world (Prakash et al. 2003; Oaks et al. 2004; Virani et al. 2011; Ogada et al. 2016). In India, vultures have declined by more than 95% between 1992 and 2007, the effects of which are cascading, such as increased human rabies cases (Markandya et al. 2008). While the vulture population decline may have slowed in India after the diclofenac ban (Galligan et al. 2014; Prakash et al. 2019), it has likely not ceased, as indicated by the recent State of India's Birds report (SolB 2023). Other raptor species, especially several open country specialists including the widely distributed Eurasian Kestrel *Falco tinnunculus*, were also reported to be declining in India (Ganesh & Prashanth 2018; SolB 2023).

Monitoring raptor populations is key to understanding the current declines observed in India and elsewhere (Mahananda et al. 2022). Monitoring over time can help provide crucial insights into population dynamics and their drivers, thereby helping frame conservation priorities for species as well as landscapes (Lindenmayer et al. 2012). Raptor research priorities are among the highest in South Asia (Buechley et al. 2019); this region is not only greatly understudied but also harbours a high diversity of raptors, including threatened species (Buechley et al. 2019; Mahananda et al. 2022). Particularly, long-term raptor nest monitoring can help understand breeding raptor populations, especially for these threatened species (McClure et al. 2021).

In India and the Himalaya, raptor research is not uncommon (Paudel et al. 2016; Kumar et al. 2019, 2022; Arya et al. 2021),

but long-term field raptor studies are scarce. Studies are restricted in time, space, and often to a single species (Lu et al. 2009; Kumar et al. 2019; McClure et al. 2021). This is true in the high-elevation steppe and rangelands as well (Singh et al. 2013; Murali et al. 2017). These rangelands are important to pastoralist communities for livestock grazing as well as several charismatic and threatened fauna, including the Golden Eagle *Aquila chrysaetos* and the Bearded Vulture *Gypaetus barbatus*. We set up long-term raptor monitoring and raptor nest monitoring projects in the Trans-Himalayan regions of Spiti and Ladakh to monitor raptor population trends over large scales, at a landscape level. We describe our projects and present initial results in this article. We hope that over time, this long-term raptor monitoring project will help us understand the population trends of raptors across Spiti and Ladakh. This understanding can then form the basis of contextual and adaptive conservation priorities for raptors in the region.

Methods

Study Area

We carried out our study in two regions of the Indian Trans-Himalaya – in the Spiti River Valley, Lahaul and Spiti District, Himachal Pradesh, and the south and south-eastern parts of the Union Territory of Ladakh. The elevation in both these regions ranges between 3,500m–6,000m and the terrain is highly undulating and rugged, with deep valleys, rocky outcrops, and rolling hills. The regions are characterized by a cold, desert climate and the vegetation is classified as ‘dry alpine steppe’ dominated by short shrubs (Champion & Seth 1968). The common breeding raptors of these regions include the Golden Eagle, Himalayan Griffon *Gyps himalayensis*, Bearded Vulture, Upland Buzzard *Buteo hemilasius*, Eurasian Eagle-Owl *Bubo bubo*, and the Eurasian Kestrel (eBird 2021).

Raptor Monitoring

We set up road transects in Ladakh and Spiti for monitoring diurnal raptors (Fig. 1–2). Road transects are widely used across the world for surveying raptors (Prakash et al. 2003; Carrete et al. 2009; Virani et al. 2011; Pomeroy et al. 2015; Garbett et al. 2018; Kumar et al. 2022). Road transects have inherent biases, but multiple studies have noted the advantages of using this method, especially in large areas with scant information (Ellis et al. 1990; Carrete et al. 2009; Garbett et al. 2018). We began the raptor monitoring project in Spiti in autumn 2021 and in Ladakh in autumn 2023. We counted raptors along 10 transects laid along existing roads in both regions, in valleys, gorges, and rolling hills, with each transect covering c.5 km in length (Spiti: Mean 14.97 ± 2.48 km; Ladakh: Mean 15.03 ± 1.75 km) while ensuring that the transects had minimal bends and turns to avoid double-counting of individuals (Fig. 1–2). We conducted the survey twice a year, during the beginning and the end of the breeding season – in early summer (late May) and late autumn (late Oct). We ensured that the total effort in each season and region remained similar. The counts were conducted by trained observers mounted on a vehicle, which was driven at a steady speed of 20 km/h. From pilot surveys conducted in 2021 in Spiti, we found that the ideal time for maximum detections was between 1100 h and 1300 h and this was largely followed subsequently. We surveyed only on relatively clear and sunny days and we recorded the raptor species, the number of individuals, and any notable behavior (e.g., hunting, courtship, carrying nesting material, etc.). Transects close to each

other were either surveyed simultaneously or one after the other to limit pseudo-replication across transects. We calculated overall and species-specific encounter rates per kilometre (detections/effort) by pooling data from all transects, in each season and region. We estimated species-specific encounter rates only for the most common raptor species such as the Golden Eagle and Himalayan Griffon, among others, and calculated confidence intervals for each estimate through bootstrap resampling with 1,000 iterations.

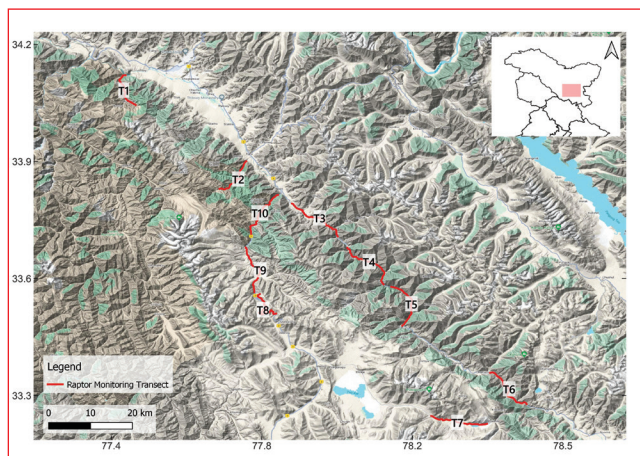


Fig. 1. Map of Ladakh depicting the location of the raptor monitoring transects. Base map derived from Google Maps (Map data, 2023 Google).

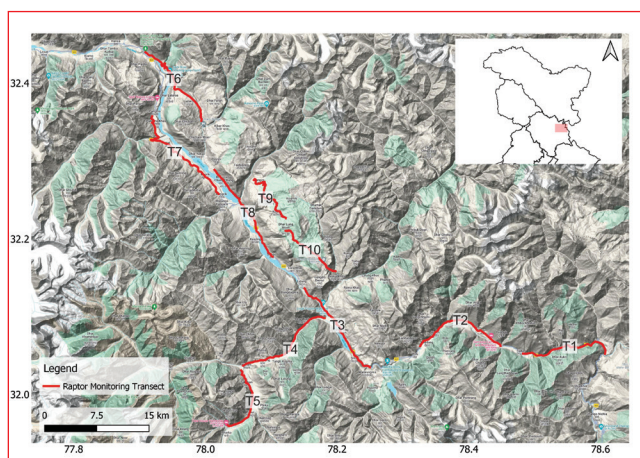


Fig. 2. Raptor monitoring transect locations in Spiti. Base map derived from Google Maps (Map data, 2023 Google).

Raptor Nest Monitoring

To understand breeding raptor populations at large scales, we piloted the nest monitoring study in Ladakh to determine feasibility, with the hope of extending it to Spiti in the future. We initially located nests of these species with the help of local people and conducted a recce survey in March 2023. The recce survey, along with information from published sources (Ferguson-Lees & Christie 2001; Katzner et al. 2004; Billerman et al. 2022), suggested that most raptors in the region breed between January and August, with laying dates between April and May. We observed birds sitting on nests and assumed that they were potentially incubating eggs or brooding young. This helped us confirm the peak nesting times for the raptors in the region, based on which we surveyed in May 2023. The areas covered for this survey included the major valleys of south and south-eastern

Ladakh, along the same roads as the raptor monitoring transects (Fig. 3). We divided these areas into blocks and attempted to cover each block within a day. We scanned the cliff faces for signs of bird droppings to locate nests. Upon encountering a nest, we noted the location, its status (occupied/unoccupied), and the identity of the species. Vulture nests usually appear bare and without many twigs or other material, as opposed to nests of Golden Eagles and Upland Buzzards, whose nests have a large amount of nesting material (Photo 1, 2). Because nests can be left unoccupied for some periods of time (even in the case of an active nest), we asked the local people if the nest had been active and we also waited for at least 20 minutes near the nest to check for raptors returning to the nest. We used a spotting scope to observe nests from a safe distance, ensuring minimal disturbance to the nest. If the nest was unoccupied, we noted its status as unoccupied and enquired the local people about the identity of the raptor(s) that used the nest previously. Unoccupied vulture nests were sometimes difficult to attribute to a particular species and were noted as 'vulture sp.', and other unclear raptor nests were recorded as 'unknown'. We sampled nests once per year, since large-bodied raptors are unlikely to have multiple broods in a year (Tapia & Zuberogitia 2018).

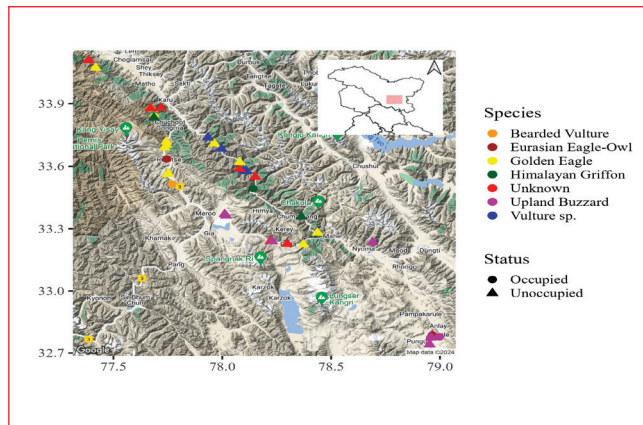


Fig. 3. Map of Ladakh showing the nests of raptor species. Base map derived from Google Maps (Map data, 2023 Google).

Results

Raptor Monitoring

We present results from two and a half years of raptor monitoring in Spiti and half a year in Ladakh. We covered a total of ~150 km in each season and region. We recorded a total of eight species of raptors across both regions. Saker Falcon *Falco cherrug*, Black Kite *Milvus migrans*, and Eurasian Sparrowhawk *Accipiter nisus* were recorded only in Ladakh, although the latter is not uncommon in Spiti (eBird 2021). In Spiti, we encountered more raptors in autumn than in summer in all the sampled years (Fig. 4). The total encounter rate of raptors in Ladakh in autumn 2023 seemed to be lower than that of Spiti (Mean 0.37 (95% CI 0.3–0.43) vs. 0.61 (0.5–0.72)).

Vultures were the most encountered raptor species in both regions, with the Himalayan Griffon being more common in Spiti and the Bearded Vulture being more common in Ladakh (Fig. 4). The Golden Eagle was encountered more often in Ladakh than in Spiti (0.09 (0.07–0.1) vs. 0.06 (0.05–0.07)) at least in the autumn of 2023. Interestingly, in Spiti, the most common raptor species seemed to show an increasing trend (barring the Eurasian Kestrel), especially in autumn (Fig. 5).

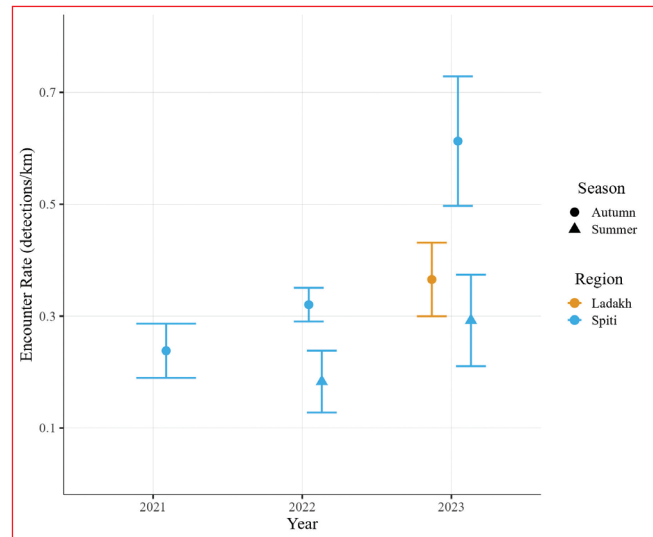


Fig. 4. Total encounter rates (detections per km) by season and across years in Spiti and Ladakh. The error bars indicate 95% confidence intervals.

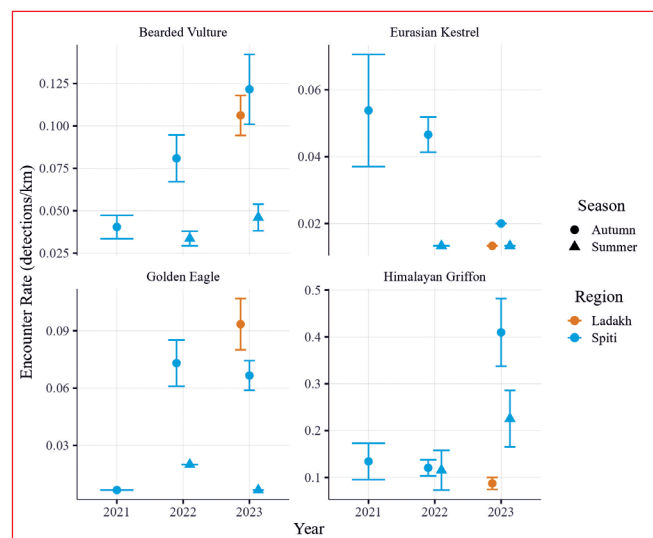


Fig. 5. Encounter rates (detections per km) of the most common raptor species, by season and across years in Spiti and Ladakh. The error bars indicate 95% confidence intervals.

Raptor Nest Monitoring

We covered roughly 175 km and found 58 nests in total across the landscape in Ladakh (Fig. 3). Nests of the Golden Eagle were the most abundant ($n = 17$), followed by the vultures ($n = 16$) and the Upland Buzzard ($n = 10$). The overall number of active nests was low – only 11 out of the 58 nests were active (Table 1). Vultures had the highest number of active nests with six occupied nests, while the Golden Eagle had the lowest – we found only one occupied nest for 16 unoccupied nests. Both the Upland Buzzard and Eurasian Eagle-Owl had two occupied nests each. We could not attribute the species of 20 unoccupied nests.

Discussion

The initial results from our raptor surveys spanning two and a half years show that the Spiti Valley landscape harbors relatively lower numbers of raptors that hunt prey (Golden Eagle, Eurasian Kestrel) when compared to scavenging raptors (Himalayan Griffon, Bearded Vulture) (Fig. 5). While this was true in Ladakh



76. A Himalayan Griffon nesting in Shyang Valley, Ladakh.



77. A nest of a Golden Eagle on a high cliff in Rumbak Valley, Ladakh.

Both: Sidharth Srinivasan

Table 1. Total number of occupied and unoccupied nests per species in Ladakh

Species	Number of occupied/unoccupied nests
Bearded Vulture	2/0
Eurasian Eagle-Owl	2/0
Golden Eagle	1/16
Himalayan Griffon	4/3
Upland Buzzard	2/8
Vulture sp.	0/7
Unknown	0/13

as well, we encountered more species of prey-hunting raptors and encountered them more often than in Spiti (for example, the Golden Eagle). While we need more data to investigate patterns, initial trends indicate that the encounter rates of a few common raptor species in Spiti, barring the Eurasian Kestrel (Fig. 5), seemed to be increasing over the years. The Eurasian Kestrel showed a marginal decline (albeit with very low encounter rates) with very few detections in 2023. Although the Bearded Vulture and Himalayan Griffon showed an increase over the years, both species and the Kestrel have been reported to be declining over much of India (SoIB 2023) and it would not be surprising to see this pattern over a longer time period in this region as well. Very little data exists for other raptors, such as the Golden Eagle and the Upland Buzzard. Continued monitoring in this landscape is essential to obtain baseline information for these species and to confirm trends.

The overall encounter rates of raptors in this region range from 18 (12–23) to 61 (50–72) individuals/100 km, which is higher than or similar to other steppe habitats around the world (23–

57/100 km in Kazakhstan and 10–32.6/100 km in Patagonia) (Ellis et al. 1990; Donazar et al. 1993; Sánchez-Zapata et al. 2003), indicating that these rangelands are important habitats for raptors. The total encounter rates seem to be higher in the autumn in Spiti (Fig. 4), presumably because of the addition of young individuals and because both adults are more likely to be detected in the autumn, with nesting duties being completed by then.

We found a total of 11 active nests in Ladakh. Himalayan Griffon had the highest number of active nests, whereas the Golden Eagle had the lowest, with only one occupied nest. Raptors are known to build, maintain and use multiple alternative nests throughout their breeding territory (Newton 1979; Ontiveros et al. 2008; Millsap et al. 2015). Golden Eagles have been recorded to use between 1–18 nests per territory, with 5–8 nests being the most common (Kochert & Steenhof 2012). The reasons for alternative nests are not well known, but prey availability is most likely an important factor (Millsap et al. 2015). Since the nests were along the road, prey availability in the vicinity might have reduced following development along the road. Several nests were also relatively old and active many years previously (>8 years according to local people); hence, the raptors might have moved further into relatively less disturbed valleys. This might explain the low number of active nests of the Golden Eagle nests and possibly other raptors in our study, although information on alternative nests for raptors such as the Upland Buzzard does not exist. Raptors are known to reuse older nests or construct newer nests in their vicinity once conditions around the nest become favourable again (Millsap et al. 2015). Therefore, it is important to continue monitoring unused nests in subsequent surveys since nest reuse among raptors is very likely (Newton 1979; Jiménez-Franco et al. 2014a, b).

Long-term monitoring studies provide important information about population trends (Lindenmayer et al. 2012) and we intend that these surveys be a part of a long-term monitoring effort of raptors in the high elevations of the Himalaya. These raptors can act as important indicators of the overall health of the rangeland, and their decline can signify habitat degradation and loss of biodiversity. In the following years, we aim to find and survey more nests and explore long-term trends related to the factors influencing raptor nest site selection, encounter rates of raptors, relative encounter rates of different age classes of raptors, and possibly discern the effects of climate change on these raptor communities. Given the ongoing decline of open-country and specialist raptors in India (SoIB 2023), long-term monitoring efforts should be prioritized and conducted in lesser-known landscapes, such as the Trans-Himalaya.

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Birdwatchers piecing together *Locustella* jigsaw: Insights into the wintering distribution of the cryptic West Himalayan Bush Warbler *Locustella kashmirensis*

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Introduction

West Himalayan Bush Warbler *Locustella kashmirensis* (hereinafter, WHBW), also known as Himalayan Grasshopper-warbler (BirdLife International 2024), is a small, warm brown warbler that is known to breed in alpine scrub above 3,000 m asl, from north-western Himachal Pradesh, through Uttarakhand, and eastwards to west-central Nepal (Rasmussen & Anderton 2012; Inskipp & Chaudhary 2016; Inskipp et al. 2020a; Abhinav 2021). WHBW has two plumage morphs, grey-breasted and buff-breasted (Rasmussen & Anderton 2012). The typical grey-breasted morph has a white and unmarked chin, with variable spotting ranging from pale grey spots to larger brown or dark grey spots to even larger black spots often forming a gorget (Kennerley & Pearson 2010; Abhinav 2021). WHBW is closely related to Spotted Bush Warbler *L. thoracica* (hereinafter, SBWA) that reportedly breeds at similar elevations in the inner ranges of north-central and north-eastern Himalaya (Rasmussen & Anderton 2012), in Bhutan (Inskipp et al. 2020b; Dendup et al. 2021), as well as Sikkim, West Bengal, and Arunachal Pradesh in India (Stevens 1924; Baker 1933; Ludlow & Kinnear 1937; Matthews & Edwards 1944), and further east into China. Both species were considered conspecific (in the *Bradypterus thoracicus* species complex) until recently, and they were split based on ecological, morphological, vocal, and genetic differences (Alström et al. 2008). In the field, however, the only way to conclusively separate the two species is by their diagnostic songs, which becomes very difficult during the non-breeding season when they tend to be extremely skulking and typically not sing (Kennerley & Pearson 2010; Rasmussen & Anderton 2012).

The wintering range of WHBW has therefore remained an enigma for a long time (Grimmett et al. 2011; Rasmussen & Anderton 2012; Abhinav 2019). In India, the earliest confirmed (by song) wintering evidence of the species was by GAR in 2014 from Pilibhit in the Uttar Pradesh Terai, and then subsequently at the same site in 2015 and 2017. These observations were previously unpublished, but are now documented in this article. The first published wintering evidence of WHBW, however, was from Pong Lake, Himachal Pradesh, where up to three individuals were documented (with vocalisations including song) between December and March in three different years (2019–22; Abhinav 2022). The habitat was marsh and scrub, composed of

Typha sp., *Ipomoea* sp., Munj Sweetcane *Tripidium bengalense*, and *Lantana* sp., surrounding a pond at the periphery of a lake. A WHBW potentially in spring passage was found singing in Dehradun, Uttarakhand (c. 600 m asl) in April 2014 (Barve 2014), and a stressed *Locustella* warbler (likely WHBW in autumn passage based on range) was found in *Lantana* sp. bushes away from water at the same site in November 2017 (Warudkar 2017). It is likely that the only published wintering report from Dehradun (Singh 1999) of a single *B. thoracicus*, hunting for insects in a *Lantana camara* bush in New Forest, Tons Valley in January 1988, was of WHBW. Regular reports of the species with sound recordings by Pratap Singh, dating as far back as April 1998 (P. Sharma, in litt., email dated 24 May 2024), suggest that the species is regular in spring passage in the vicinity of Dehradun. The species has been reported several times in the past from around Corbett National Park as well during winter (e.g., Tak & Sati 2008). Several recent wintering records of *Locustella* spp. from the Terai and Himalayan foothills in western and central Nepal were also assumed by Inskipp et al. (2020a) to be of this species.

Rasmussen & Anderton (2012) suggested that the wintering distribution of WHBW appeared to include the plains of Uttar Pradesh, based on multiple *Locustella* spp. specimens collected by W. N. Koelz from Uttar Pradesh. However, some of these specimens were not definitively identified to species level owing to insect damage (Dickinson et al. 2000). Until the sightings described in this article, no verifiable records were known to corroborate this further. Therefore, prior to the present article, the species was considered an altitudinal migrant from above 3,000 m asl wintering down to the Terai and the western and central Himalayan foothills, with its wintering distribution hypothetically including the plains of Uttar Pradesh.

Our collective understanding of the range and movements of the species has improved rapidly since May 2022. Since then, several birdwatchers (hereinafter, 'birders') across the Indian Subcontinent have independently made great headway in finding and documenting wintering WHBW. In this article, we present recent learnings about the wintering distribution and habits of this species, grouped by geographical region, and additionally raise some new questions about its potential breeding range. Note that we have listed the most recent records from some regions

only if they represent an update in the current knowledge, such as a new wintering location within the region.

Observations Western Assam

On the morning of 30 May 2022, KT, CS, MGA, SDE, and AV started on a safari, accompanied by two forest staff, in the Bhuyanpara range of Manas National Park, Assam, from (26.76°N, 91.09°E; c. 70 m asl). The safari track was built recently in 2015 (as per satellite imagery, Planet Team 2022), and runs through an extensive area of Terai flooded grassland-type habitat that typically houses grassland specialists (Viswanathan 2022a). Around 0725 h, as they were driving through this habitat, AV heard an insect-like buzzy chirp that likely belonged to a *Locustella* warbler and asked for to be stopped. Because the bird was singing from within a grass clump in extensive grassland habitat, the group's thoughts immediately went to *Locustella* spp. that may winter in such suitable habitat, in particular Baikal Bush Warbler *L. davidi* (BBWA), SBWA, Russet Bush Warbler *L. mandelli* (RBWA), or Chinese Bush Warbler *L. taksanowskia* (CBWA). AV was familiar with the song of SBWA, and knew that the song in question did not fit BBWA and did not quite fit SBWA, so he proceeded to check the songs of multiple *Locustella* spp. in the following order: CBWA, followed by RBWA, and then SBWA; and thereby produced a sequence of playbacks. The bird immediately responded to SBWA playback by vocalising, came closer to the group, and perched up on a dry reed (*Narenga* sp. or *Themeda* sp.) whilst still singing. The group obtained sufficient documentation in the form of photos, audio, and video (e.g., Gala 2022; Viswanathan 2022b). At the same time, a second bird was also observed singing a short distance away.

The first bird had the structure of a typical *Locustella* bush warbler, with a stout and rather round body, and a short tail. It had a visible dark eye-stripe extending from the base of the dark bill till the ear-coverts. The chin and throat were white, and large dark grey spots demarcated the throat from the breast and belly which had a greyish wash. The rest of the body was a warm brown of varying shades. The group tentatively identified the bird as SBWA on field despite the song not fitting the *trick-i-di* song of SBWA (Grimmett et al. 2011). Back at camp, they once again tried to match their sound recordings with songs of other *Locustella* spp. that occur in eastern Himalaya but could not arrive at a positive identity. The next morning, it struck AV that he had not considered WHBW, a species closely related to SBWA, as a possibility. It had not been considered earlier because its closest and eastern-most known record was aurally over 600 km away in central Nepal (Ghimire 2022). But this bird's song, a repeated buzzy *triptreeez-triptreeez* (as transcribed by Alström et al. 2008; see Fig. 1A), matched perfectly with the primary song of WHBW, confirming its identity as a grey-breasted morph of WHBW. The song only lacked consistency of the introductory *tre-tre-tre* elements, which may be attributed to individual variation (Alström et al. 2008; Abhinav 2021).

The species was later photographed by RB from the same vicinity in the following year on 24 April 2023 (Basumatary 2023).

Uttar Pradesh

On 22 November 2014, GAR was birding in the floodplains of the Sharda River in the Haripur Forest Range (28.58°N, 80.30°E; c. 170 m asl). This area falls in the buffer zone of Pilibhit Tiger

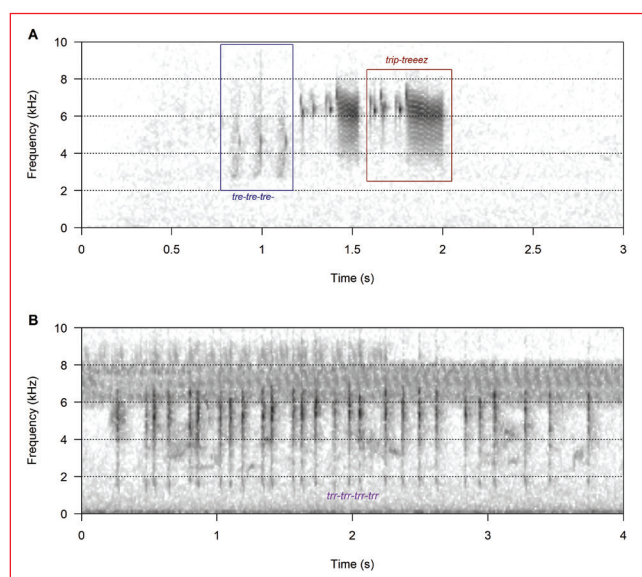


Fig. 1. Spectrograms of West Himalayan Bush Warbler vocalisations, generated by Karthik Thrikkadeeri using the R packages *seewave* (Sueur et al. 2008) and *warbleR* (Araya-Salas & Smith-Vidaurre 2017). (A) One strophe of West Himalayan Bush Warbler primary song, containing introductory *tre-tre-tre* elements as well as *trip-treeez* elements (as transcribed by Alström et al. 2008). Image created from a sound recording by Andrew Spencer (Spencer 2019). (B) *trr-trr-trr* calls of West Himalayan Bush Warbler. Image created from a sound recording by Sandip Das (Das 2023).

Reserve (PTR) in Uttar Pradesh, near the south-western border with Nepal. The river here flows from north-west to south-east, and breaches its banks during the south-west summer monsoon. The area stays flooded for up to four months, starting in June, before the water recedes. The floodplains on the southern bank of the river, that span up to a width of approximately 1.5 km, consist of scattered mixed forest, grassland, and shrubs. The grassland was then dominated by *Mallotus nudiflorus*, Kans Grass *Saccharum spontaneum*, and *Narenga porphyrocoma*, as well as shrubs like *L. camara*.

At 0730 h, a bush warbler-like bird, with a broad, short, and stiff tail, emerged on a horizontal blade of grass in the dense *Saccharum* sp. patch near a body of stagnant water. It had muted brown upperparts, a pale white supercilium and throat, light grey ear-coverts, and a slightly darker breast with buffish-brown flanks. The undertail-coverts appeared patterned dark fulvous-brown with pale white edges. At 0800 h, about 200 m further, two more birds of the same species were found in a *Tamarix dioica* bush. At least one bird was singing a constantly repeated two-note song that included metallic clicks and chuckles between notes, which to the ear sounded like *click-teeze-teeze*. After consulting field guides and Tim Inskipp, in the absence of a song recording, the species was tentatively identified as WHBW.

GAR visited the area again on the evening of 29 December 2014. At 1730 h, he found a potential WHBW making a foraging call (*tch-tch* notes), and at 0830 h the next day found two more individuals nearly 1 km further along towards the river. During the next visit on 09 February 2015, three birds were found, and a recording of the song finally obtained. The sound recordings and photographs were then sent to Per Alström, to ascertain whether they matched his own sound recordings and observations, which he confirmed (in litt., email dated 19 September 2015). GAR visited the area again on 06 February 2017, when two birds were photographed and sound-recorded. Similar habitats were

explored in search of more individuals, but none were found. In the past flood seasons, the river had been changing course and cutting south. It had washed away almost 400 m of land and many trees. At least one promising habitat for WHBW where two birds had been found in previous years had been swept away. *M. nudiflorus* had quickly emerged in the floodplain on the earlier course of the river, but it remained arid and treeless.

After many years, in 2022, a team from The Habitats Trust that included KSA systematically surveyed PTR in collaboration with the Uttar Pradesh Forest Department. On 27 September 2022, they incidentally spotted an unidentified *Locustella* sp. in the Chaugebi grassland of the Mahof Range. Later, on 27 October 2022, the team recorded three singing individuals of WHBW from the famous Bankey Taal grassland (28.47°N, 80.71°E; c. 280 m asl) in Dudhwa National Park (DNP). Subsequently, they encountered the species frequently across different Protected Areas in the region, including the Kishanpur Wildlife Sanctuary and the Katarniaghat Wildlife Sanctuary. While the northern-most record in their surveys was from the Laggabagga beat in Barahai Range (PTR), and the western-most from Bhim Taal Grassland in the Mahof Range (PTR), the species could very well also occur in suitable riverine patches of the Mala Range (PTR). The eastern-most and southern-most records are both from the Sujauli Range in the Katarniaghat Wildlife Sanctuary. The latest date of confirmed presence of the species in the general region before spring departure is 10 June, as of May 2024 (eBird 2024).

The team found that WHBW was widespread in the landscape. Including revisits, the species was encountered 55 times at 35 different patches across 26 grasslands during the systematic surveys. It was also recorded in the grasslands along the River Sharda on both banks, between the Kishanpur Wildlife Sanctuary and the Sampurna Nagar Range of the DNP buffer zone. In each encounter, 1–3 individuals were observed. All records were of naturally singing individuals, as the bird was seen very rarely but interestingly sang through the winter (e.g., Rodrigues 2022). WHBW was mostly encountered near wet grasslands with thick clumps of *S. spontaneum*. Some individuals were also found in dry grassland but only in the presence of grasses that were 1–2 m high.

On 30 November 2022, VS visited Sheikha Jheel (27.86°N, 78.22°E; c. 200 m asl) in Shekha Bird Sanctuary which spans 25 ha and is situated 17 km east of Aligarh, Uttar Pradesh. This freshwater lake is perennial and came into existence after the formation of the Upper Ganges Canal in 1852 which flows adjacent to the lake. While attempting to photograph Moustached Warbler *Acrocephalus melanopogon*, in habitat dominated by *T. bengalense* and reeds, VS accidentally photographed a different skulking warbler. This bird was shy and disappeared into the reeds within a few seconds. It had warm brown colouration, a short tail, a thin black bill, a whitish supercilium, and distinctive markings on the undertail. He contacted AV and CA for an opinion on its identity, who based on these features suspected it to be either WHBW or SBWA, but emphasised that visuals and contact calls alone were insufficient for a definitive identification.

VS revisited the location on 11 December 2022 but did not hear any calls. He tried playback, to which a bird responded with calls but no song. However, after 5–6 min, the bird began to sing (including the *trip-treez* strophe; see Alström et al. 2008; Fig. 1A) and VS obtained a sound recording, thereby confirming its identity as WHBW (Sharma 2022). He managed to obtain record shots showing a possible buff-breasted morph, and subsequently

found two more WHBW from two different reed-beds on the same day. One of these birds responded with song to playback but became silent thereafter, before responding again to further playback after a few minutes. All three birds mostly responded with generic *Locustella*-type *trr-trr-trr-trr* calls (see Fig. 1B).

Earlier in the year, on 30 January 2022, PC had photographed a *Locustella* warbler in the Terai-like grasslands of the Ghagra/Saryu River (26.80°N, 82.09°E; c. 110 m asl) near Faizabad Cantonment, Ayodhya, Uttar Pradesh (Chitragupta 2022). These grasslands had been in particular focus that winter due to the presence of wintering Moustached Warbler and Hodgson's Bushchat *Saxicola insignis*. After two hours of waiting and trying playbacks of several warbler species, the bird finally responded to the song of WHBW. However, at the time there was no evidence that either WHBW or SBWA wintered in the area, and the bird was therefore not identified to the species level in the absence of a song recording. Subsequently, more reports of *Locustella* sp. followed in nearby Lucknow, until 07 May 2023 when AL managed to record a singing bird and therefore easily identify it as WHBW, at Ghagra Ghat near Barabanki (Lawrence 2023). Based on this evidence and the confirmed presence of the species in Aligarh and further north in the Uttar Pradesh Terai, previous photographs of *Locustella* sp. in the landscape were probably of this species.

PC found WHBW to be abundant in suitable habitat around the Faizabad Cantonment in subsequent years. He noted it to be extremely shy and skulking, exhibiting quick movements and preferring thick, marshy, and densely reeded, Pink Morning Glory *Ipomoea carnea* habitat where it foraged in the upper levels of the vegetation. It was responsive to playback but was not as bold as Smoky Warbler *Phylloscopus fulgiventis*, Dusky Warbler *P. fuscatus*, or Moustached Warbler, with which it was frequently associated.

On 10 March 2024, MM and ASI discovered a wintering WHBW population (up to five birds based on subsequent visits, as of May 2024) at an oxbow lake (at 25.37°N, 81.75°E; c. 90 m asl) in Prayagraj (Allahabad) District (Menezes 2024). They were observed in a habitat of aquatic shrubs and herbs (*I. carnea*, *Celosia argentea*, and *Alternanthera* sp.) growing along the shore of the lake. This aquatic vegetation was adjacent to cultivation of wheat *Triticum* sp. and Pea *Lathyrus oleraceus*. The birds foraged on the stems of the aquatic plants above the surface of the water, up to a height of 30 cm. When singing, they were observed seeking out higher perches on bare stems of *I. carnea*. Prayagraj is further south and east of the previously documented wintering range of WHBW in Uttar Pradesh (Lucknow and Ayodhya), and was the one remaining well-birded region in the State where the species had not been documented yet.

Uttarakhand

On 22 November 2022, HC visited the Asan Conservation Reserve (30.43°N, 77.67°E; c. 420 m asl), a Ramsar site in Dehradun, Uttarakhand. While birding on the edges of the wetland at around 1100 h, he noticed two warblers calling and foraging in *L. camara* bushes. On closer approach, both of them flushed and perched on a Curry Leaf Tree *Berberis koenigii*. He waited for some time in this marshy area with abundant *Typha* sp. and fern growth, and in a few minutes one of the birds came out in the open to feed. The bird was relatively bold and frequently broke cover in this manner, providing ample time to obtain good photos. It was a small brownish bird, with a short round-tipped

tail and with prominent white on the throat and upper breast. The supercilium, part of the ear-coverts, the centre of the belly, and the undertail-covert tips were also white, while the legs and the base of the lower mandible were pale pink.

The birds were still around when HC revisited the next day, and he was able to record their vocalisations and thereby confirm their identity as WHBW. They uttered a harsh and rapidly repeating *trr-trr-trr-trr* (see Fig. 1B), and infrequently interspersed this with parts of song phrases. After song playback, these song phrases occurred more frequently, and also included the typical clicking and buzzing *trip-tre-z* (see Alström et al. 2008; Fig. 1A), but without the introductory *tre-tre-tre* clicks. HC next observed these birds on 10 December 2022. When CA and HC visited the location again on 24 January 2023, they found that the original bushes had been cleared, but managed to locate one WHBW in *Typha* sp., around 100 m away.

On 15 February 2023, RM observed a *Locustella* sp. foraging in Elephant Grass *Arundo donax* clumps beside a small canal, in the grassland patch within the Wildlife Institute of India campus, Dehradun. The bird was initially seen moving in the dense grasses while making the harsh and rapid *trr-trr-trr-trr* call (Fig. 1B), but it later crossed the canal and moved to another grassland patch, allowing RM to obtain photographs of the bird in the open. Suspecting either SBWA or WHBW, playback was used; the bird responded in some time, and the song was recorded. Based on the location and the characteristic song, it was identified as WHBW. The species was later recorded multiple times from the campus (e.g., Bhattacharya 2023; Miranda 2023).

On a foggy morning on 30 March 2023, ASH, along with several others, was waiting patiently in the Dhikala range of Corbett National Park (CNP), anticipating a glimpse of a tiger that had been moving in the Terai grassland near the landmark Mota Sal area (29.58°N, 78.83°E; c. 360 m asl). Soon after the dawn chorus of birds began, he distinctly picked up a series of high-pitched buzzy clicks which he narrowed down to a *Locustella* bush warbler, having previously heard several song recordings. On-field comparisons with songs on the Merlin app helped him identify it as WHBW. He estimated at least two birds singing continuously from amidst tall grass, and later managed to spot and photograph one individual. This bird was chased by another individual, but returned to the same spot and continued singing from a relatively open perch, seemingly in response to the other singing individual in the vicinity. The bird did not appear shy, and seemed comfortable even with three jeeps in close proximity. ASH later heard at least three more singing birds in the area, and other local guides reported the bird from the same location some days later as well.

On 09 May 2023, RP was birding in Baur (Haripura) Reservoir (29.13°N, 79.30°E; c. 230 m asl), Haldwani when he heard the song of WHBW coming from *Ipomoea* sp. bushes lining the edge of the water. He was familiar with the bird and its song from previous experience in its breeding grounds. There was only one individual in the area, and it sang continuously as it does in the breeding grounds. The latest date of confirmed presence at this location before spring departure is 11 June (Pradhan, 2023; Rawat 2023; eBird 2024).

On 15 May 2023, PK heard a singing WHBW near Phool Taal, a large pond in the Garjiya zone of CNP. He immediately recognised the bird, as he had been following recent discussions on the species and had familiarised himself with its song. He continued to hear the bird at the same location for almost a

week, during which time he glimpsed the bird once, but he could not find it again afterwards. The following year, on 24 April 2024, PK managed to record a bird singing from the same location, and two singing birds were also reported on 30 May 2024.

West Bengal

In March 2023, seeing the recent evidence from grasslands of Uttar Pradesh and Assam, MR suspected the possibility of WHBW occurring in West Bengal. On 17 March 2023, MR examined available sound recordings on eBird of closely related species, and flagged a number (>5) of misidentified recordings of SBWA from southern West Bengal, as belonging to WHBW.

One such observation was by ABE from Mahishrekha Forested Patch (22.46°N, 87.99°E; c. 5 m asl), Howrah on 29 December 2021 (Bera 2021), which is now possibly the oldest report of WHBW from West Bengal. Another was on 24 December 2022, when a group comprising SBI, SAK, AM, SMJ, NK, DD, SUS, SAO, and KSH had found a warm brown *Locustella* sp. in Baruiapur Marshes, South 24 Parganas (22.36°N, 88.38°E; c. 10 m asl). It was foraging in dry Indian Jointvetch *Aeschynomene indica* branches piled up beside a *Typha* sp. reed-bed, and briefly afforded close-up views in the open. Based on past experience with *Locustella* spp. in the region, SAK and SBI had originally assessed this bird as SBWA considering the plumage. They had used playback and recorded the very short vocal response, which they had assumed was an undocumented variation of SBWA song.

Similarly, on 02 March 2023, SDA, SC and PB had visited Sahapur (22.79°N, 88.42°E; c. 5 m asl), a large wetland with cultivable land as well as numerous thick reed-beds of *Phragmites* sp. and *Typha* sp.; they had found a particularly bold *Locustella* sp. responding to SBWA playback, with the regular *trr-trr-trr-trr* call (Fig. 1B) and short bursts of song, from a patch that had been burned some days prior for cultivation. Although they had been surprised by the unusual levels of boldness and vocalisation, they had not considered WHBW as a possibility and had been convinced it was SBWA (see Das, in prep., for insights on *Locustella* spp. in the region).

On closer inspection of records after this discovery, it was found that on several occasions in the past, other birders in West Bengal had also recorded similar songs and originally reported them incorrectly as SBWA. It became clear that several wintering WHBW, of both morphs, had already been documented in the past two winters (2021–22 and 2022–23) in the State. Southern West Bengal in particular emerged as a regular wintering site for the species, exclusively from previously uploaded sound recordings on eBird that were retrospectively re-identified.

This raised the question of why there were so many old (and new) reports of *Locustella* spp. from West Bengal. With its extensive marshy and riverine grassland habitats, West Bengal is a hotspot for wintering warblers. Several birders in the region have been on the lookout for *Locustella* spp. and other cryptic warblers over the last few years, so much so that SBI, SDA, and AV had formed a WhatsApp group called 'Locustella Discussion' on 18 February 2021 just to discuss *Locustella* identification in the region (see section 'Birders and their networks' for insights). Since the discovery of wintering WHBW in the region, it has been consistently observed to be less secretive than the other wintering *Locustella* species, and to respond to SBWA playback with a short burst of its own primary song. However, local birders have not had the chance to gather more detailed information

such as its abundance relative to the locally common BBWA and SBWA.

Bangladesh

On 18 March 2023, J-EN and GAL visited the Kamargaon grasslands at Padma-Char (23.51°N, 90.20°E; c.5 m asl), a site located along the Padma River (the Ganga and Brahmaputra rivers after they have merged) in Bangladesh. Padma-Char is seasonally inundated, but in the dry season there forms a patchwork landscape of recession agriculture and natural grasslands reaching c.20 sq. km in extent (see location in Allport 2023a). The site is regularly visited by birders from around Dhaka looking for grassland birds. J-EN had previously reported both BBWA and SBWA at the site in March 2021 as well as February/March and December 2022, mostly in stands of 1–3 m tall, recently burned Elephant Grass *A. donax*. On 18 March, several birds were heard giving *Locustella*-type calls, so both BBWA and SBWA songs were played at intervals; in response, multiple BBWA and a single SBWA gave short bursts of song and showed briefly. At one stop, a *Locustella* warbler responded rapidly to the playback and presented itself in full view, enabling good quality photographs. It did not sing, but gave a sharp *tswik* and short grating calls. An image of this bird was posted online but did not reach a conclusive identification. However, several birders from the region noted that just a day prior, WHBW had been discovered in West Bengal, and should therefore also be considered as a candidate.

Although J-EN and GAL resolved to return to the same areas of *A. donax* before dawn to continue their search, they were unable to do so for two months, until 13 May 2023 which was also Global Big Day 2023. They expected *Locustella* species to have departed for breeding grounds by the second week of May, so a bird singing strongly, immediately on their arrival in the habitat at 0515 h, took them by surprise. By now, they had familiarized themselves with the songs of all three *Locustella* species, and were immediately able to identify the singing bird as WHBW. It responded to playback, and they obtained audio and video recordings of the singing bird (see Allport 2023b). The details of this sighting were peer-reviewed by the Birds Bangladesh team, and it was accepted as the first record of WHBW for the country (S. Chowdhury, in litt.). The species was subsequently reported from the location multiple times.

Eastern Assam

On 21 March 2023, MP and RG visited Maguri Beel (27.58°N, 95.38°E; c. 110 m asl) in Tinsukia, Assam, and saw a *Locustella* sp. that was similar to SBWA but paler in colour (Pratim 2023). It was warm brown above, and a buffy breast and black bill were noted in the field. Its undertail could not be observed as it quickly went into some bushes, and although it sang for a few seconds, rain prevented any sound recording. Later, the bird did not respond to either SBWA or WHBW song playback. MP was familiar with SBWA song, having guided extensively in the region, and suggested that the bird's song matched WHBW. Subsequently, RI visited the same site on 27 May 2023, and found a singing WHBW that was both photographed and sound-recorded, confirming the presence of the species in the region (Islam 2023), over 1,000 km away from the eastern-most known breeding site in central Nepal (Ghimire 2022).

After WHBW emerged as a possibility for birders in the region, many actively searched for the species during the winter

of 2023–24. Throughout the winter, one or more individuals were repeatedly found in the grasslands of Maguri Beel and the nearby Dibru Saikhowa. On 23 February 2024, JB found a single individual in Dikrong Grassland (26.98°N, 93.97°E; c. 100 m asl) in Lakhimpur District (Borah 2024), and subsequently found more birds wintering in the landscape. SHS searched without success for the species in Majuli District from October 2023 to March 2024, using WHBW song playback whenever he came across a *Locustella* sp., but only SBWA responded by singing on occasion. However, on 21 May 2024, he heard a single phrase of WHBW song at 1745 h in grassland at Kamalabari Ghat (26.92°N, 94.17°E; c. 100 m asl) and attempted to confirm its identity through playback. A second distant individual began singing in addition to the one that was initially heard (Saikia 2024). Both individuals were in similar habitat, dominated by *S. spontaneum* interspersed with *Tamarix* sp. and *Typha* sp., near a water body. On 24 May 2024 at 1720 h, he found another individual in a different habitat of bushes and *Phragmites* sp. reeds, that responded with song after 1–2 min of playback. This individual appeared to be in moult.

Haryana

During March–May 2024, KN and GAR documented up to four birds and both morphs of WHBW at Chandu Budhera (28.48°N, 76.92°E; c. 230 m asl), a wetland complex on the outskirts of Sultanpur National Park, Gurugram. The first bird was noticed on 09 March 2024 at c. 1030 h (Nanda 2024) when it was giving a series of continuous loud *chuck* calls in a patch of *Saccharum* sp. and *Typha* sp. reeds (Fig. 3). When this call was played back, it perched on a small *Neltuma juliflora* bush, giving sufficiently clear views for KN to observe that the bird had a typical banana-shaped *Locustella* structure, and a greyish breast with tiny dark spots forming a necklace across the upper breast. They were discussing the key features for identification of the species, when an explosive *tre-triptreez-triptreez* song from the reeds cleared all doubt that this was indeed WHBW. The species was observed at this location until as late as 25 May.

All individuals were found in reed patches with some amount of water at their base or adjacent to them [78]. Other similar patches of *Typha* sp. and *Saccharum* sp. reeds away from water, on relatively dry ground, did not show any evidence of WHBW. KN and GAR also explored extensive reed patches in other parts of the wetland complex but did not detect the species in any of them.

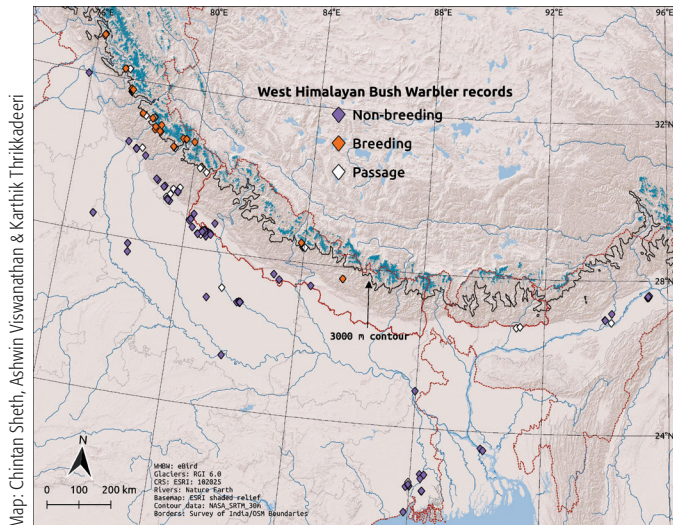
Discussion

Wintering distribution

The observations reported here, particularly the southern-most records in both Uttar Pradesh and West Bengal, now confirm that WHBW can show long-distance migratory behaviour, much like the closely related SBWA which typically winters further east of Uttar Pradesh (Alström et al. 2008). Evidently, the winter (i.e., non-breeding) distribution of WHBW spans much of northern India and the Ganga and Brahmaputra plains (Fig. 2). It winters as far west as Pong Lake, Himachal Pradesh (Abhinav 2022); as far south-west as Gurugram, Haryana, and south of River Ganga in Aligarh, Uttar Pradesh; as far south as Prayagraj, Uttar Pradesh; as far south-east as West Bengal and Bangladesh; and as far east as eastern Assam.

Given that the species appears to migrate considerable distances southwards, and perhaps also eastwards (breeding

status is uncertain in eastern Himalaya, but see next section, 'Breeding distribution'), to winter in grassland habitat, WHBW may in fact be widespread in the Ganga and the Brahmaputra floodplains during winter. The southern records reported here corroborate the suggestion by Rasmussen & Anderton (2012) of WHBW wintering in the plains of Uttar Pradesh, and also point to the possibility that some of Koelz's damaged *Locustella* sp. specimens from the state (Dickinson et al. 2000) included WHBW.



Map: Chintan Sheth, Ashwin Viswanathan & Karthik Thirikkadeeri

Fig. 2. Distribution of all-time West Himalayan Bush Warbler records on eBird as of May 2024, including those discussed in this article, demarcated by elevation (3,000 m contour line; accessed via Google Earth Engine, Gorelick et al. 2017) and season. Season limits are assumed based on existing eBird records of the species in likely migration between breeding altitudes in the mountains and non-breeding altitudes in the plains: autumn passage from 28 September (earliest likely autumn migration; Prince 2017) to 21 November (latest likely autumn migration; Warudkar 2017) and spring passage from 24 April (earliest likely spring migration; Kumar 2024) to 12 June (latest likely spring migration; Mathur 2023). Thus, orange diamonds represent records in the assumed breeding season (13 June–27 September), purple diamonds represent those in the assumed non-breeding season (22 November–23 April), and white diamonds those in autumn or spring passage.



Kavi Nanda

78. Habitat of *Saccharum* sp. and *Typha* sp. reeds with *N. juliflora* bushes, at Chandu Budhera, Haryana, where West Himalayan Bush Warbler was found on 09 March 2024.

The species appears to spend the winter in a variety of grassland-type habitats, including around *Typha* sp. adjacent to water, either as dominant reed-beds (Inskipp et al. 2020a), or interspersed with grasses such as *Saccharum* spp. and scrub or herbaceous vegetation such as *Lantana* sp. and *Ipomoea* sp. (Abhinav 2022). These wintering habitat preferences are similar to those of SBWA (Madge & Kirwan 2020), which also winters in the foothills and plains of northern India and Bangladesh, in

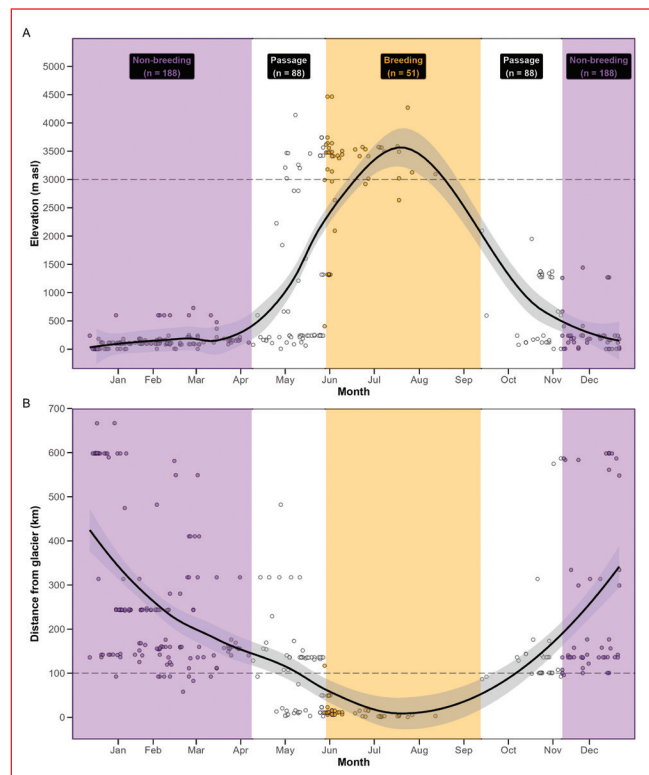


Figure: Chintan Sheth & Karthik Thirikkadeeri

Fig. 3. Seasonality of all-time West Himalayan Bush Warbler records on eBird as of May 2024, including those discussed in this article, based on (A) elevation (m asl), and (B) distance from glacier (km) of the eBird checklist locations (Y-axis). Checklist locations were linked to an elevation raster downloaded using the *elevation* R package (Hollister et al. 2023), to obtain elevations for each West Himalayan Bush Warbler record; distance from glacier was calculated using glacier polygons by RGI Consortium (2017). X-axis represents the twelve months of a year, with axis ticks corresponding to the median day of each month. Each point represents a single eBird record of West Himalayan Bush Warbler, and colours represent the three seasons (orange: breeding, n = 51; purple: non-breeding, n = 188; white: passage, n = 88). Smoothed LOESS lines have been fit through the raw data for visualizing the seasonality patterns.

some cases together with BBWA. Moreover, Brown Bush Warbler *L. luteoventris* too may winter in some of these regions, given the recent breeding season report from Uttarakhand (Mohan et al. 2020). Therefore, grassland-type habitats in these floodplain regions of north and north-eastern India need to be surveyed more frequently and extensively, using playback (responsibly and in moderation; see Sibley 2016) to induce and preferably record song, and to thereby ascertain species identity.

Previous observations suggested that WHBW typically returns during May to alpine scrub habitat above 3,000 m asl, where it is known to breed (Abhinav 2021), with some evidence then suggesting that passage migration to higher elevations is in late April (eBird 2023). However, observations from across its wintering range now indicate that WHBW can occur at low elevations until quite late in the season (Fig. 3A)—the latest among the ones discussed here being 11 June. The species therefore also seems to have a relatively short window for spring migration (Fig. 3A), raising further questions about the breeding whereabouts of the birds reported late in the season, and far from the closest known breeding site in the Western and Central Himalaya, such as the eastern Assam birds.

Breeding distribution

Well-documented breeding records of WHBW have all been from alpine habitats with short scrub, grassy or herbaceous

vegetation (Abhinav 2021). Data presented in this article (Fig. 2, Fig. 3A) suggest that 38 out of the 51 breeding season records (13 June–27 September) are from open habitats above 3,000 m asl, such as alpine meadows in the western and central Himalaya. Notably, 18 of these 38 observations are within a 7 km aerial distance from the closest glacier (Fig. 3B), and three [Annapurna record by Inskipp and Chaudhary (2016); Sach Pass records by Abhinav (2018a, 2018b)] are within a kilometre (aerial distances calculated using QGIS 3.22.4 field calculator; glacier polygons as per RGI Consortium 2017). The absence of more observations at similar altitudes is possibly because meadows and other open habitats close to glaciers are difficult for birders to access. The breeding season of the species also coincides with the Indian monsoon, which with frequent landslides or road closures makes accessing some of these high-altitude areas from the plains challenging.

Among the observations discussed in this article are those of multiple singing individuals in close proximity documented far east and south of the known breeding range of the species, relatively late in the season, and in lowland grassland-type habitat. We urge more concerted surveys in these habitats during the breeding season (June–September) to better understand the seasonality of this species. However, given our current understanding of WHBW, these habitats are very different from its well-documented breeding habitats at high altitudes and hence are unlikely to harbour breeding WHBW. Where then are these individuals headed to breed?

We can only speculate that there are previously undocumented high-altitude breeding sites closer to or in eastern Himalaya. Districts or states with alpine scrub habitats suitable for breeding are reasonably well surveyed in neighbouring West Bengal (3847 'complete' eBird checklists from May to August, as of August 2023), Sikkim (1673) and Bhutan (710). However, it is unknown whether the breeding habitats themselves are well surveyed, and this drab and secretive species is also easily overlooked. As the name suggests, WHBW was previously thought to be a strictly western Himalaya breeding bird (from north-western Himachal Pradesh, India to Uttarakhand, India) until Inskipp and Chaudhary (2016) reported singing birds in west-central Nepal and Manshanta Ghimire found the species during the breeding season in central Nepal (Ghimire 2022). This latter site in central Nepal is the eastern-most known breeding site of the species, but is aerially more than 1,000 km west of Tinsukia in eastern Assam, India. Our reports, particularly those from Assam, therefore indicate that the breeding range may extend even further eastwards, perhaps into the alpine scrub and meadow habitats (3,000–4,500 m asl) of eastern Nepal, Sikkim, Bhutan and Arunachal Pradesh—areas where SBWA has been thought to breed such as Jigme Dorji National Park in Bhutan (Inskipp et al. 2020b; Dendup et al. 2021); could that population of SBWA actually be of WHBW, or is that an area of overlap?

Many supposed SBWA records from central and eastern Himalaya (both historical and contemporary) need to be re-examined with special focus on song, despite the morphological affinity of those birds with typical Chinese-breeding SBWA populations. This group of closely related species has had a long history of taxonomic confusion and misidentification: for instance, the earliest published account of '*L. thoracica*' from Uttarakhand in the breeding season (Whympers 1911) was likely of a WHBW; eggs described (Whympers 1915) as

belonging to *Tribura thoracica* [= *L. thoracica*] and *T. mandellii* [= *L. mandellii*], presumably based on morphology of the adults, were likely of grey-breasted and buff-breasted morphs of WHBW respectively (see Alström et al. 2008). Some past records and accounts of *B. thoracicus* (before the species complex was split) from Nepal in the breeding season—in the form of repeated sightings (Lelliott 1981), nest and eggs (Thiollay 1977, 1980), and fledgling specimen (Martens & Eck 1995)—do not contain sufficient information to definitively rule out present-day WHBW. How much is the true overlap in ranges of these sister species? Interestingly, there is scant verifiable documentation of breeding SBWA birds in Nepal, despite decent coverage of the region in the breeding season, including extensive surveys of eastern Nepal by Diesselhorst (1968); supposed SBWA specimens obtained by B. H. Hodgson were likely misidentified (Baker 1933). However, multiple SBWA were recently found singing in breeding habitat in Upper Dibang Valley, Arunachal Pradesh (Viswanathan 2024), which appears to be the first verifiable record of the species from India during the breeding season (June–September); given the habitat, behaviour, and season, this is perhaps also the first known Indian breeding locality of SBWA.

We therefore urge more surveys in the high-altitude areas of eastern Nepal, West Bengal, Sikkim, Bhutan, and Arunachal Pradesh during the breeding season to better understand the breeding ecology and range limits of WHBW and SBWA. These high-altitude habitats are not easily accessible to birders; however, some high-altitude areas in northern Sikkim (Lachen and Lachung valleys) and western Arunachal Pradesh (West Kameng and Tawang) are of suitable elevation and habitat and are accessible during the breeding season. Owing to the high level of morphological similarity between the two species, we recommend special attention to songs until further insights emerge regarding visual identification.

On visual identification



79. West Himalayan Bush Warbler in non-breeding plumage without any hint of spotting: possible buff-breasted morph in West Bengal on 24 December 2022 (left; photo by Kallol Shome); potential grey-breasted morph in Uttar Pradesh on 18 December 2022 (centre; photo by Virag Sharma); potential grey-breasted morph in Pong, Himachal Pradesh on 27 March 2022 (right; photo by C. Abhinav).

GAL and J-EN further studied the identification of the bird seen on 18 March 2023 in Bangladesh (Allport 2023a). The buff-breasted morph in breeding adults is known to be unique to WHBW (Alström et al. 2008; Rasmussen & Anderton 2012), making the species distinctive and separable from SBWA when in breeding plumage. However, specific morphological details (in other words, visual identification pointers) of this morph are difficult to arrive at based on existing literature, most of which predates the species split. For easy reference in future efforts, we summarise here what is currently known about visual identification of the buff-breasted morph of WHBW, based on

the plates in Kennerley & Pearson (2010), the high-quality photographs in Abhinav (2019), and the details in Table 2 in Alström et al. (2008). This morph in breeding adults shows a complete lack of clear breast spotting unlike SBWA, and the upperparts and face are bright buffish in tone compared with the grey of SBWA. Since the bird seen on 18 March was in uniform plumage (but with moderately abraded primaries), it may have been in breeding plumage; and with bright buffish tones to the plumage and an unspotted breast, this bird was visually identifiable as WHBW.

However, more substantive insights on visual identification of this morph require further concerted analyses. For instance, this morph has been misidentified in the past as Brown Bush Warbler (Alström et al. 2008). Additionally, the buff-breasted morph of WHBW may also be unique in non-breeding plumage [79], but it is unclear whether WHBW and SBWA have different non-breeding plumages that confound this inference. In the coming years, a thorough analysis of available photos, as well as studies of in-hand birds using mist-netting and detailed examination of museum specimens, may reveal consistent visual differences between the two species across morphs and plumages. In eastern India and Bangladesh during winter, several other *Locustella* species can co-occur with WHBW. Visual separation is therefore complex, but there is some early indication that the amount of white on the undertail-coverts (Alström et al. 2008) and behaviour (Das, in prep.) may be key. These sister species (particularly WBHW and SBWA) being extremely similar biometrically, despite dissimilar songs and genetics, also raises the question of potential hybridisation.

Birders and their networks

Our findings also bring to light the important and increasingly powerful role of birders and their networks in advancing our knowledge on birds. This sequence of rapid parallel discovery and learning over the last two years was facilitated by birding community forums such as WhatsApp and Facebook groups, through the far-reaching conduits of instant communication and feedback that they provide. Moreover, the universal accessibility and openness of the information repository eBird (Sullivan et al. 2014), with its knowledge base being constantly updated, also played a major role in facilitating this discovery.

These together not only enabled real-time updates, discussions, and conclusions regarding individual sightings among concerned and interested birders, but also alerted and motivated others elsewhere to be on the lookout for similar surprises—which involved them learning appropriate songs and preparing for responsible playback attempts. Discoveries catalysed by birding community discussions and using community-sourced knowledge have occurred at a smaller scale in the past (e.g., Menon et al. 2022). We expect, and look forward to, more future instances where birders and their networks will undoubtedly play a significant role in furthering our understanding of other poorly-known South Asian birds.

The *Locustella* jigsaw

Locustella spp. are extremely difficult to spot and to identify during the non-breeding season when they typically do not sing, due to their skulking habits and very similar contact calls. This partly explains why the wintering distributions of other species such as RBWA and Brown Bush Warbler also remain largely unknown (see Carey 2021; Madge 2020). Birders in

West Bengal and Assam have made considerable strides in uncovering the wintering distributions of SBWA and BBWA. In another recent first, SDA found RBWA wintering in bushes adjacent to paddy fields in Changlang District, Arunachal Pradesh in December 2022 (Das 2022). Similarly, Gogoi et al. (2024) recently obtained the first media documentation of wintering CBWA from India.

Our observations piece together a small part of the *Locustella* jigsaw. However, several more pieces lie waiting to be found, in alpine habitats of central and eastern Himalaya during summer, and in the marshy and riverine grassland habitats of northern and north-eastern India and Bangladesh during winter. What is the western edge of the SBWA distribution, and the eastern edge of the WHBW distribution? Where do they overlap, and do they potentially hybridise? Such questions call for stronger and more focused efforts in exploring these regions, which with the growing birding community in South Asia, is far from challenging. We therefore urge birders to keep their eyes, and especially ears, out for these enigmatic unassuming brown birds and their “tricky” songs.

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Status of the Green Munia *Amandava formosa* in the Eastern Ghats with a note on its seasonality

India is home to eight species of munias, among which the Green Munia *Amandava formosa* (Telugu-*Pacha jinuvaaye*, Odia-*Hari Churi*) is endemic to the Indian subcontinent. Unfortunately, their beauty and melodious calls lead to indiscriminate trapping and trafficking of these birds, that resulted in a population decline (Rahmani 2012). This decline was additionally compounded by the intensification of agriculture and the loss of shrubland, which quickly paved way to categorize it as Vulnerable by the IUCN (BirdLife International 2023). We report Green Munia from the north-eastern Andhra Pradesh and review its status in the Eastern Ghats of Andhra Pradesh and Odisha and compare its movements with those of its population in the Aravalli hills, Rajasthan. We also constructed a distribution map, using Microsoft PowerPoint, as well as seasonal graphs, using GraphPad Prism and Adobe Photoshop.

During a three-day birdwatching event organized by *Hyderabad Birding Pals* at Mareduhilli (17.598°N, 81.713°E), more than 30 participants saw multiple flocks of Green Munia on 14 and 15 May 2022 in an uncultivated field c.30 km north of Mareduhilli, Andhra Pradesh [80]. The weather at the time of sighting was pleasant (26–28°C, > 90% humidity) with a gentle breeze. The sky was predominantly cloudy with some sunny periods in between, and the birds were active throughout the day. On 14 May 2022, the opportunistic sighting of two individuals was followed by the observation of multiple flocks of smaller numbers ranging from six to 15 individuals, which included males, females, and juveniles [81, 82]. Overall, conservative estimates of 35–50 individuals were recorded during this birdwatching session. During a subsequent visit on 15 May 2022 to the same site and exploring similar habitats in adjacent areas, we observed several small flocks ranging from eight to 15 individuals with one large flock of 25–30, including juveniles, which enabled us to place an estimate of c. 150 individuals. The observation of juveniles indicated potential breeding at this location [82]. The birds observed were actively foraging on the ground covered with plants such as *Parthenium hysterophorus*, *Solanum* sp., and *Lantana camara* at a height of 30–100 cm [83]. When approached, they perched on the subterminal branches of *Solanum* sp. for a few seconds before retreating into dense foliage, rendering them camouflaged [84]. Given the presence of similar habitats in the vicinity, there could be a larger thriving population yet to be discovered.



Copalakrishna R

80. The Green Munia habitat near Mareduhilli consists of dense open uncultivated scrublands with scattered bushes and trees featuring *Parthenium hysterophorus*, *Solanum* sp., and *Lantana camara*.



81. An adult male Green Munia from Mareduhilli.



82. A juvenile Green Munia from Mareduhilli.

Both: Sriram Reddy

83. *Parthenium hysterophorus*, below which Green Munia was observed to forage.

84. Thorny shrubs to which Green Munias retreated upon human or animal approaches.

Both: Copalakrishna Ramachandran

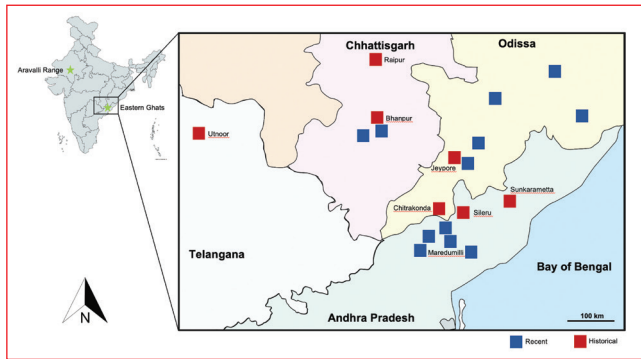


Fig. 1: Distribution of Green Munia in the Eastern Ghats (exact eBird localities not shown).

The Green Munia population is restricted to a small region in the Eastern Ghats around the trijunction of Chhattisgarh, Odisha, and Andhra Pradesh (Fig. 1). It has occurred around Bhanpur, Bastar District, Chhattisgarh (Whistler & Kinnear 1934) and more recently was observed in Jagdalpur, Bastar District, Chhattisgarh (Warren 1996). Two specimens were collected in 1934 from the adjoining regions of Jeypore, Odisha (Whistler & Kinnear 1934). Towards the southern part of Odisha, eight specimens of Green Munia (4 each of males and females) were collected from Chitrakonda, Malkajgiri District (formerly undivided Korakput District) between 15–17 March 1977 (Majumdar 1988). During the period of the Hyderabad State Ornithological Survey, Green Munia was said to have frequented tall grasses in Utnoor [=Utnur], Adilabad District, Telangana; this information was included by the authors based on a reliable report (Ali & Whistler 1934). La Personne observed Green Munia to be “fairly common” at Sankrametta, Vishakhapatnam [=Vizagapatam] District, Andhra Pradesh, where six specimens were collected in March 1930 (Whistler & Kinnear 1934), which could be the earliest known record for this species in the south. Green Munia was also observed in Lambasingi [=Lamasinghi], Vishakhapatnam District, Andhra Pradesh, in 1944 (Abdulali 1945). A female specimen (USNM 583150; Orrel 2024) was collected from Sapparla, 32 km east of Sileru, Vishakhapatnam District, Andhra Pradesh, on 19 March 1975 (Ali & Ripley 1983; Ripley et al. 1988).

Recent observations of the Green Munia indicate a viable population in various locations in southern Odisha and northern Andhra Pradesh. In the eastern part of the Karlapat Wildlife Sanctuary (WLS), the species was observed between 15–20 April 2009, when approximately 25 individuals were photographed (Palei 2011; Palei et al. 2012). In southern Odisha, Green Munia has been observed in several WLS and forest divisions, indicating a continuing population in the region. Sightings reported from the Lakhari Valley WLS (Palei 2012), Athgarh Forest Division (Palei et al. 2014), Baisipalli WLS (Das et al. 2013), Amtiguda, and Sunabeda (Purohit et al. 2021) include some of them.

In northern Andhra Pradesh, the recent documentation of the Green Munia was a photograph from Darakonda, Vishakhapatnam District on 27 September 2017 (Varma 2017). Subsequently, sightings continued, with photographs taken at Gudisa, East Godavari District, on 02 February 2022 (Bandi & Dodla 2022) and at Kanivada-Chaparai ghat road, East Godavari District, on 03 March 2022 (Polimati 2022). The species was then observed during our bird-walks, as described above. Subsequent sightings were sporadic and not regular until 21 May 2023. The sighting pattern remained consistent, with a high prevalence observed between May and August 2023.

Green Munia is currently listed as a species of ‘High Priority’, primarily due to its restricted distribution coupled with its threatened IUCN status (SoIB 2023). It is currently confined to two distinct regions within the country. Apart from the Eastern Ghats, the only other population is from the Aravalli Range, particularly around Mt. Abu, in the Sirohi District of Rajasthan (Fig. 1). Despite the geographical distance of more than 1,000 km, both areas have exhibited evidence of a thriving population in the past decade, as indicated by the presence of both adults and juveniles.

Observations of Green Munias have been documented throughout the year at Mt. Abu and its surrounding areas. However, sightings in northwestern Andhra Pradesh have shown some seasonality, which we investigated further. We obtained Green Munia data from eBird, spanning from 08 March 1930 to 31 March 2024, comprising 1084 records (see *acknowledgements*). Duplicate records with identical counts, dates, and locations were filtered, resulting in a dataset of 871 records. This dataset was then analyzed for the states of Andhra Pradesh, Odisha, and Rajasthan (863 records).

Rajasthan had a greater share of records, with 782 records spread throughout the year, with a slight decrease in the average count between May and August, indicating they are primarily resident there (Fig. 2). In contrast, observations from Andhra Pradesh (42 records) and Odisha (39 records) had strong seasonal patterns. In southern Odisha, consistent with our analysis (Fig. 2), Green Munia was observed primarily from January to July, with peak flock numbers occurring in April (Purohit et al. 2021). However, in northeastern Andhra Pradesh, the number of sightings in May gradually decreased until September (Figure 2 & 3). The sudden peak in sightings probably suggests the collective arrival of this species to northeastern Andhra Pradesh, which is indicative of a migration event. Maredumilli attract birders year-round, but most sightings are noted only between May and August. Except for a few sporadic records, there are no sightings from either of the states between September and December. A bird survey at Papikonda WLS, Andhra Pradesh, conducted from 15 to 18 March 2024 covered several sites where Green Munia is known to occur, yet the species was not detected during this survey (Papikonda National Park Survey 2024). Compared to the Aravalli population, the sighting pattern of Green Munia in the Eastern Ghats was

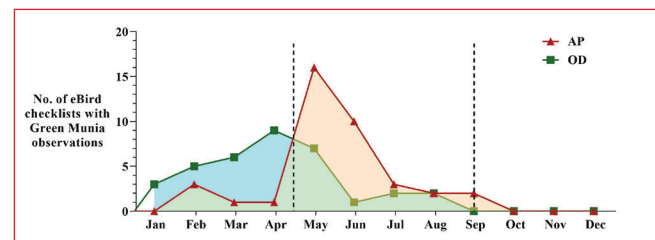


Fig. 2: Seasonality of the Green Munia population in Andhra Pradesh (red) and Odisha (green) from eBird.

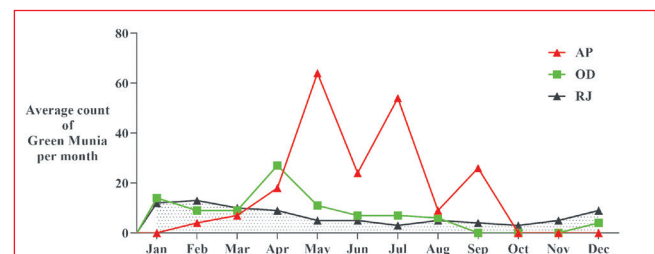


Fig. 3: Monthly average counts of Green Munias for Andhra Pradesh (red), Odisha (green), and Rajasthan (black) from eBird.

suggestive of movement, contrary to the assumption that they were residents. Further research and monitoring are necessary to better understand the seasonal dynamics and habitat utilization patterns of the Eastern Ghats Green Munia population.

In addition to the population found in Mt. Abu, Rajasthan, the Eastern Ghats population may be the only other viable population for Green Munias known today. The Eastern Ghats region, due to its poor accessibility, remains relatively unexplored, which could contribute to the limited knowledge about the distribution of the species in this region. Compounding this issue, several areas bordering Andhra Pradesh, Odisha, and Chhattisgarh are sensitive, imposing restrictions on general visits, including birdwatching.

As per the local people, decades ago, the Green Munias used to feed extensively in their "podu" cultivation (forest clearing by burning) decimating their crops. Upon engaging in discussions with elder residents of the area, it was revealed that they perceive the presence of Green Munias as a pest to their agricultural production. The measures taken to reduce their agricultural damage could have resulted in a decline/movement of their population in this region. Being aware of this population, a comprehensive solution encompassing community involvement through awareness and education, alongside research and monitoring, is imperative.

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Reflections from a survey of the Village Reserve Forests and Community Forests of Garo Hills, Meghalaya, north-eastern India

The states of north-eastern India are part of the Indo-Burmese biodiversity hotspot (Myers 2000). The region has among the highest avian biodiversity in the Oriental region, with over 850 species, many of which are forest dependent. In the Garo Hills of Meghalaya, the Wildlife Trust of India (WTI) helped the forest department of Meghalaya establish Village Reserved Forests (VRFs) and Community Forests (CFs) They are administered by the community with assistance from the WTI, Garo Hills District Council (GHADC), and Meghalaya State Forest Dept (SFD). We were a part of a bird survey conducted during May–June 2022 and January 2023 in the VRFs and CFs flanking the two National Parks in the Garo Hills: the Nokrek National Park in the West Garo Hills District and the Balpakram National Park in the South Garo Hills District. I share a few reflections on the habitats as well as some interesting species noted during these surveys.

The survey was conducted in two phases, with West Garo (WG) and South Garo (SG) surveyed in summer between 28 May 2022 and 15 June 2022 and a second phase in winter covering only South Garo between 07 January 2023 and 16 January 2023. Seven VRFs and two CFs were surveyed in West Garo. In South Garo, six VRFs and one CF were surveyed; in addition, a Reserve Forest (RF) and an extension of the RF were included in the South Garo surveys. All these locations were covered by walking along existing trails (Table 1).

The sites that were surveyed encompassed a range of forest

Table 1. List of sites surveyed in Garo hills

VRFs/CFs of West Garo Hills	VRFs/CFs of South Garo Hills
Daribok VRF	Baghmara RF
Sakal Aduma VRF	Halwa Ambeg VRF
Selbalgre VRF	Ampanggiri VRF
Chandigre VRF	DC Complex Road (RF Extension)
Baladinggre VRF	Panda VRF
Durakalagre VRF	Wagekhona CF
Oragitok CF	Gaobari VRF
Sasatgre CF	Dambuk Atong VRF
Misimagre VRF	Dambuk Jongkhol VRF

types, ranging from primary forest to the jhum-mosaic landscape to areas near human habitation. It was interesting to note the preference of species groups for certain types of habitats. Among the frugivores (a group which in these forests includes hornbills, pigeons, barbets, flowerpeckers, and fairy bluebirds), the greatest number of species were observed in primary forests such as Baghmara and Ampanggiri (11 each). However, jhum sites as well as sites close to human habitation had comparable numbers—nine species noted in Oragitok, which is a jhum mosaic landscape, and eight in Chandigre, where the VRF is surrounded by human habitation. Hence, the presence of frugivores may be determined by the presence of fruiting trees rather than by whether the site was located within a forest or within a jhum or human habitation. A similar pattern was observed for leaf gleaners (which in these forests include species such as babblers, laughingthrushes, *Phylloscopus* warblers, leafbirds, and cuckoos). Primary forest sites such as Halwa Ambeng and Baghmara had 22 and 21 species of this group, respectively, but comparable number of species were also observed in jhum mosaic sites as well—Selbalgre and Oragitok had 19 and 18 species, respectively—while 18 species were noted in Chandigre. Leaf gleaner presence appears to be less driven by whether a forest is primary or secondary and instead may be determined by other factors, such as insect availability and well delineated forest strata. In regard to a group such as salliers (drongos, trogons, broadbills, flycatchers, niltavas, minivets, cuckooshrikes, and woodshrikes), while the highest numbers were reported in primary forests such as Halwa Ambeng and Baghmara (29 and 21 species, respectively), 16 species were observed in Gaobari, a site near human habitation. This may be due to the presence of good forest patches near the sites with human habitation, which offered refuge for the salliers. Jhum landscapes had fewer numbers of this group.

The pattern was slightly different among certain other insectivores. The highest number of bark gleaners (a group which in these forests are mainly comprised of woodpeckers) were in primary forests at lower elevations with large trees, which are favoured by large woodpeckers, such as the forests of Halwa Ambeng and Baghmara, which have nine and eight species of bark gleaners, respectively. Halwa Ambeng also has good stands of bamboo, which provides good habitat for bamboo specialists such as White-browed Piculet *Sasia ochracea*. Other primary forests and forest types had fewer species.

Granivores, which in these VRFs includes forest-dwelling galliforms such as Red Junglefowl *Gallus gallus*, White-cheeked Partridge *Arborophila atrogularis*, and Grey Peacock-Pheasant *Polyplectron bicalcaratum*, as well as species such as Spotted Dove *Spilopelia chinensis*, Oriental Turtle Dove *Streptopelia*

orientalis, White-rumped Munia *Lonchura striata*, and Eurasian Tree Sparrows *Passer montanus*, most species were reported within primary forests (five species in Baghmara and four in Halwa Ambeng). These sites had a forest floor with leaf litter and a largely closed canopy, which are preferred by strict forest dwellers such as White-cheeked Partridge, Grey Peacock-Pheasant, and Red Junglefowl to some extent. Four species in the group were also observed at a jhum site, such as Oragitok, but these were generalist granivores, such as Spotted Dove, Oriental Turtle Dove, White-rumped Munia, and Red Junglefowl. These generalists also dominated the sightings of this group at sites near human habitation. Another category of insectivores, namely, ground-dwelling species such as pittas, robins, and thrushes, was absent from most sites, with the highest number of species, four, reported from a primary forest (Baghmara).

Stream side feeders, which in these forests includes species such as Black-backed *Enicurus immaculatus* and Slaty-backed Forktails *E. schistaceus*, and Blue-eared Kingfisher *Alcedo meninting* were absent from many sites. This could have been because the surveyed areas did not always have stream-side habitat. Only three species of this group were observed from Halwa Ambeng, a primary forest site, two from a degraded site (Sasatgre) and another two from a site near human habitation (Chandigre). The presence of this group again appears to be determined not by forest type but by the availability of a specific type of habitat.

All these observations are broad patterns, and a systematic study is needed to calculate the frequency and abundance of species that occur within the different forest categories and to ascertain which species are being impacted by the clearing of forests for jhum or habitation. Given the number of species that were recorded in the VRFs and CFs over the course of the two short survey seasons and the fact that these forests act as a refuge for bird species outside of protected area networks, further systematic study is needed to understand the distribution of species across the Garo hills landscape.

Notable species

White-cheeked Partridge *Arborophila atrogularis*: First observed on 28 May 2022 at the Daribok VRF (WG) near Nokrek National Park at 0730 h, when a bird was flushed from the forest floor. Three birds were flushed from the forest floor at the Karwani section of Baghmara (SG) on 09 January 2023 at 0845 h and were also heard at Baladinggre (WG), as well as Halwa Ambeng, the DC complex road, and Baghmara on the upward slope road (all SGs).

Ashy-headed Green-Pigeon *Treron phayrei*: Observed on 29 May 2022, in Selbalgre VRF (WG), approximately 0500 h when a pair flew past. A fly past of 10 birds was also observed on 30 May 2022 in Chandigre (WG). On 03 June 2022, a fly past of 3–4 birds were observed in both Oragitok and Sasatgre (both WG) at 0600 h and 1600 h, respectively. In South Garo, one bird was observed on 09 June 2022, approximately 1530 h in Baghmara, and on the next day, at 1600 h at Halwa Ambeng, three birds were observed feeding on a fruiting tree; more birds were observed perched on branches further along the track. The species was noted at the same fruiting tree site on 11 and 12 June, 2022, and once on 10 January 2023 at 0800 h. Additionally, it was observed at Ampanggiri (SG) on 13 June, where five individuals were observed feeding along with a group of 15 Thick-billed Green-Pigeons *T. curvirostra*, at approximately

0800 h. At Dambuk Jongkhoh VRF (SG), on 14 January 2023, a flock of 15 birds was observed feeding.

Grey-headed Fish-Eagle *Ichthyophaga ichthyaetus*: One sighting in a rubber plantation in Wagekhona (SG) on 11 January 2023, when a juvenile bird was sighted at approximately 0415 h [85]. This species is known from many areas in north-eastern India, such as Kaziranga National Park, where it is a common resident but is not known thus far from the Garo Hills.



Plybirth G Momin

85. A juvenile Grey-headed Fish-Eagle from Wagekhona, South Garo hills.

Cachar Bulbul *Iole cacharensis*: Heard at Baghmara (SG) on the evening of 09 June, 2022, approximately 1700 h and seen the next day. This endemic species was seen and heard in all the sites surveyed in South Garo in both summer and winter.

Large Scimitar-Babbler *Erythrogonys hypoleucos*: Two birds were recorded at Gaobari (SG) on 13 January 2023 at approximately 0930 h in a patch of dense mixed undergrowth with bamboo. One bird was seen well for close to five minutes, calling repeatedly.

Brahminy Kite *Haliastur indus*: One bird was observed on 16 January 2023 at Baghmara (SG) on the upward slope road at 0930 h. This species is rare in north-eastern India and more common in peninsular India south of the Ganges. However, this sighting is not completely unexpected, as it is reported in Bangladesh just across the border.

Ashy/Swinhoe's Minivet *Pericrocotus divaricatus/cantonensis*: Two birds were observed on 07 January 2023, 09 January 2023 and on 15 January 2023 feeding along with a flock of Rosy Minivets *P. roseus* in the Karwani section of Baghmara (SG). The noticeably browner body, a greyish brown rump unlike the paler grey rump of Ashy, and the white supercilium extending beyond the eye suggest that these could be Swinhoe's Minivets, which are listed as vagrants to the Indian subcontinent (Rasmussen & Anderton 2012), but a photograph could not be taken for conclusive proof.

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Eyebrowed Thrush *Turdus obscurus* from Uttarakhand in the Western Himalaya of India

On 14 February 2024, at approximately 1540 h, MR saw an unfamiliar greyish-brown thrush with a prominent white supercilium feeding on a heap of dung in village Pangot (29.420°N, 79.420°E; c.2,016 m asl) in Naina Devi Bird Conservation Reserve, Uttarakhand. The bird was feeding with Grey-winged Blackbird *Turdus boulboul* and Streaked Laughingthrush *Trochalocteron lineatum*. The bird was again seen in the same area by MR, feeding on the dung pile on 15 and 16 February at different times during the day. On 17 February 2024, MS and PK came across the bird at the same location at 0655 h. It was a medium-sized thrush with a greyish-brown head and face, strong white supercilium going behind the ear coverts, a prominent white crescent below the eye, dark lores, white sub-moustachial stripe, greyish throat and upper breast, black upper mandible, prominent yellow lower mandible with a black tip, pale orange flanks, white central belly and undertail coverts, greyish tail, and brownish grey upperparts with prominent white tips to the greater wing-coverts. The bird was feeding on a pile of dung in an open terraced field near human habitation along with a male Grey-winged Blackbird and a pair of Streaked Laughingthrushes and Himalayan Bulbuls *Pycnonotus leucogenys*. The bird was photographed [86] and identified as a sub-adult male Eyebrowed Thrush *Turdus obscurus*.



Manoj Sharma

86. Eyebrowed Thrush from Pangot, Nainital.

The Eyebrowed Thrush is a medium-sized monotypic thrush (Clement & Hathway 2000). It breeds in central and eastern Siberia, east to Kamchatka, south to northern Mongolia, Amurland, and Sakhalin, and winters in the northeastern Indian Subcontinent east to Taiwan, south to Greater Sundas and the Philippines (Collar 2020). In winter, it occurs from 2,300 m asl down to foothills, in open forests, groves, gardens, and open country (Rasmussen & Anderton 2012). In the Indian subcontinent, the species winters mainly from Bhutan to Arunachal Pradesh, more commonly in the hills of northeast India in Assam and Meghalaya, south to Lushai Hills, Narcondam Island and South Andaman Island, north-eastern and south-eastern Bangladesh and has scattered winter records in the Himalaya from central Nepal eastwards. It also straggles to southern parts of the Indian Peninsula, Sri Lanka, and Maldives. According to eBird (2024), the species has consistently shown a tendency of vagrancy in recent times in parts of India, where it was not known to have occurred previously. It was recorded in West Bengal, where it was detected in Kolkata during November 2018, December 2018, and April 2023; in South 24 Parganas during April 2009 and September 2018; and in Sundarbans during October 2023 and November 2023 (eBird 2024). In Orissa, the species was recorded at Baleswar in January 2016, at Bhitarkanika in April 2018, and at Cuttack in February 2024 (eBird 2024). In the last ten years, the species has also occurred sporadically in parts of central and western India. The species was recorded in Gujarat at the Shoolpaneshwar Wildlife Sanctuary in March 2012 and in Junagadh in February 2013. It was recorded at Jabalpur, Madhya Pradesh, in November 2023. In Maharashtra, the bird was recorded in Nagpur in April 2017, in Mumbai between January and March 2021, and in Pune in February 2016 and January 2024 (eBird 2024).

In the Himalaya, the species is distributed from central Nepal eastwards (Rasmussen & Anderton 2012; Collar 2020). In Nepal, the first mention of this species was by Biswas (1962), who referred to a single skin in the 'Hodgson Collection'. Redman et al. (1984) reported two birds, the only records to date from the Kathmandu valley, other than the specimen mentioned by Biswas (1962). However, there are recent eBird records of the species from the Kathmandu valley (Coker 2016; Bhusal 2021; Shrestha 2021; Tiwari 2021; Bhandari 2024; Shrestha 2024).

There are no known records of the species in the Himalaya westwards of central Nepal (Clement & Hathway 2000; Rasmussen & Anderton 2012; Collar 2020; eBird 2024). This species is also not mentioned in the Uttarakhand bird checklist (Mohan & Sondhi 2017). The present observation is the first record of this species from the state of Uttarakhand and the Western Himalaya.

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Rufous-vented Grass Babbler *Laticilla burnesii* in Dudhwa Tiger Reserve, Uttar Pradesh, India: A curious midpoint of two populations across its range

Rufous-vented Grass Babbler *Laticilla burnesii* is a Near Threatened species primarily found in the grasslands of Pakistan and adjoining parts of north-western India, with another isolated population in eastern Nepal (Madge 2020; BirdLife International 2024). The species belongs to the family *Pellorneidae* and is the only one of two species of its genus, with the other being Swamp Grass Babbler *L. cinerascens*, which is found in the Brahmaputra River systems. The Rufous-vented Grass Babbler has two subspecies—the nominate subspecies from Pakistan and north-western India and the *nipalensis* subspecies recorded only from the Koshi Tappu Wildlife Sanctuary in eastern Nepal (Baral et al. 2007).

Rufous-vented Grass Babbler inhabits tall, alluvial, and seasonally inundated grassland patches along rivers that are mostly composed of *Saccharum spontaneum* and *S. munja* or reeds such as *Phragmites karka* and *Typha* (Showler & Davidson 1999; Madge 2020). These grasslands are often interspersed with *Acacia* trees and *Tamarisk* shrubs. In India, all of these habitats fall within the Indus River system, mostly in the state of Punjab, with vestigial populations in adjacent states (eBird 2024). However, the Ganga River system, which lies further east, also has vast stretches of alluvial grasslands (Shukla 2009) and hence has potential for grass babbler populations. The relatively unexplored riverine grasslands of the Sharda and Ghaghra Rivers (tributaries of Ganga) that fall within the jurisdiction of the Dudhwa and Pilibhit Tiger Reserves in Uttar Pradesh are home to many threatened grassland specialist birds, such as Bengal Florican *Houbaropsis bengalensis*, Jerdon's Babbler *Chrysomma altirostre*, and Swamp Francolin *Ortygornis gularis* (Javed & Rahmani 1998; Midha & Mathur 2010; Jha et al. 2018), which further indicate a greater likelihood of a grass babbler population.

As a part of the bird surveys conducted by 'The Habitats Trust' (THT) along the riverine grasslands of the Sharda River, we encountered Rufous-vented Grass Babblers at three locations over two days, recording four individuals altogether.

Observations Sighting 1

On 19 April 2023, KS and PM conducted bird surveys in the Sharda

beat of the Kishanpur Wildlife Sanctuary (KWLS) along the Sharda River accompanied by the Uttar Pradesh Forest Department Staff from Dudhwa Tiger Reserve. At 0828 h, at a location (28.421°N, 80.430°E) approximately 14.5 km west of Palia Town, Lakhimpur Kheri, while attempting to locate a Delicate Prinia *Prinia lepida*, we encountered a large prinia-like bird. It was dull brown overall with a white belly and throat, pale feet, a yellowish lower mandible, and a long, tattered tail. The tail was broader and longer than any other prinias in the region. Heavy streaking over the head, broad streaks on the mantle, and fine streaks on the flanks readily separate the bird from other prinias [87]. The sighting lasted approximately 3–4 minutes, and the bird was silent during this period. All the features eliminated other species, and the identification confirmed as a Rufous-vented Grass Babbler.

The habitat where the bird was sighted was within 10 m of the riverbank in a patch of *S. spontaneum* grassland that stood at a height of c. 1–2 m and was interspersed with shrubs of *Tamarisk indica*. The bird came up to the top of the grass and then moved and hid behind a *Tamarisk* bush. It continued to skulk, although we had a view of the bird through the gaps in the vegetation. Later, the individual moved deeper into the grassland where it could not be followed. No other individual was recorded along this stretch.



Pravar Mourya

87. Rufous-vented Grass Babbler in the Sharda beat of the Kishanpur Wildlife Sanctuary showing clear rufous vent and heavy streaking on the back, nape, and flanks.

Sighting 2

On 08 May 2023, KS and PM were again surveying the riverine stretch in the Sampurna Nagar Range of Dudhwa Buffer, from Dhanara Ghat to a village named Bailaha on the northern bank of the Sharda River. Here, the River shares a border with the Pilibhit Tiger Reserve. The habitat was dominated by *S. spontaneum* with some openings of short grass patches of *Imperata cylindrica* and *Cynodon dactylon* within 20 m from river bank [88]. At 0728 h, we encountered a bird making repetitive short calls, singing from the top of a tall grass and perched horizontally [89]. The bird appeared like a dull Indian Grassbird, *Graminicola bengalensis*, where the streaking on the head was less dark than that of the other species. However, it quickly disappeared into the grass but a few metres ahead on a mosaic patch (28.610°N, 80.311°E) of *S. spontaneum* with some short *Imperata cylindrica* grasses, and the bird reappeared and started singing. The song superficially resembled the song of Swamp Grass Babbler, but obviously, the nearest population was geographically very far. On closer inspection, KS was able to notice a clear rufous vent [90], and subsequently, the song also matched with that of the Rufous-vented Grass Babbler. For the next five minutes, the bird moved in close proximity and continued to sing before disappearing into the grasses. This site was c.24 km northwest of sighting 1.



Kausik Sarkar

88. The habitat of the Rufous-vented Grass Babbler adjacent to the river is dominated by *S. spontaneum* and *I. cylindrica* grasses in the Sampurna Nagar Range, Dudhwa Buffer Zone.



89. Rufous-vented Grass Babbler perched horizontally on grass in Sampurna Nagar Range, Dudhwa Buffer Zone.



Both: Pravar Mourya

90. Rufous-vented Grass Babbler showing rufous vent.

Sighting 3

On the same day, while being on the same trail but a few kilometres away at 0850 h, PM heard a trilling call, similar to that of a Bluethroat, *Luscinia svecica*, coming from a *S. spontaneum* clump. The bird did not emerge from the clump for 5–10 minutes. It then moved out of that particular clump, landed 5–6 m away and started to sing. While this individual was not visible, its song was loud and clear, and another individual responded with song. The second individual then came extremely close to us, within 1.5 m, in search of the other individual and was visible for a brief duration. The second individual stopped singing, but the first individual emerged and started to sing. Here, the bird was observed very well, and its song was recorded by us, both in audio and video (Figure 1). After c.20 min, both birds disappeared in the grassland.

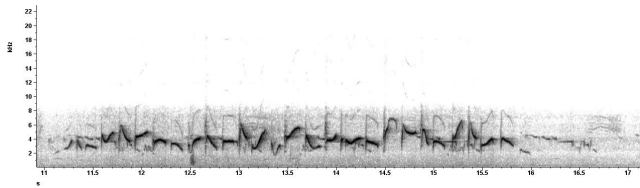


Figure 1. Spectrogram of the song of Rufous-vented Grass Babbler.

Discussion

As the Rufous-vented Grass Babbler was recorded from three locations along the River Sharda, there is potentially more existing in the habitat, confirming a population of the species in the Uttar Pradesh Terai landscape. This new locality is interesting because it lies at an approximate midpoint between the two extant populations of the Indus River system and Nepal's Koshi Tappu Wildlife Sanctuary. However, the taxonomy of *Laticilla* has not been fully investigated, the split is rather recent, and the position of the newly described *nipalensis* as belonging to the Rufous-vented Grass Babbler (contra Swamp Grass Babbler) is also contrary to the original proposal by Baral et al. (2007). This would also contradict the current distribution knowledge that the nominate subspecies of the Rufous-vented Grass Babbler is restricted to the Indus River system, while Sharda lies in the Ganga River system, where *nipalensis* occurs. Hence, a discussion on the identification of this new population is warranted.

There are multiple morphological diagnostic features on which we believe that this new population is more likely to be nominate Rufous-vented Grass Babbler. All the birds we saw here were warm brown with darker and heavy streaks (dark brown in colour) on the crown, nape, neck, back, and flanks [87, 89, 91]. All birds had a rufous wash on their necks [91]. These features completely match the nominate population of the Indus River system. Rufous-vented Grass Babbler in eastern Nepal are rather dull brown and drab, and they do not have heavy streaking on the crown, nape, neck or flanks. They also lack the rufous wash on the neck (Baral et al. 2007)¹. Moreover, the rufous on the vent of our birds were richer [89] and more extensive, like in the Indus population, than those in Nepal. Hence, the overall plumage features, including the namesake rufous vent, suggest that Uttar Pradesh birds are more likely to be the nominate subspecies of the Rufous-vented Grass Babbler.



Pravraj Mourya

91. Heavy streaking extends from crown, all the way to the back of the Rufous-vented Grass Babbler (Sighting 3) with a visible rufous wash on the nape.

¹ Through *Indian BIRDS*, we obtained the photographs of the type series from Hem Sagar Baral for comparison.

The Uttar Pradesh population of the Rufous-vented Grass Babbler is c.530 km away from the easternmost distribution of the nominate subspecies and c.675km from the Nepal population (eBird 2024). Although the understanding of the terai landscape and its contiguity suggests that the Uttar Pradesh population may represent a westwards expansion of the Nepal population, the current findings do not provide any evidence for the same. It would be interesting to genetically investigate this new population in relation to adjoining populations towards the east and the west.

It might also be necessary to explore suitable habitats around the site of discovery to understand the true extent of this population. As the current observation is along the Sharda River (Fig. 2), the species might also occur further south and eastwards in the Sharda-Ghaghra basin and northwards in Nepal close to Shukhlaphanta National Park. Both the Sharda and Ghaghra Rivers support relatively large stretches of *S. spontaneum* grasslands across their length, the same habitat where all the current observations were made (Midha & Mathur 2010). Some of these stretches also gain protection as they fall under the jurisdiction of the Dudhwa and Pilibhit Tiger Reserves (Fig. 3). Hence, the presence of the Rufous-vented Grass Babbler further downstream of the Sharda River and its tributaries is possible. As the Rufous-vented Grass Babbler is a habitat specialist and a Near Threatened species (BirdLife International 2024), it becomes important that the riverine habitats receive attention both in terms of exploration and conservation.

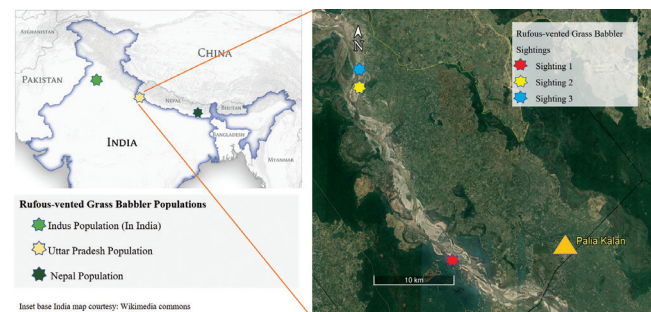


Fig. 2. Locations of the Rufous-vented Grass Babbler sightings with respect to the town of Paliakalan, Lakhimpur Kheri (Headquarters: Dudhwa Tiger Reserve), with reference to other populations of the Rufous-vented Grass Babbler.

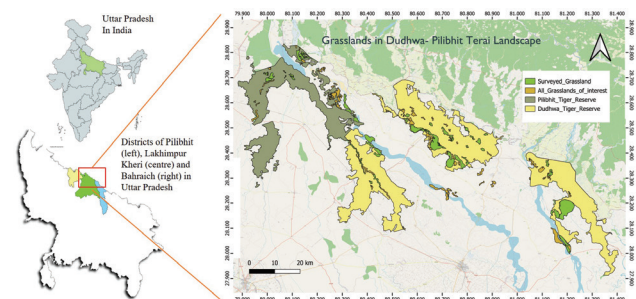


Fig. 3. Distribution of grassland habitat across the Dudhwa and Pilibhit Tiger Reserve landscapes where the Uttar Pradesh population of the Rufous-vented Grass Babbler exists.

As the surveys continue in subsequent years, more such rarities are likely to emerge from this landscape, which may clarify other prevailing gaps in the distribution and taxonomy of birds in the terai. Understanding the processes that govern the persistence of these riverine grasslands and their obligate species will help ensure that their habitats can be conserved. The conservation of these riverine grasslands by working along with

the forest department, communities that use the landscape and knowledge from more research are the current needs for species such as Rufous-vented Grass Bblers to thrive.

We would like to thank the Uttar Pradesh Forest Department for providing us with all necessary permits and support during the surveys. We would also like to thank Hem Sagar Baral and another anonymous referee apart from the editors from the *Indian BIRDS* for their crucial input, which helped us greatly to improve the manuscript.

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Brown-breasted Flycatcher *Muscicapa muttui* from Punjab, India

The Brown-breasted Flycatcher *Muscicapa muttui* occurs in north-eastern India, central and southern China, north-western Thailand and northern Vietnam and probably also in northern and eastern Myanmar (Clement 2020). It is a summer visitor to the hills of north-eastern India south of the River Brahmaputra and winters primarily in south-western India in the Western Ghats south from Goa and in Sri Lanka (Rasmussen & Anderton 2012). The migration routes and movements of the species are poorly-known and not fully understood (Rasmussen & Anderton 2012).

On 29 October 2023, at 1135 h, AM & VK were birding in the forested areas in the vicinity of Nara Dam (31.544°N, 76.028°E; 377 m asl) in Hoshiarpur District, Punjab. The area falls in the lower Sivalik hills and comprises primarily tropical dry deciduous forest with some areas of dry deciduous scrub forest (TERI 2015). AM revealed a small passerine bird moving in the lower reaches of the forest canopy at a height of c. 5 m. On observation through binoculars, AM recognised it as a Brown-breasted Flycatcher based on its large, pale eye-ring, long bill with pale yellowish lower mandible and pale fleshy legs. The bird was also

observed feeding on an unidentified insect. AM obtained some photographs for record purposes as the species was unlikely to be encountered in the region as per its known range [92–93].

There are no known published records of the species from Punjab, India (Grimmett et al. 2011; Rasmussen & Anderton 2012; Arlott 2015), and no records appear on eBird for the region (eBird 2023). There are also no known records of the species online on social media forums, such as Facebook, for the region. The nearest record of the species to our Nara Dam record is another autumn record dated 24 October 2016 from Sultanpur National Park in Haryana, which is c.350 km south-east from our record (Sharma 2016; Vyas 2019). Other nearest records from our record are from the Jessore Sloth Bear Sanctuary in Gujarat, from the Prayagraj area in Uttar Pradesh (eBird 2023), as well as a single record from Satna, Madhya Pradesh (Pathak 2015), and some records from central Nepal, all of which are in the radius of c.900 km south or south-east of the current sighting. Our record, therefore, appears to be the first record of the species documented from Punjab, India. Documentation of any future records during passage migration will help in better understanding the range and movements of the species in northern India.

We would like to thank the reviewers for their valuable suggestions on our note and helpful comments on the past records of the species.



92. Brown-breasted Flycatcher at Nara Dam.



93. Brown-breasted Flycatcher feeding on an insect.

Both: Anandesh Malik

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Recent nesting of Glossy Ibis *Plegadis falcinellus* at two different sites in the Jhajjar District, Haryana, India

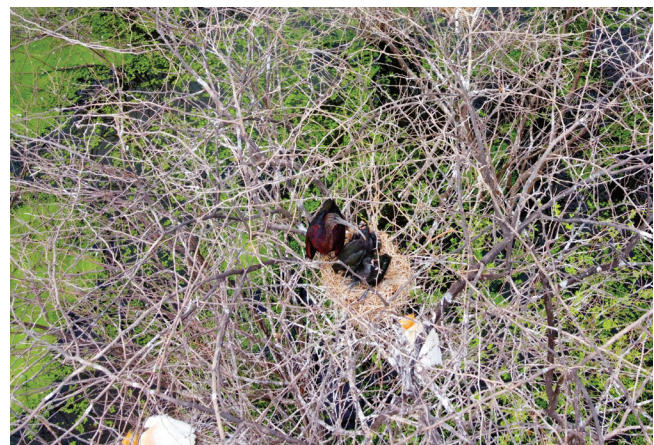
Glossy Ibis *Plegadis falcinellus* is considered a Least Concern species because of its extremely large range (Birdlife International 2024a). The species has a wide discontinuous breeding distribution from southern Europe, Africa and Madagascar (as well as Agalega in the western Indian Ocean) to central and southern Asia, the Philippines, Sulawesi and Java in Indonesia; southern New Guinea and Australia (except for the arid interior); and the Atlantic coast of North America and West Indies to north-central Venezuela also occurring more widely as a vagrant (Davis & Kricher 2020). In South Asia, it is known to breed very locally in the northern plains; however, wintering more widely when the population includes an influx of migrants (Rasmussen & Anderton 2012; eBird 2024). While scattered breeding records have been documented from India, including a few older records from the northern plains of India, Gujarat, and Tamil Nadu (Tiwarei & Rahmani 1998; Venkatraman 2009), there have been only rare instances of breeding that have been reported in recent years. Recently, breeding of the species was documented in Rajasthan in northern India and in Assam in north-eastern India (Sharma et al. 2020; Ranade et al. 2021). A recent study concluded that the species was resident throughout the year in the Anand and Kheda Districts in Gujarat and used the agricultural landscape extensively, suggesting indirect evidence of breeding in these areas (Sundar & Kittur 2019). We document another recent breeding record from the Jhajjar District, Haryana, where we recorded more than 110 Glossy Ibis pairs nested in two different heronries in August 2023; this district of Haryana, bordering Delhi, is included in the National Capital Region (NCR) of India. We ensured that all protocols and guidelines for collecting information and photos from the respective heronries were followed as recommended, including maintaining appropriate distances from the nests (Barve et al. 2020).

On 12–13 August 2023, we visited the wetlands in the Jhajjar District to observe migratory and resident bird species, where we found the Glossy Ibis nesting at two different heronries. These heronries were located near Chhara village (28.70°N, 76.71°E) and Jaundhi village (28.63°N, 76.66°E), which are situated at a

linear distance of 9 km from each other. Reaching both heronries was difficult because the areas were inundated with stagnant water. In the heronry at Chhara village, we observed 12 nests of Glossy Ibis, along with approximate estimates of nests (in parentheses) of other species, such as, Black-crowned Night Heron *Nycticorax nycticorax* (20), Eastern Cattle Egret *Bubulcus coromandus* (60), Intermediate Egret *Ardea intermedia* (30), Great Egret *Ardea alba* (26), Indian Pond-Heron *Ardeola grayii* (3), and Little Cormorant *Microcarbo niger* (84), all nesting on kikar *Prosopis juliflora* and neem *Azadirachta indica* trees. In the heronry at Jaundhi village, we counted c.100 nests of Glossy Ibis. The nests were placed on kikar *Prosopis juliflora*. Approximate numbers of nests (in parenthesis) of other species that were observed were Black-crowned Night Heron (35), Eastern Cattle Egret (150), Intermediate Egret (40), Great Egret (40), Little Egret *Egretta garzetta* (40), Indian Pond-Heron (2), Black-headed Ibis *Threskiornis melanocephalus* (50), Asian Openbill *Anastomus oscitans* (15), and the majority of nests by Little Cormorant (200). We found that it was easier to count the nests of large wetland birds and species that prefer to nest in the upper canopy than to count the nests of species that prefer to nest in the lower canopy or lower vegetation, such as the Indian Pond Heron. All recorded nests of Glossy Ibis were placed at varying heights, approximately 0.5–5 m, from the surface of the water or the ground. On 22 August 2023, photographs of the nesting Glossy Ibis were obtained at the heronry at Jaundhi village using a DJI Mavic Mini drone operated in a single flight and maintaining its appropriate distance to minimize disturbance and noise [94–96].



94. Aerial view of the heronry at Jaundhi village showing nesting Glossy Ibis.



95. Glossy Ibis at a nest with young chicks.

Both: Pradyumna Krishna Majumdar



Pradyumna Krishna Majumdar

96. Glossy Ibis incubating eggs at nest along with nesting Little Cormorant.

Wetlands in agriculture-dominated landscapes provide the desired habitat for diverse water birds (Sundar & Kittur 2013). The same scenario prevails in the District of Jhajjar. Both heronries were established along the agricultural wetlands in Jhajjar District, where these wetlands share their boundaries with village settlements and agricultural fields on either side. While some of these wetlands are permanent, some are temporary because they are dependent on rainfall in the region. Subsequent to our observations above, approximately 10 pairs of Glossy Ibises were recorded nesting in the last week of August 2023 in another established heronry at Surajpur Wetland in Gautam Buddha Nagar District, Uttar Pradesh, on the other side of the Yamuna River as it flows through Delhi (Singh 2023). Previous breeding records of the species in Haryana have been reported from Bhindawaas, Jhajjar District (Sharma 2017; Vyas 2019). Our records further corroborate the regular nesting of Glossy Ibis in the Jhajjar District in Haryana in recent years. Interestingly, Glossy Ibis nested at least three different locations in the NCR in 2023, two on the Haryana side (c.50–55 km from Delhi) and one on the Uttar Pradesh side (30 km from Delhi). The Surajpur Wetland in Uttar Pradesh is protected and recognized as an Important Bird Area (IBA) and has hosted an established heronry for several years (BirdLife International 2024b). However, the Jhajjar sites appear to be temporary inundations on agricultural land following heavy monsoon rains in July 2023 and is not legally protected.

We are grateful to Harvinder Singh for his assistance at various stages during the research and to the people of the Chhara and Jaundhi villages of Jhajjar District.

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Addition of the Striolated Bunting *Emberiza striolata* to the avifauna of West Bengal

On 08 December 2023, SP, along with four other birdwatchers, recorded a Striolated Bunting *Emberiza striolata*, from Parkidi village (23.256°N, 86.231°E) in the district of Purulia during a birdwatching tour. It was identified as a male due to three bright white stripes on an intricately streaked face, a grey head, and chestnut-brown wings. The bird was observed on the rocky sides of the Dholburu Hills along with Paddyfield Pipit *Anthus rufulus*, Tree Pipit *A. trivialis*, Rufous-tailed Lark *Ammomanes phoenicura*, and Ashy-crowned Sparrow Lark *Eremopterix griseus*, feeding on the seeds of grass growing among the rocks [97, 98]. Striolated Bunting was reported seven more times, until 25 December 2023, from an area of approximately two sq. km around the location of the first sighting, between 0800 h and 1530 h. While it is not certain if all sightings were of the same individual, it is quite likely to be the case. It prefers rocky landscapes with shrubby vegetation, and water bodies nearby are the preferred habitat of Striolated Bunting (Ryan 2020). Open cultivation of Dholburu Hills provides this exact habitat.

Striolated Bunting is a resident in India's western states, mainly in Rajasthan, Gujarat, and Maharashtra (Pawashe et al. 2006; Rasmussen & Anderton 2012; Joshi et al. 2016). Very few records exist in the rest of the country. This record from West Bengal is the first for the state and eastern India. It is also the easternmost occurrence of Striolated Bunting in the Indian subcontinent. The previous easternmost occurrence of Striolated Bunting is from Chitwan National Park (27.556°N, 84.210°E) in Nepal on 18 October 2018 (Nepal Important Bird Records, 2018). For India, the easternmost record to date was from Sirkada in eastern Maharashtra (20.335°N, 79.426°E), which was recorded on



97. Striolated Bunting male sitting on a rock face.



98. Striolated Bunting male feeding on grass seeds.

Both: Subhra Pakhira

27 November 2023 (Poomali 2023). This species is also known to be a resident and nomadic, with small flocks dispersing after breeding (Ryan 2020). The lack of regular sightings farther from its breeding range is probably due to its nomadic nature and lack of active birders in the intervening areas. More research into its diet in the western parts of India could provide clues on where else it could be found in the rest of India.

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Three notable records from the Ganga River Basin, India

We report the occurrence of three notable species from the Ganga River basin in Uttar Pradesh, Bihar, and West Bengal during a study conducted in 2022 and 2023.

Black-faced Bunting *Emberiza spodocephala* from the Ghaghara River near the Katerniaghat Wildlife Sanctuary, Uttar Pradesh

The Black-faced Bunting *Emberiza spodocephala* is known to be a regular winter visitor to the northeastern states of India from October to April (Ali & Ripley 1983). On 21 March 2023, during a biodiversity assessment, a Black-faced Bunting was sighted in the Ghaghara River near the Katerniaghat Wildlife Sanctuary, Uttar Pradesh (28.278°N, 81.681°E). The species was identified as a non-breeding male by its dark lores, olive grey head and crown, brown coverts with white-tipped wing bars, and pale brown upperparts with black streaks. The tail was dark brown, featuring extensive white on the outer rectrices. Additionally, it had rufous streaks on its flanks and pinkish legs. [99]. This is probably the first confirmed record of this species from Uttar Pradesh, India. This record is not unexpected, as it has been recorded regularly in the eastern Terai region of Nepal (eBird 2024a).



99. Black-faced Bunting 21 March 2023, Katerniaghat, Ghaghara River.

Ookulakrishnan G

Grey Plover *Pluvialis squatarola* from the Bagmati River at Ghonghepur, Bihar and the Ghaghara River near Dant Nagar, Uttar Pradesh

The Grey Plover *Pluvialis squatarola*, also known as the Black-bellied Plover, is a winter migrant to the coastal regions of India. It arrives in early August and departs in late April (Grimmett et al. 2011). It occasionally visits inland wetlands (Ali & Ripley 1983). It has been recorded as far inland as Kashmir, Delhi, Assam, Rajasthan, and Madhya Pradesh (eBird 2024b). On 27 November 2022, while conducting a post-monsoon biodiversity survey of the Bagmati River at Ghonghepur, Bihar, we found a Grey Plover near a reservoir (25.842°N, 86.384°E) located c.500 km away from the nearest coast (Bay of Bengal). The individual was in non-breeding plumage, as evidenced by its plain grey upperparts and speckled grey breast and belly (Grimmett et al. 2011). The bird was observed foraging on the sandy shore of the reservoir, along with Kentish Plover *Anarhynchus alexandrinus* and Little Ringed Plover *Charadrius dubius*. On 28 March and 03 May 2023 [100, 101], the species was again sighted during a pre-monsoon survey in the Ghaghara River near Dant Nagar, Uttar Pradesh (26.802°N, 88.355°E). This is probably the first confirmed record of this species from the Bagmati and Ghaghara Rivers located in the

Upper Gangetic Plains. The sighting of two individuals at different locations in the Ganga River Basin, along with a nearby record from Farakka in Malda district, West Bengal in November 2016 (Sengupta & Jha 2016), indicates that this species might be more regular in these areas than previously thought.



100. Grey Plover, 28 March 2023, Ghaghara River.



101. Grey Plover, 03 May 2024, Ghaghara River.

Blue-and-white Flycatcher *Cyanoptila cyanomelana* from Shivkhola Temple, Sittong, West Bengal

The Blue-and-white Flycatcher *Cyanoptila cyanomelana* breeds primarily in the forests of eastern Asia, including Japan, Korea, and parts of China, and winters in Southeast Asia, extending from southern China to the Malay Peninsula (Clement & Marks 2020). In India, the Blue-and-white Flycatcher has been sporadically observed wintering across various states (eBird 2024c), including Maharashtra (Barve & Kamat 2016; Katvi & Shenai 2017; Khatavkar & Gorle 2017), Karnataka, Kerala (Thekkethala 2017; Roddis & Loseby 2018), Tamil Nadu (Bhoopathy & Indrajith 2016), Madhya Pradesh (Jannes 2013), Arunachal Pradesh (Choudhury 2006; Borang 2015), Telangana (Vittapu & Dey 2021) and the Andaman Islands (Rajeshkumar et al. 2014). On 31 December 2023, we found one immature male near the Shivkhola Temple (26.865°N, 88.355°E) [102] close to the Mahananda River in Sittong, West Bengal. This is the first confirmed record of the Blue-and-white Flycatcher from the Mahananda River in the Ganga River Basin. The bird was identified by its brown head, upper mantle, and breast, contrasting with blue wings, a white eye ring, buff-tipped greater secondary coverts, and notably cleaner and more prominent white on its belly. Immature Blue-and-white Flycatcher and Zappey's Flycatcher *Cyanoptila cumatilis* are identical, so this identification assumes that Zappey's Flycatcher does not occur in the Indian mainland.



102. Blue-and-white Flycatcher, 31 December 2023, Shivakh, West Bengal.

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Sightings of Blyth's and Amur Paradise-Flycatchers from Telangana, India

Paradise-Flycatchers are a group of sexually dimorphic species of the genus *Terpsiphone* placed under the family *Monarchidae*. They are found in Asia and Africa and are predominantly resident, while a few species are migratory. They are observed in evergreen, deciduous, and secondary forests at elevations ranging from sea level to 1800 m asl (Rasmussen & Anderton 2012). The morphological, mitochondrial DNA divergence and vocal differences within the Asian Paradise-Flycatcher populations led to a split, resulting in three species, the Indian Paradise-Flycatcher *Terpsiphone paradisi*, Blyth's Paradise-Flycatcher *T. affinis* and Amur Paradise-Flycatcher *T. incei* (Fabre et al. 2012; Bristol et al. 2013; Anderson et al. 2015; Eaton et al. 2016). According to Clements et al. (2023), the Amur Paradise-Flycatcher is monotypic, the Blyth's Paradise-Flycatcher contains 10 subspecies, and the Indian Paradise-Flycatcher contains three subspecies. We describe sightings of Blyth's and Amur Paradise-Flycatchers from Telangana and review their status across India.

Blyth's Paradise-Flycatcher *Terpsiphone affinis*

On 11 April 2021, a Blyth's Paradise-Flycatcher female was observed at Damagundam (17.273°N, 77.943°E), Pudur, Vikarabad District (Patibanda & Kolla 2021) [103, 104]. The area held several Indian Paradise-Flycatchers, which facilitated the comparative identification of Blyth's Paradise-Flycatcher, primarily distinguished by the noticeably shorter crest. Other characteristics noted were a blackish crown, dark grey hood that fades into a light grey breast, pale belly, rufescent vent, and undertail coverts. The bird was observed hunting insects around a stagnant water pool along with Black-naped Monarch *Hypothymis azurea*, Indian Paradise-Flycatcher, Spot-breasted Fantail *Rhipidura albogularis*, Asian Brown Flycatcher *Muscicapa dauurica*, and Brown-breasted Flycatcher *M. muttui*. The area was surveyed extensively by birders between 12 and 16 April 2021, during which two individuals were found. The sightings continued for at least two weeks (Ramachandran & Reddy 2021). Birders revisited their photos of Paradise-Flycatcher and found that some photos that were initially identified as Indian Paradise-Flycatchers were Blyth's Paradise-Flycatchers. This led to the addition of records to eBird for the year 2019 from the Mallavaram Reserve Forest in East Godavari District, Andhra Pradesh (Ineni & Polimati 2019), and for 2020, where a juvenile male was observed at Gubbala Mangamma Thalli Temple, Kavadigundla Reserved Forest (RF), in Bhadrachalam District (Parvatata & Reddy 2020).



Gopalakrishna Ramachandran

103. Blyth's Paradise-Flycatcher (dorsal view) from Damagundam RF showing its short crest.



Harikrishna Patibanda

104. Blyth's Paradise flycatcher with a greyish throat and breast (ventral view) from Damagundam RF.

According to Rasmussen et al. (2022), the subspecies of Blyth's Paradise-Flycatcher most prevalent in the Indian subcontinent is *T. a. saturator*, and it occurs in eastern Nepal, Sikkim, Bhutan, the Northeast India states, Bangladesh, and the Andaman Islands (Rasmussen et al. 2022). The other subspecies of Blyth's Paradise-Flycatcher noted in India is the *T. a. nicobarica*, a resident of the Central Nicobar Islands with no known vagrant records. *T. a. saturator* has demonstrated significant vagrancy, with records as far south as Vietnam, Thailand, and Indonesia (Dijkstra 2018). It breeds in the hills, moves south into river valleys and plains after breeding, and winters at lower elevations (Rasmussen et al. 2022). Given that this subspecies is migratory and that there are records of vagrants very far away, it is likely that this is also the subspecies observed in Telangana and Andhra Pradesh.

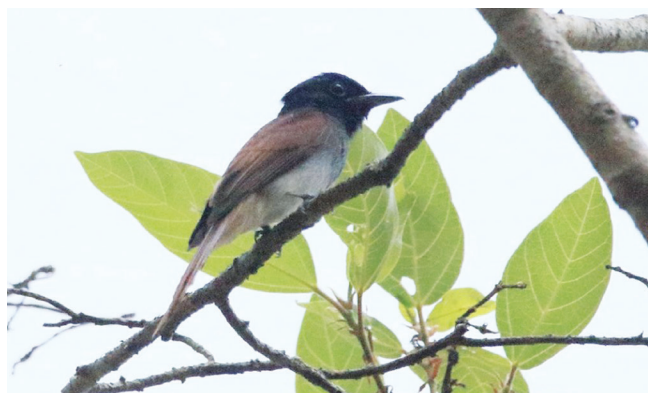
In support of our interpretation, there was one extralimital documentation of a white morph adult male from the Digha-Shankarpur Estuary, Purba Medinipur District, West Bengal, in November 2020 (Payra 2020). The sightings from Telangana (Parvatata & Reddy 2020; Patibanda & Kolla 2021; Ramachandran & Reddy 2021) and Andhra Pradesh (Ineni & Polimati 2019) are the furthest known extralimital sightings in mainland India from their year-round range in Northeast India. Hence, we anticipate more records from both these states, Odisha, and southern West Bengal, in the future. Consistent records from 2019, 2020, and 2021 in Andhra Pradesh and Telangana suggest that this species could be a rare but regular migrant to these parts, and future records may help establish this pattern.

Amur Paradise-Flycatcher *Terpsiphone incei*

During a birding walk conducted by Hyderabad Birding Pals at Gubbala Mangamma Thalli Temple, Kavadigundla RF (17.348°N, 81.306°E) on 18 and 19 March 2022, a single Amur Paradise Flycatcher was seen and photographed by many birdwatchers (Patibanda et al. 2022) [105, 106]. Due to the early summer heat, the streams were nearly dry and, in many places, reduced to pools of stagnant water. These pools had attracted insects, and around one such pool next to a small rocky hillock, several Black-naped Monarch and Indian Paradise-Flycatchers were seen. At approximately 0845 h, a rufous morph, Paradise-Flycatcher, lacking an obvious crest and sporting a greyish breast, was observed. It was shy and was hunting insects at a distance, making photography extremely challenging. Since there were previous records of Blyth's Paradise-Flycatcher in the area, these birds were assumed to be Blyth's Paradise Flycatcher. It was identified several months later from the photographs as

a female Amur Paradise-Flycatcher, as it showed a lilac glossy upper crown, strong contrast between the black hood and grey breast, and white vent and undertail coverts. The identity was revised based on recommendations from eBird reviewer James Eaton. As of 16 June 2024, according to the eBird database, this is the only confirmed sighting of the Amur Paradise-Flycatcher from mainland India.

The Amur Paradise Flycatcher is monotypic, and it breeds in eastern China and winters in the Thai-Malay Peninsula (del Hoyo et al. 2020). There is a large overlap in the ranges of the Amur Paradise-Flycatcher and the Blyth's Paradise-Flycatcher. It has been recorded at multiple locations in the Andaman and Nicobar Islands from 2017 to 2022 (Holla & Chaudhry 2017; Grundsten et al. 2018; Gohain 2022; eBird 2024). These regular sightings warrant studying whether it is a vagrant or a rare migrant to the island. The nearest known record of the Amur Paradise-Flycatcher to mainland India is from Nabang fields, Yunnan, China, which is c.250 km from the closest Indian geopolitical border (Su 2024).



105. Amur Paradise-Flycatcher showing a black throat and white vent from Kavadigundla RF.



106. Amur Paradise-Flycatcher with lilac glossy upper crown from Kavadigundla RF.

Both: Harikrishna Patibandla

Considering the records published here, Kavadigundla RF has become the only location in India to have confirmed sightings of all three species that resulted from the split of the erstwhile Asian Paradise-Flycatcher. This forest in Telangana is a distant section of the Eastern Ghats that is geographically separated from Papikonda National Park by the Godavari River. The villagers residing around Gubbala Mangamma Thalli Temple continue to offer animal sacrifices every Sunday, and the constant supply of animal remains attracts many insects and insect eaters. The streams, when present, carry some of these offals deeper into the isolated areas in the reserve forest to stagnant ponds, offering an ideal place with an abundance of

insects for flycatchers. Both the Blyth's Paradise-Flycatcher and the Amur Paradise-Flycatcher were observed in such areas of the RF. The Damagundam RF, where we recorded the Blyth's Paradise-Flycatcher, is one of the two major forests in Vikarabad District, Telangana. The RF is characterized by a rocky terrain, dry deciduous trees, scrub, and grasslands. The Damagundam Temple area is unique within this wider habitat as a narrow perennial stream flows through it, the moisture from which leads to the presence of large tree species such as *Ficus religiosa*, *Butea monosperma*, *Lannea coromandelica*, *Tectona grandis*, and a shrubby undergrowth of *Terminalia catappa*, which is ideal for insects and insectivores.

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Falcated Duck *Mareca falcata* from Hokersar Wetland: An addition to the avifauna of Jammu & Kashmir

Falcated Duck *Mareca falcata* is distributed from eastern Siberia, Mongolia, and northern China to the Kuril Islands and northern Japan, and it winters to southern Japan, Korea, eastern China, northern Vietnam, west to Myanmar, and India (Carboneras & Kirwan 2020). It is listed as Near Threatened as per the IUCN Red List, owing to moderately rapid declines in China because of very high levels of hunting (BirdLife International 2024). The male Falcated Duck is unmistakable in identification, having a bottle-green head, a maned hindneck, and black and grey elongated tertials (Grimmett et al. 2011). In India, Falcated Duck is distributed from the northern plains of Punjab and Haryana to the Assam Valley, the lower parts of the southern Assam hills, southern West Bengal, and western Gujarat (Rasmussen & Anderton 2012; Abhinav & Dhadwal 2017). It is rare in the western parts of the country and uncommon, although regular, in Northeast India (Rasmussen & Anderton 2012).

On 15 February 2023, I was birding in the Hokersar Wetland near Zainakote, Srinagar District of Jammu & Kashmir (34.097°N, 74.716°E), when I saw an unfamiliar duck c.100 m away among the thousands of ducks of various common species. It had a greenish head, white throat, greyish body, elongated black and grey tertials, and a yellowish patch bordered by black at the rear end of the body. The bird was identified as a male Falcated Duck. The duck did not come close to the shore, so clear photographs could not be taken [107]. It was again observed at the same location on 17 and 25 February 2023 but not thereafter (Sofi 2023). On 13 March 2023, a male Falcated Duck was seen in Wular Lake, Bandipora District, Kashmir, by multiple observers (Jeelani 2023). It could not be ascertained whether it was the same individual seen in the Hokersar wetland or a different individual.



Hafizullah Sofi

107. Falcated Duck at Hokersar Wetland on 15 February 2023.

Falcated Duck has not been reported from Jammu & Kashmir previously (Ward 1907; Grimmett et al. 2011; eBird 2024), and the record from Hokersar Wetland is first for the Union Territory. The species has been included in the recently published checklist of birds of Jammu & Kashmir (Kichloo et al. 2024) on the basis of the records mentioned in this note (Muzaffar A. Kichloo pers. comm. dated 07 June 2024). This note provides the details of the sightings. The present findings were not unexpected, as there have been records of this species from further west in northern Pakistan (Grimmett et al. 2011) and from adjacent Himachal Pradesh (Abhinav & Dhadwal 2017).

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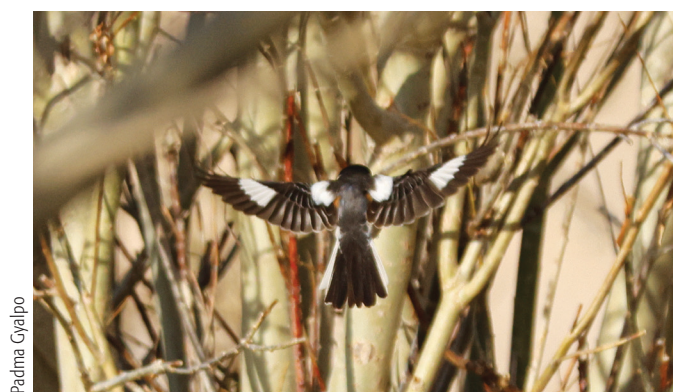
Masked Shrike *Lanius nubicus* from the Union Territory of Ladakh

On 04 June 2024, PG, TAS, and SC visited Hanley (32.773°N, 78.984°E), eastern Ladakh, to search for the Pallas's Fish Eagle *Haliaeetus leucoryphus*. As we could not find the eagle, at approximately 1730 h, we decided to bird around the Khaldo Bagh plantations until 1900 h. Soon enough, a small pied bird flew right in front of us and perched on a *Salix* tree a few metres ahead, giving us a few seconds to photograph it under low light conditions. We identified it as a shrike *Lanius* sp. and confirmed its specific identification as an adult female Masked Shrike *L. nubicus* using the Merlin app. Adult males and females are generally unmistakable (Shirihai & Svensson 2018), and our bird had neat, glossy black upperparts, black crown, black eyeline starting from behind the eye and arching to meet the crown, white face, orangish breast, and white lower belly and vent [108]. In flight, the otherwise blackish bird had two broad white wing mirrors formed by the basal half of the primaries, large, white and puffy wing coverts, white outer tail feathers, and a noticeably grey mantle; the last feature confirms that it is a female [109]. The bird was observed again at 0600 h on 05 June and was seen continuously feeding on insects and caterpillars. More images are available in Gyalpo (2024a, 2024b).



Padma Gyalpo

108. Masked Shrike female showing orangish breast on an otherwise pied plumage.



Padma Gyalpo

109. Masked Shrike female in flight showing broad white wing patches and grey mantle.

While the Masked Shrike has been widely recorded as a vagrant in the Western Palearctic (Lefranc & Worfolk 2022), such widespread vagrancy has not been reported in the Oriental region and this species is a rare vagrant here. There is only one previous record of the Masked Shrike from the Indian Subcontinent, which was from southern Gujarat in 2017 (Bharati 2017). Our record from Hanley in Ladakh is the easternmost record of the species and the second confirmed record for India and the Indian Subcontinent.

We would like to thank Choldan Gasha and Lt Col Avadhesh Malik for providing additional information regarding Masked Shrike and Sanderling. Thanks also to Acho Paljor of Paljor Homestay for his hospitality and for arranging our stay in Hanley Village.

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Letter to the Editors

Incorrect identification of colour aberrations published in *Indian BIRDS*

For a while I had the intention to contact you, but after seeing today two notes published in *Indian BIRDS* about colour aberrations with rather incorrect information, I decided to write to you right

now. Most of the records of aberrantly coloured birds published in *Indian BIRDS* over the years are incorrectly identified (Table 1), although most of them quote van Grouw (2013) or van Grouw (2021). If you wish, I am happy to review any records of colour aberrations before publishing them.

Table 1. List of colour aberrations published in *Indian BIRDS* during 2020–24

Sl No.	Species	Reference	Claimed Aberration	Actual Aberration
1.	Eurasian Wigeon <i>Mareca penelope</i>	Choudhury (2023)	Suspected partial leucism	Brown.
2.	Red-crested Pochard <i>Netta rufina</i>	Sarkar et al. (2023)	Brown	A mutation with a similar effect as Brown (i.e., the melanin synthesis is affected, resulting in less synthesised melanin). Due to the inheritance of the mutation, it is highly unlikely to occur in the wild in male birds. However, without further info we cannot give this aberration a specific name.
3.	Lesser Flamingo <i>Phoeniconaias minor</i>	Jain et al. (2021)	Suspected melanism	Not a colour aberrant. Authors also suspected that the black colouration '...was an outcome of chemical toxins/ environmental contaminants.' This conclusion was quite sufficient as clearly evident based on the dirty, matted state of the plumage. Speculation about melanism was unnecessary.
4.	Eurasian Collared-Dove <i>Streptopelia decaocto</i>	Islam et al. (2020)	Leucism	A form of Ino in combination with further sun-bleaching; a common aberration throughout the species range (van Grouw 2022). All the plumage is not white and only bleached. The black neck-ring and dark primaries clearly show that this bird is not white. The dark bill is also evidence that it is not leucistic.

Table 1. List of colour aberrations published in Indian BIRDS during 2020–24

Sl No.	Species	Reference	Claimed Aberration	Actual Aberration
5.	Common Kingfisher <i>Alcedo atthis</i>	Rathore & Saxena (2022)	Leucism	A form of progressive greying.
6.	Great Slaty Woodpecker <i>Mulleripicus pulverulentus</i>	Kaur et al. (2023)	Melanism	Not a colour aberrant in my opinion. The darker parts are, in my opinion, dirt rather than pigment. We have some specimens in the collection with the original red/yellow patches being dark because of dirt.
7.	Andaman Woodpecker <i>Dryocopus hodgei</i>	Sojitra & Prakash (2023)	Leucism	A form of progressive greying.
8.	Red-necked Falcon <i>Falco chicquera</i>	Kushal et al. (2020)	Melanism	Melanism. Correctly categorised.
9.	White-throated Fantail <i>Rhipidura albicollis</i>	Choudhury (2020)	Leucism	Leucism. Correctly categorised.
10.	Indian Paradise-Flycatcher <i>Terpsiphone paradisi</i>	Kumar & Balamurugan (2023)	Melanism	Melanism. Correctly categorised.
11.	Eurasian Magpie <i>Pica pica</i>	Khan et al. (2023)	Leucism	A form of Ino and then bleached further by the sunlight.
12.	Rufous-tailed Lark <i>Ammomanes phoenicurus</i>	Bhattacharya et al. (2020)	Progressive greying	Progressive greying. Correctly categorised.
13.	Brahminy Starling <i>Sturnia pagodarum</i>	Phalke (2020)	Leucism	Most likely 100% leucism. All the melanin is also absent in the beak (the original blue is pink now). The term leucism is used for almost any aberration, even the ones which are not white (leucism, from the Greek Leukos meaning white), but proper leucism is very rare in wild birds.
14.	Dark-sided Flycatcher <i>Muscicapa sibirica</i>	Patra et al. (2022)	Leucism	A form of progressive greying.
15.	Rock Bunting <i>Emberiza cia</i>	Khan & Lone (2024)	Partial leucism	Progressive greying

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