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Report on range extension of eight lesser known avian species from Durgapur Ecoregion, West Bengal, India

Sagar Adhurya¹, Saikat Adhurya², Subhajit Roy³ and Utpal Singha Roy^{4*}

¹ Department of Zoology, Siksha Bhavana, Visva-Bharati University, Santiniketan, West Bengal, India.

² Kendriya Vidyalaya, CRPF, Durgapur, West Bengal, India.

³ Department of Computer Science, NIT Durgapur Alumnus, Durgapur, West Bengal, India.

⁴ Department of Zoology and PG Department of Conservation Biology, Durgapur Government College, J.N. Avenue, Durgapur, West Bengal, India.
Correspondence email: srutpal@gmail.com

ABSTRACT

The present study reports eight avian species from Durgapur (23.48°N, 87.32°E) which has not been previously reported from this ecoregion. During a duration of two years of continuous study 186 different bird species were identified and recorded from the present study location. Durgapur ecoregion comprises of heterogeneous habitat patches which unmistakably supports higher bird diversity. Of the eight newly recorded bird species *Mirafra erythroptera* was most abundant. *Mirafra erythroptera*, *Prinia sylvatica*, *Dumetia hyperythra* and *Zapornia fusca* were recorded to appear throughout the year while *Larus ichthyaeus* and *Otus brucei* only appeared in the winter and *Emberiza melanocephala* and *Muscicapa ruficauda* were recorded as passage migrants (autumn and spring respectively). Again *Mirafra erythroptera*, *Otus brucei* and *Emberiza melanocephala* were recorded from grasslands and *Prinia sylvatica*, *Dumetia hyperythra*, *Larus ichthyaeus*, *Muscicapa ruficauda* and *Zapornia fusca* were recorded from wetland habitat types respectively. More extensive studies on avian species will surely enrich our knowledge about their diversity, distribution pattern and range extension from the present study location.

Key words: Biodiversity, bird range extension, Durgapur ecoregion, habitat types, urban ecosystem.

INTRODUCTION

Durgapur, the “Steel city” of West Bengal, situated in a transitional zone between Chotanagpur plateau and Gangetic plain, surrounded by Ajay River and Damoder River at north and south respectively, is one of the ornithologically less popular, hence least studied ecoregion of India [1-7]. Plants like *Shorea robusta*, *Bombax ceiba*, *Albizia marginata*, *Butea monosperma*, *Zizyphus jayuba*, *Mangifera indica*, *Artocarpus heterophyllus*, *Ficus religiosa*, *Borassus fabellifer*, *Tamarindus indica*, *Ficus benghalensis*, *Eupatorium* sp., *Cassia* sp., *Lantana* sp. etc. are most abundant. Wetland plants like *Azolla* sp., *Hydrilla* sp., *Nelumbo* sp., *Nymphaea* sp., *Enhydra* sp., *Typha latifolia* etc. are dominant. Such rich floral diversity is reflected in the enriched faunal diversity of this region [8-17]. Being located in such a diverse region, there is every probability of finding some unique species, yet to be reported from this region.

186 avian species have been recorded during our study from January 2013 to August 2015. Out of these birds 8 species were not reported previously from this region to the best of our knowledge, and is the main subject of interest of this article.

MATERIALS AND METHODS

Durgapur subdivision is located in Bardhaman district of West Bengal, India. It consists of five blocks [18]. Though present study generally focused on avifaunal diversity study of Durgapur city of Durgapur-Faridpur block; avifauna of old aero-field (an aerodrome used by British army at the time of World War II) near Andal situated in Andal block near the Kazi Nazrul Islam Airport were also studied.

Birds were observed using field binoculars and suitable digital cameras were used for photography and records. Birds were identified using suitable field guides [19-22]. Occurrence, migratory status and range distribution were studied from the field guides [19-22], online resources [23-24] and publications on birds of this region [1-7].

RESULTS AND DISCUSSION

Out of the 186 avian species belonging to 57 families recorded during our two years of continuous study, 8 species claimed special attention, since, as per available literature and online databases these species have got no previous reporting records from this region, excluding Common Babbler (*Turdoides caudata*), which have been reported earlier this year by our study team [7] [Figure: 1] [Table: 1].

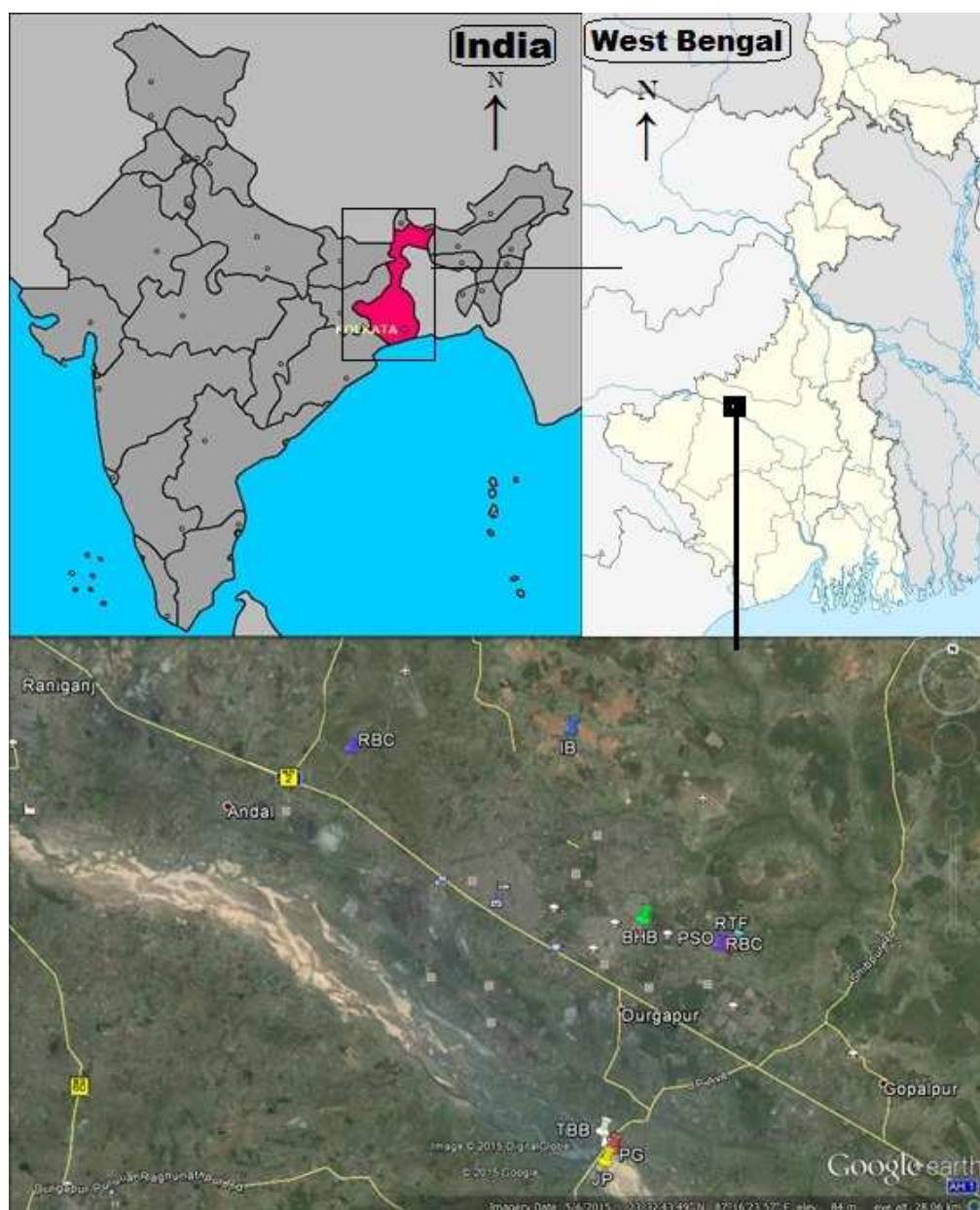


Fig. 1: Map of the study site, showing location of observations of individual birds. [IB=Indian Bushlark, JP=Jungle Prinia, BHB=Black-headed Bunting, RTF=Rusty-tailed Flycatcher, PG=Pallas's Gull, RBC=Ruddy-breasted Crake, PSO=Pallid Scops-Owl and TBB=Tawny-bellied Babbler].

Table 1: Tabular presentation of the 8 avian species not reported previously from Durgapur ecoregion.

Sl no.	Common Name	Scientific Name	Period of Occurrence
1	Indian Bushlark	<i>Mirafra erythroptera</i>	Throughout the year
2	Jungle Prinia	<i>Prinia sylvatica</i>	Throughout the year
3	Black-headed Bunting	<i>Emberiza melanocephala</i>	September
4	Pallas's Gull	<i>Larus ichthyaetus</i>	March, October
5	Rusty-tailed Flycatcher	<i>Muscicapa ruficauda</i>	April
6	Ruddy-breasted Crake	<i>Zapornia fusca</i>	March, July
7	Pallid Scops-Owl	<i>Otus brucei</i>	January, December
8	Tawny-bellied Babbler	<i>Dumetia hyperythra</i>	January, March

a) Indian Bushlark (*Mirafra erythroptera*)

This avian species belongs to family Alaudidae of order Passeriformes. This bird was first recorded in dry grassland near A-Zone of Durgapur (23°36'0.14"N 87°17'44.97"E) on 10th June, 2014 and then it was found in every field visit throughout the year. The bird is about 14 cm in size. This species can be easily differentiated from Bengal Bushlark (*Mirafra assamica*), which is more abundant in this ecoregion by more whitish streaked breast, distinct flight pattern, distinct call pattern and more rufous on wing [19-20]. Song is *tit-tit-tit* followed by long, drawn-out *tsweeeih-tswweeih-tswweeih* [19].

As per the range map found in the above mentioned literatures and websites this species is distributed in India to east up to western part of West Bengal (Purulia district, western extreme of Bankura district and western part of West Midnapur district) but not to this region.

b) Jungle Prinia (*Prinia sylvatica*)

This avian species belongs to family Cisticolidae of order Passeriformes. This bird was first recorded from Durgapur Barrage (23°28'20.15"N 87°18'17.02"E) on 29th December, 2014. Later on this bird was recorded frequently in all seasons and identified audio-visually in the field. This bird is about 13 cm in size. This bird can be easily differentiated from Grey-breasted Prinia (*Prinia hodgsonii*) and Plain Prinia (*Prinia inornata*), which are more common in this ecoregion than Jungle Prinia by both morphology and distinct call pattern. Morphologically it is larger than similarly looking Grey-breasted Prinia, and tail is also long. From same sized Plain Prinia it can be easily differentiated by lack of supercilium or very faint supercilium [19-20] (Figure 2). Song is loud triple note *pit-pretty*, *pit-pretty* repeated frequently [20].

As per the range map available in above mentioned online databases and field guides this species is distributed up to western part of Purulia district to east.

c) Black-headed Bunting (*Emberiza melanocephala*)

This 16-18 cm sized avian species belongs to family Emberizidae of order Passeriformes. One immature individual was recorded from a grassland near Hemsheela Model School, Durgapur (23°32'37.23"N 87°19'4.13"E) on 28th September, 2014. The immature of Black-headed Bunting is though very similar in looking with immature of Red-headed Bunting (*Emberiza bruniceps*); it can be differentiated from the Red-headed Bunting by heavier bill, paler throat, buffish breast band, and apparent sparse streaking on the forehead and crown [19] (Figure 3).

As per range map of this species available online and above mentioned field guides this bird is distributed up to central part of Madhya Pradesh to the east and winter visitor in India though recent studies suggest that this birds also have activities to more eastern part up to Bangladesh [5, 25].

d) Pallas's Gull (*Larus ichthyaetus*)

This 69 cm sized gull is the largest gull found in India and third largest species of gull in the world, belongs to family Laridae under the order Charadriiformes. Eight adult individual were spotted at Durgapur Barrage (23°28'34.23"N 87°18'25.50"E) on 22nd March, 2015 and one non breeding adult was observed at same places on 4th October. Larger size, black hood, yellowish leg, larger yellowish bill which is reddish-black on tip, bold white eye crescent, white body with pale ashy upperwing differentiate it from other gulls [19-20] (Figure 4).

Range map available in online databases and literature indicates that this species is winter migrant in Gangetic plains, north Bengal, Bangladesh, central and coastal India but not in this region.

e) Rusty-tailed Flycatcher (*Muscicapa ruficauda*)

This 14 cm sized small bird belongs to family Muscicapidae under the order Passeriformes. One adult individual was recorded from a tree beside a water stream in Fuljhore area (23°32'10.00"N 87°20'50.02"E) on 12th April, 2014.

Rufous uppertail coverts and tail with black tip resembles female Redstart but crest like appearance of the nape differentiates it from Redstarts [19] (Figure 5).

The range map of this species available online and various field guides suggest that this bird is winter migrant in Western Ghat region, breeds in Pakistan and West and Central Himalayan region and passage migrant in Eastern Ghat, Western India, and some parts of central India but there are no record found from Eastern India as per best of our knowledge.

f) Ruddy-breasted Crane (*Zapornia fusca*)

This 22 cm sized bird belongs to family Rallidae under the order Gruiformes. Four adult individual were observed on 23rd March, 2015 in a marshland near Fuljhore (23°32'8.54"N 87°20'32.13"E) and one adult individual was recorded again at old aero-field near Andal (23°35'42.26"N 87°13'28.71"E) on 15th July, 2015. The chestnut body with olive-green upperpart, white barring on the undertail covert and red leg differentiate the adult from other cranes. Juvenile has olive green upper part, white barring on breast in addition with undertail covert and pinkish leg [19] (Figure 6).

Range map of this species suggests that this bird is found throughout the year in Himalayan region, North East India, Sunderbans, Western Ghat, and some part of South India but this bird is not distributed to the present study region.

g) Pallid Scops-Owl (*Otus brucei*)

This 22 cm sized desert owl belongs to family Strigidae under the order Strigiformes. One individual was first spotted at night on a human settlement near a grassland in Fuljhore region (23°32'6.22"N 87°20'40.84"E) on 6th December, 2013 and thereafter it had been spotted 3 times in the same place twice on December, 2013 and once on January, 2014. Bird was identified with its species specific typical call. Call is hollow, ow-pitched *whoop-whoop-whoop* [19]. Though the sound recorded has been made available online [26], unfortunately no photograph could be taken.

Range map found in available above mentioned online databases and field guide suggest that this bird is distributed only in western desert region of India.

h) Tawny-bellied Babbler (*Dumetia hypertythra hypertythra*)

This small sized babbler (13 cm) belongs to family Timaliidae under the order Passeriformes. Group of two individuals were first spotted on 30th March, 2014 and later a group of four individuals were observed on 3rd January, 2015 at Durgapur Barrage (23°28'52.37"N 87°18'14.48"E). The bird has whitish bill, dark chestnut coloured body, brown coloured cap and nape, olive brown upperpart, pale pinkish leg and faintly streaked long dark brown tail. Absence of white chin and throat indicates that it belongs to subspecies *hypertythra* [19] (Figure 7).

Available range map indicates that this bird is found throughout the year only in west corner of Purulia district in West Bengal.



Fig. 2: Jungle Prinia at Durgapur Barrage. Photo credit: Subhhajit Roy

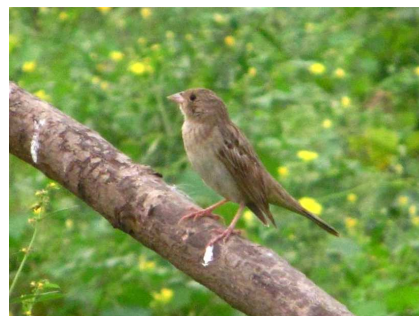


Fig. 3: Black-headed Bunting (immature) near HSMS. Photo credit: Sagar Adhurya.



Fig. 4: Pallas's Gull at Durgapur Barrage. Photo credit: Sagar Adhurya



Fig. 5: Rusty-tailed Flycatcher at Fuljhore. Photo credit: Sagar Adhurya
Left: Bird showing Redstart like tail; Right: Bird showing crest like head.



Fig. 6: Ruddy-breasted Crake at Andal old aero-field. Photo credit: Amar Kumar Nayak



Fig. 7: Tawny-bellied Babbler at Durgapur Barrage. Photo credit: Sagar Adhurya

CONCLUSION

The present findings are most encouraging to carry out future extensive studies on avian diversity and distribution from this ecoregion. However, this region might witness a rapid decrease in bird diversity in coming years due to the deteriorating habitat conditions and immense anthropogenic pressure. Future studies might be focused on habitat deterioration and its influence on avian diversity from the present study location.

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