ISSN 0971-6378 (Print); 0973-2543 (Online)
Vol. XXXVI, No. 1 January 2021

Magazine of Zoo Outreach Organization
www.zoosprint.zooreach.org

# ZOO'S PRINT

## Communicating Science for Conservation

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## Contents



Cover photo by Debayan Gayen.

# Vishal Ahuja wins the Sanctuary Nature Foundation's Mud on Boots Project Award!

## VISHAL AHUJA

LOCATION
Chamba Valley, Chamba district, Himachal Pradesh

OCCUPATION
Project Assistant, Wildlife Information Liaison Development Society

NOMINATED BY
Payal B. Molur, Wildlife Educator

**A resident of Chamba Valley, Vishal was hired by the Himalayan Grey Langur Project** when it received the Conservation Leadership Award in 2012, and receives limited support from Wildlife Information Liaison Development Society. For the past eight years, he has been documenting the wild dietary preferences of the Himalayan grey langur, rhesus macaque and Himalayan black bear in the fragmented landscape around Khajjiar-Kalatop Wildlife Sanctuary. He has observed that the lack of adequate habitat has resulted in increased human-wildlife interactions, such as crop-raiding of agricultural fields and accidental attacks by bears.

COURTESY: VISHAL AHUJA

With support from SNF, Vishal seeks to initiate a long-term habitat restoration project that will include setting up a native plant nursery, collecting and germinating wild native plants, and rewilding abandoned terraced farmlands with the consent and support of the landowners. Dedicated, passionate and diligent, Vishal is a wonderful community liaison. He believes his project will ultimately provide food and habitat to wild species, while reducing crop depredation. Vishal's work will be guided by Dr. Sanjay Molur, Executive Director, Zoo Outreach Organisation.

112 Sanctuary Asia, December 2020

When I first met him with Martina Anandam and Tariq Ahmad in Chamba, Vishal, one of the three Conservation Leadership Program awardees to work on the Chamba Sacred Langur, had been introduced to us by his mentor Bipin Rathore of the Government College. Vishal had volunteered on several Brown Bear jaunts while also teaching part time at the college. It's wonderful to have youngsters working on wildlife and conservation issues wherever the interests and the opportunities lie, but to continue working in one's own backyard takes determination. Vishal, a resident of Chamba has been involved, since its inception, with the Himalayan Langur Project in 2012. He has, with his team, studied the distribution, threats, and the conservation status of 'Gaula', the Chamba Sacred Langur.

He went on to study the dietary preferences of the langur and has until date established up to 25 native species the langur's feed on in the wild. His botany background has helped him to document the plant species; he maintains a herbarium collection at home with more than 250 native species of Himalayan flora growing in the region in and around the Khajjiar-Kalatop Wildlife Sanctuary, one of the last refuges for the langur in the valley.

It's his interest and dedication that merited a nomination to the Sanctuary award, and it gives me great pleasure to announce his winning the award.  Thank you, Sanctuary Asia, for recognizing Vishal and his work.

I look forward to the new areas of research and conservation action based on the eight years of baseline work, and Vishal has already made the right moves with one of his inherent skills of collaborations, working together with the forest department and the local farmers.

He is a great musician continuously honing his skills on playing different instruments like the guitar, flute, harmonium, and drums in his man cave at home.  He is also part of the local music band of friends and performs at various occasions.

Great going Vishal, and Congratulations!

# First record of an albino Five-striped Palm Squirrel from Dehradun, Uttarakhand

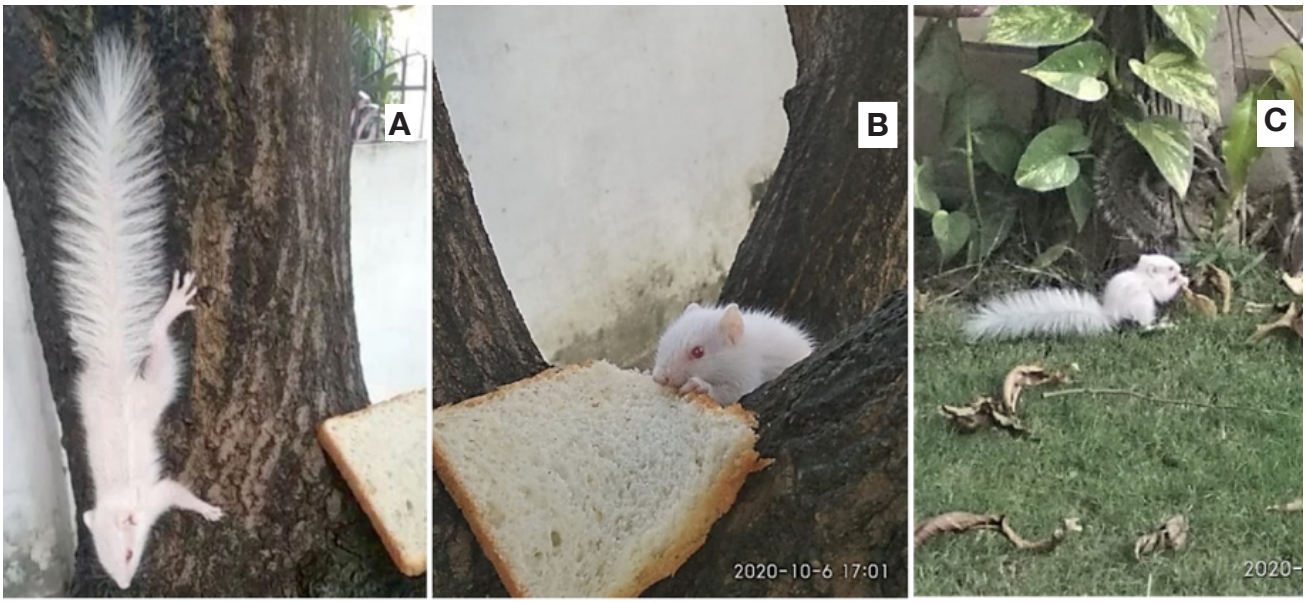


**Image 1. Five-striped Palm Squirrel: A—sub-adult albino on the trunk of a mango tree | B— a clear red eye is visible | C—two normal squirrels along with the albino.**

The Five-striped Palm Squirrel *Funambulus pennantii* (Wroughton, 1905) is a resident of India, Pakistan, Afghanistan, Iran, Bangladesh, and Nepal (Molur et al. 2005). On 03 October 2020, we noticed a sub-adult white Five-striped Palm Squirrel in the lawn of our house (Images 1A,B,C).

Albinism is defined as a hypo-pigmentary disorder where there is a total absence of melanin in skin, eyes and hairs because the functional tyrosinase enzyme is heritably absent in the animal's pigment cells. This affects the hairs and skin and results in a condition of red eyes and pure white plumage or fur. The albinism is caused by the inheritance of autosomal recessive gene in animal species (Hale et al. 2005; van Grouw 2013). The above characteristics described for albinism were found in our observation.

The Five-striped Palm Squirrel pairs breed and litter in a nest made on an false Ashoka tree *Monoon longifolium* in our garden (30.274644 N, 77.994867 E) from 2017. This year, four babies, including this albino, were born. The nest is situated approximately 14 feet above the ground.

Since 1886 only six published records representing a total of seven albino *Funambulus pennantii* have been found in India (Mahabal et al. 2019), one female from Gujarat (Newnham 1886; Mahabal et at. 2019), one female from Chandigarh (Chaturvedi & Ghose 1984), one sub-adult

from Udaipur, Rajasthan (Sharma 2004), one adult and one young from Deogarh Fort, Maharashtra (Mahabal et al. 2005), two adults from Udaipur, Rajasthan (Mehra et al. 2007, 2010). This record of albino *Funambulus pennantii* from Dehradun is a first from Uttarakhand, India.

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**Acknowledgements:** We thank Ms. Preeti Sharma, for her support in the collection of the information and images. We acknowledge Mr. Nadeem Qadri, environmental lawyer, Jammu & Kashmir to improve the initial draft.

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Citation: Vipin, S.K. Gupta, C.P. Sharma & V. Sharma (2021). First record of an albino Five-striped Palm Squirrel from Dehradun, Uttarakhand, India. Small Mammal Mail #431, In: *Zoo's Print* 36(1): 03–04.

# New site records of Smooth-coated Otter in Tiruvannamalai, Tamil Nadu

**Smooth-coated Otter *Lutrogale perspicillata* predating on Indian Flapshell Turtle in Arunagiri Park Pond, Tiruvannamalai, Tamil Nadu.**

In Indian Subcontinent, three species of Otters are recorded, Eurasian Otter *Lutra lutra*, Oriental Small-clawed Otter *Aonyx cinera* and Smooth-coated Otter *Lutrogale perspicillata*. The Smooth-coated Otter *Lutrogale perspicillata* (Mammalia: Carnivora: Mustelidae) distribution is continuous from Indonesia, through southeast Asia, and westwards from southern China to India and Pakistan, with an isolated subpopulation in Iraq (de Silva et al. 2015).

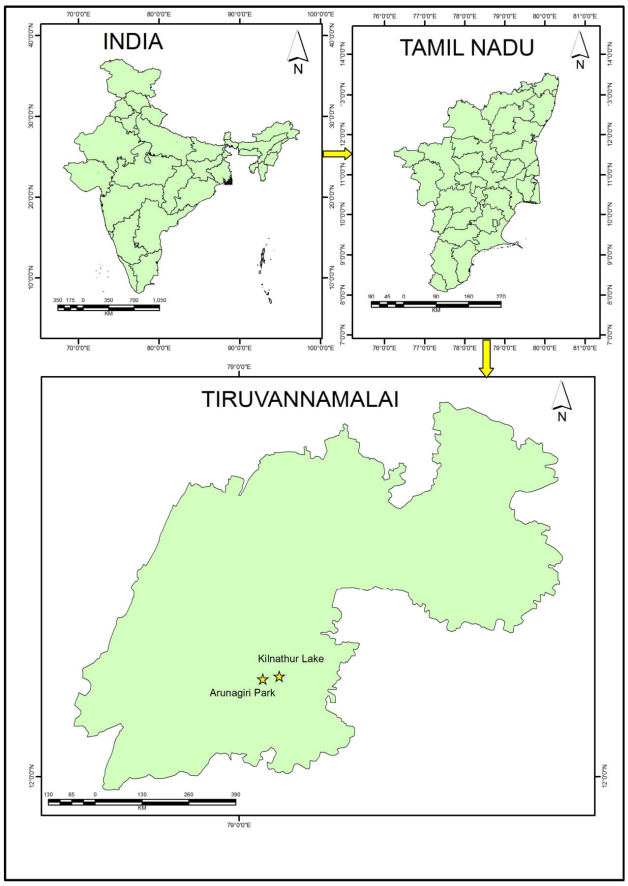
Generally, it uses large rivers and lakes, peat swamp forests, mangroves and estuaries, and it even uses the rice fields for foraging (Foster-Turly 1992). In this paper we added new site records of Smooth-Coated Otter *Lutrogale perspicillata* in Tiruvannamalai, Tamil Nadu. During our regular bird watching in Tiruvannamalai and surrounding locations we sighted a Smooth-coated Otter *Lutrogale perspicillata* for the first time at Kilnathur Lake actively diving and it was identified by its grey brown coat with light grey under parts (Menon 2014).

Second time we sighted at Arunagiri Park Pond and photographed when predating Indian Flapshell Turtle *Lissemys punctata.* All the sighting locations are uncommon to this species (Table 1).

These locations are surrounded by human settlements, farmlands and scrub jungle.

**Table 1. Locations of Smooth-coated Otter *Lutrogale perspicillata* in Tiruvannamalai, Tamil Nadu.**

| Place | GPS location | No. of individuals | Date | Time | Habitat type |
|---|---|---|---|---|---|
| Kilnathur Lake | 12.224N 79.053E | 1 | 27/viii/2018 | 16:54 | Farmlands |
| Arunagiri Park Pond | 12.230N 79.092E | 1 | 02/xii/2019 | 12:10 | Scrub jungle |




**Location of Smooth-coated Otter *Lutrogale perspicillata* in Tiruvannamalai, Tamil Nadu.**

The Smooth-coated Otter is listed on the IUCN (International Union for Conservation of Nature) Red List as Vulnerable since 1996. It is also listed on the CITES Appendix II, and classified as an endangered species under the Indian Wildlife Protection Act. It is a protected species in almost all the range countries which prohibits its killing (de Silva et al. 2015). Detailed studies are needed to understand the population status and habitat quality to conserve the species in India.

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**Acknowledgements:** We thank Department of Zoology and Wildlife Biology, A.V.C. College (Autonomous), Mannampandal, Mayiladuthurai for support to the survey and additionally we thank Ashok, Arun and Brawin Kumar for their help during field survey. We are thankful to Idea Wild for the equipment support.

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**Citation:** Kalaimani, A., R. Nagarajan, S. Kumar & M. Salman (2021). New site records of Smooth-coated Otter in Tiruvannamalai, Tamil Nadu. Small Mammal Mail #432, In: *Zoo's Print* 36(1): 05–06.

# Incidences of White-rumped Munia occupying the nest of Baya Weaver in Villupuram District, Tamil Nadu

White-rumped Munia *Lonchura striata* (Linnaeus, 1766) (Aves: Passeriformes: Estrildidae) is a small gregarious bird that usually occurs in agricultural lands, woodlands, grasslands, and scrublands (Ali & Ripley 1983). This species is native to tropical continental Asia and distributed in southern India, Sri Lanka, Andaman & Nicobar Islands, Thailand, southern China, Japan, Malay Peninsula, Indonesia, Nepal, and Myanmar. The IUCN Red List of Threatened Species classifies White-rumped Munia as 'Least Concern' (BirdLife International 2016).

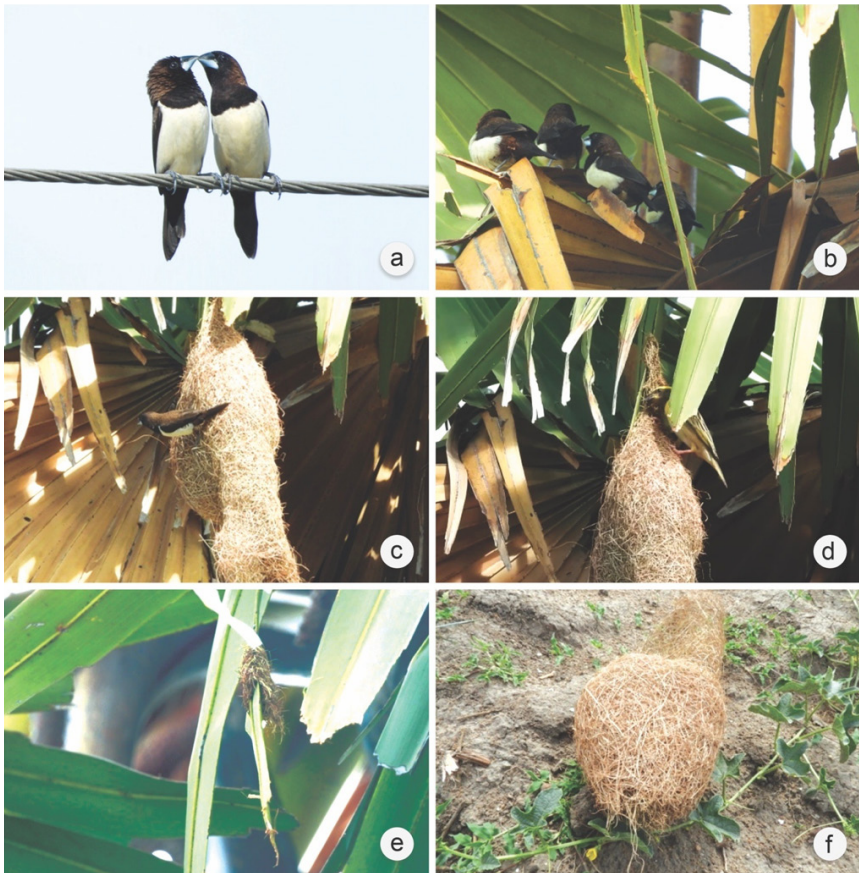


**Image 1. Competition between *Lonchura striata* and *Ploceus philippinus*: a—a pair of *L. striata* roosting on power cable | b—two pairs of *L. striata* roosting in *Borassus flabellifer* tree | c—*L. striata* occupied and guarding nest | d—male *P. philippinus* cuts stalk of the nest | e—torn out stalk | f—fallen nest. © M. Pandian.**

Instances of the White-throated Munia *Euodice malabarica* L. using the abandoned nests of Baya Weaver *Ploceus philippinus* for breeding were reported in Maharashtra (Ali 1931), Rajasthan (Mishra 2001), and Tamil Nadu (Regupathy & Davis 1984). This communication reports behavioural interaction between Baya Weaver and White-rumped Munia in an agricultural landscape of Chendur Village (12.113403 N, 79.8270 E), Villupuram District, Tamil Nadu, India.

The total area of Chendur Village is c. 22km$^2$ with a human population of c. 440,000. The maximum and minimum temperatures are 36$^0$C and 20$^0$C, respectively, and the average annual rainfall is 1,060mm (Villupuram 2020). Agriculture is the principal occupation of the local people. The present observations were made between 06.00h and 18.00h

during May to July 2020, without disturbing the inhabiting birds and their nests using Super Zenith 20 x 50 field binoculars. Total count method (Bibby et al. 2000) was used to enumerate the birds. The plant materials used by White-rumped Munia (WRM) in the egg chamber of the nest of Baya Weaver (BW) were identified using Nair & Henry (1989). Photography and videography were made using Nikon P1000 digital camera.

On 11 June 2020, one flock containing 70 Baya Weavers and 18 White-rumped Munia individuals was seen foraging in Pearl Millet *Pennisetum glaucum* crop fields in Chendur. Continuous monitoring of the flock of BW and WRM between 10 and 17 June revealed that the flock foraged on Pearl Millet crops every day between 06.00 and 11.00 h and between 15.30 and 16.00 h. BWs returned to the nest-bearing Asian Palmyra Palm Borassus flabellifer after foraging, whereas the WRM roosted on power cables and trees of Jujube *Ziziphus jujuba*, Mesquite *Prosopis juliflora*, and in the adjacent sugarcane fields (Image. 1a). During the 80 hours of observation, these two species were seen gleaning grains and moved as a single flock.

Two pairs of WRM were seen on 18 June 2020 roosting on nesting tree Palmyrah Palm on which BWs had already constructed nests. These two pairs of WRM visited the nests of BW the same day especially when the latter were away from the nest colony. On their return, however, the male BW were observed chasing the two pairs of visiting WRM and this effort by BW persisted until 26 June. After foraging in the morning and evening, the two pairs of WRM continued roosting on the palm tree (Image 1b). A total of 46 nests of BW in various developmental stages (helmet stage-21, egg-chamber closed stage-14 and complete nests-11) occurred on the observed palm. On 27 June (14.00h) one pair of WRM occupied one of the newly constructed complete nests of BW especially when the pair of BW was away from the tree crown (Image 1c). After few hours (at 16.20h) the invaded WRM fought with the male BW and occupied the nest. From 28 June, the pair of WRM occupying the nest of BW started bringing plant materials such as dry leaves, grass blades, and inflorescences; they brought dry plant materials in 7–11 trips per day and these activities continued until 2 July. On 3 July, one male BW fought with the WRM. Later the male BW perched on the stalk of the nest tip attached to the palm frond, whereas the invading WRM pair was roosting on the adjacent palm frond. Using its beak, the male BW lacerated the stalk by biting and pulling the fibres used in making the nest.

This process continued until the nest was felled by 14.20h (Image 1d–f). The fallen nest contained dried plant materials added by the WRM pair at the floor of the egg chamber, which included the Australian Pine Tree *Casuarina equisetifolia*, Orangeberry *Glycosmis mauritiana*, Marvel Grass *Dicanthium annulatum*, the inflorescences of Wire Grass *Aristida funiculata*, and Purple Rhodes Grass *Chloris inflata*. Because the nest was felled by the male BW, the invading

WRM pair was seen roosting on adjacent fronds of the same palm. From 4 July, the WRM pair abandoned the tree.

Another pair of WRM, which was found roosting on palm fronds and visiting nests of BW randomly between 18 and 24 June but did not occupy any nest. Possibly this pair abandoned the effort to occupy a nest of BW because of resistance from the latter and was not sighted after 25 June morning.

Ali (1931) had observed that a pair of White-throated Munia had occupied a vacated nest of BW in Kolaba. Mishra (2001) stated that he collected abandoned nests of BW hung on a
Crimson Bottlebrush *Melaleuca citrina* in his private garden in Bharatpur. Shortly after the pair of White-throated Munia occupied the BW nest, made alterations by adding some dry plant materials and commenced breeding. Regupathy & Davis (1984) observed the deserted nests of ploceine species offered shelter and breeding space for White-throated Munia. In all these studies individuals of White-throated Munia used the vacated nests of BW.

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**Acknowledgements:** I thank
D. Balaji, Villupuram District and A. Giridharan, Minnal, Ranipet District for assisting in the survey by data collection and taking photographs/videographs of the birds in the field.

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**Citation:** Pandian, M. (2021). Incidences of White-rumped Munia occupying the nest of Baya Weaver in Villupuram District, Tamil Nadu. Bird-o-soar #65, In: *Zoo's Print* 36(1): 07–09.

# Avian diversity along with Hanuman Langur troops in and around Jodhpur, Rajasthan

This note is an observation of avian diversity in Jodhpur, Rajasthan and the nearby area along with different sites of unimale bisexual troops of Hanuman Langur. A series of transects were laid in Jodhpur and nearby area for the survey of population dynamic and behavioural studies on Hanuman Langurs *Semnopithecus entellus*. Simultaneously, the bird diversity was also recorded during the field work. Birds were recorded by visual encounter and road transect survey protocols. For achieving the goals of present study surveys were carried out from February 2017 to December 2018. For proper and reliable documentation, photographs of the birds were taken whenever possible. The species identification was based on field guides (Ali 1996; Grimmett et al. 1998).

During the study, a total of 112 species of birds belonging to 44 families were noted of which 95 species of birds are present, followed by 17 winter visitors ( Fig.1). The maximum number of birds were observed from family Accipitridae (10 species) followed by Ardeidae and Anatidae (7 species), Sturnidae and Motacillidae (6 species), Muscicapidae (5 species), Rallidae, Scolopacidae, Columbidae, Timaliidae and Corvidae (4 species in each) and Cuculidae, Alecdinidae and Hirundinidae (3 species in each), respectively. Twelve families with two species and 18 families were represented by single species each. Details of bird species, abundance status, conservation status are in Table 1.

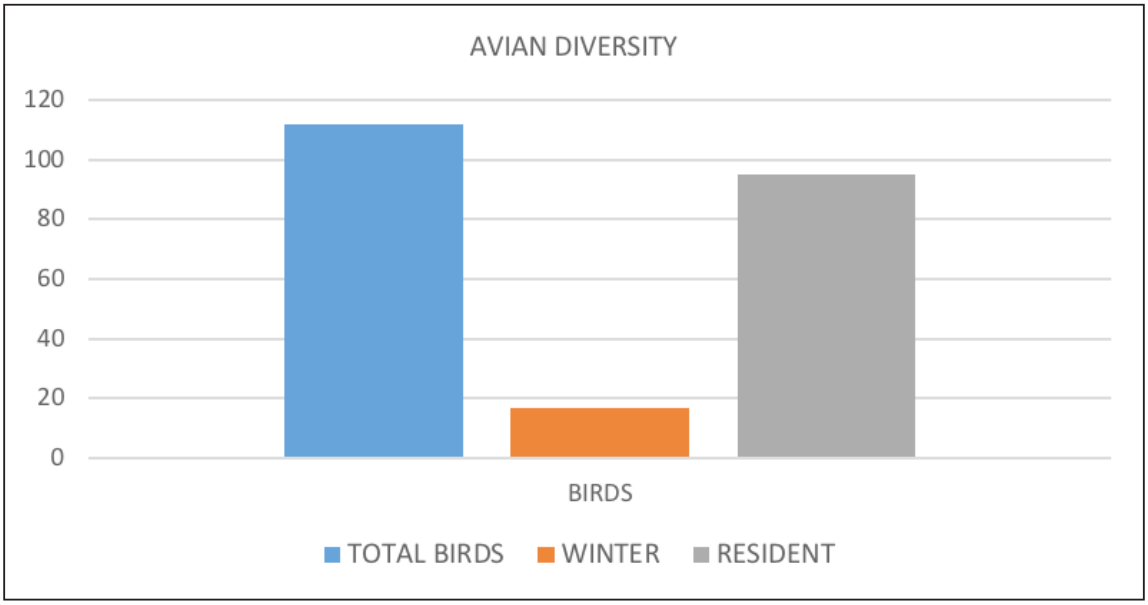


**Fig. 1. Avian diversity status near Jodhpur during study period.**

**Table 1. Avian fauna observed in and around Jodhpur, Rajasthan, India.**

| | Name | Scientific Name | Habitat | Abundance | Residential status | Conservation Status |
|---|---|---|---|---|---|---|
| | **Family-Podicipedidae** | | | | | |
| 1 | Little Grebe | *Tachybaptus ruficollis* | WM/UA | C | Resident | LC |
| | **Family-Phalacrocoracidae** | | | | | |
| 2 | Large Cormorant | *Phalacrocorax carbo* | WM | NC | Resident | LC |
| 3 | Little Cormorant | *Phalacrocorax niger* | WM | C | Resident | LC |
| | **Family-Ardeidae** | | | | | |
| 4 | Grey Heron | *Ardea cinerea* | WM | NC | Resident | LC |
| 5 | Purple Heron | *Ardea purpurea* | WM | NC | Resident | LC |
| 6 | Indian Pond Heron | *Ardeo lagrayii* | WM | MC | Resident | LC |
| 7 | Cattle Egret | *Bubulcus ibis* | WM | MC | Resident | LC |
| 8 | Large Egret | *Casmerodius albus* | WM | NC | Resident | LC |
| 9 | Intermediate Egret | *Egretta intermedia* | WM | NC | Resident | LC |
| 10 | Little Egret | *Egretta garzetta* | WM/AF/UA | C | Resident | LC |
| | **Family-Ciconiidae** | | | | | |
| 11 | Painted Stork | *Mycteria leucocephala* | WM | C | Winter | NT |
| 12 | Woolly-necked Stork | *Ciconia episcopus* | WM | R | Winter | VU |
| | **Family-Threskiornithidae** | | | | | |
| 13 | Black Ibis | *Pseudibis papillosa* | WM/AF | NC | Resident | LC |
| 14 | Eurasian Spoonbill | *Platalea leucorodia* | WM/AF | R | Winter | LC |
| | **Family-Phoenicopteridae** | | | | | |
| 15 | Greater Flamingo | *Phoenicopterus roseus* | WM | C | Winter | LC |
| | **Family-Anatidae** | | | | | |
| 16 | Northern Pintail | *Anas acuta* | WM | C | Winter | LC |
| 17 | Common Teal | *Anas crecca* | WM | MC | Resident | LC |
| 18 | Spot-billed Duck | *Anas poecilorhyncha* | WM | MC | Resident | LC |
| 19 | Northern Shoveler | *Anas clypeata* | WM | NC | Winter | LC |
| 20 | Common Pochard | *Aythya ferina* | WM | C | Resident | VU |
| 21 | Cotton Pygmy Goose | *Nettapus coromandelianus* | WM | R | Winter | LC |
| 22 | Comb Duck | *Sairkidiornis melanotos* | WM | NC | Resident | LC |
| | **Family-Accipitridae** | | | | | |
| 23 | Black-shouldered Kite | *Elanus axillaris* | AF/FA/UA | C | Resident | LC |
| 24 | Shikra | *Accipiter badius* | AF/FA/UA | MC | Resident | LC |
| 25 | Long-legged Buzzard | *Buteo rufinus* | FA | R | Resident | LC |
| 26 | Himalayan Griffon | *Gyps himalayensis* | FA | R | Resident | NT |
| 27 | Eurasian Griffon | *Gyps fulvus* | FA | R | Resident | LC |
| 28 | Cinereous Vulture | *Aegypius monachus* | FA | R | Resident | NT |

| | Name | Scientific Name | Habitat | Abundance | Residential status | Conservation Status |
|---|---|---|---|---|---|---|
| 29 | Red-headed Vulture | *Sarcogyps calvus* | FA | R | Winter | CR |
| 30 | Long-billed Vulture | *Gyps indicus* | FA | R | Resident | CR |
| 31 | Egyptian Vulture | *Neophron percnopterus* | AF/FA/UA | NC | Resident | EN |
| 32 | Short-toed Snake-Eagle | *Circaetus gallicus* | AF/FA/UA | NC | Winter | LC |
| | **Family-Falconidae** | | | | | |
| 33 | Kestrel | *Falco tinnunculus* | AF/FA | NC | Winter | LC |
| | **Family-Phasianidae** | | | | | |
| 34 | Grey Francolin | *Francolinus pondicerianus* | AF/FA | MC | Resident | LC |
| 35 | Indian Peafowl | *Pavo cristatus* | AF/FA/UA | C | Resident | LC |
| | **Family-Gruidae** | | | | | |
| 36 | Demoiselle Crane | *Anthropoides virgo* | WM/AF | MC | Winter | LC |
| | **Family-Rallidae** | | | | | |
| 37 | White-breasted Waterhen | *Amaurornis phoenicurus* | WM | C | Resident | LC |
| 38 | Common Moorhen | *Gallinula chloropus* | WM | MC | Resident | LC |
| 39 | Purple Swamphen | *Porphyrio porphyrio* | WM | MC | Resident | LC |
| 40 | Common Coot | *Fulica atra* | WM | MC | Resident | LC |
| | **Family-Jacanidae** | | | | | |
| 41 | Pheasant-tailed Jacana | *Hydrophasianus chirurgus* | WM | NC | Winter | LC |
| 42 | Bronze-winged Jacana | *Metopidius indicus* | WM | NC | Winter | LC |
| | **Family-Recurvirostridae** | | | | | |
| 43 | Black-winged Stilt | *Himantopus himantopus* | WM/AF/UA | C | Resident | LC |
| | **Family-Charadriidae** | | | | | |
| 44 | Red-wattled Lapwing | *Vanellus indicus* | WM/AF | MC | Resident | LC |
| | **Family-Scolopacidae** | | | | | |
| 45 | Common Redshank | *Tringa tetanus* | WM | NC | Resident | LC |
| 46 | Wood Sandpiper | *Tringa glareola* | WM | NC | Resident | LC |
| 47 | Common Sandpiper | *Actitis hypoleucos* | WM | C | Resident | LC |
| 48 | Common Snipe | *Gallinago gallinago* | WM/AF | NC | Resident | LC |
| | **Family-Laridae** | | | | | |
| 49 | River Tern | *Sterna aurantia* | WM | C | Resident | NT |
| 50 | Little Tern | *Sterna albifrons* | WM | NC | Resident | LC |
| | **Family-Columbidae** | | | | | |
| 51 | Green Pigeon | *Treron pompadora* | WM/AF/UA | NC | Resident | LC |
| 52 | Blue Rock Pigeon | *Columba livia* | WM/AF/UA | MC | Resident | LC |

| | Name | Scientific Name | Habitat | Abundance | Residential status | Conservation Status |
|---|---|---|---|---|---|---|
| 53 | Eurasian Collared-Dove | *Streptopelia decaocto* | WM/AF/UA | MC | Resident | LC |
| 54 | Laughing Dove | *Streptopelia senegalensis* | WM/AF/UA | MC | Resident | LC |
| | **Family-Psittacidae** | | | | | |
| 55 | Rose-ringed Parakeet | *Psittacula krameri* | AF/FA/UA | C | Resident | LC |
| | **Family-Cuculidae** | | | | | |
| 56 | Indian Cuckoo | *Clamator micropterus* | AF/FA | NC | Resident | LC |
| 57 | Asian Koel | *Eudynamys scolopacea* | AF/FA | C | Resident | LC |
| 58 | Greater Coucal | *Centropus sinensis* | FA | NC | Resident | LC |
| | **Family-Strigidae** | | | | | |
| 59 | Great-horned or Eagle-owl | *Bubo bubo* | AF/FA | NC | Resident | LC |
| 60 | Spotted Owlet | *Athene brama* | AF/FA | C | Resident | LC |
| | **Family-Caprimulgidae** | | | | | |
| 61 | Indian Nightjar | *Caprimulgus asiaticus* | FA/UA | NC | Resident | LC |
| | **Family-Apodidae** | | | | | |
| 62 | House Swift | *Apus affinis* | AF/FA | C | Resident | LC |
| | **Family-Alecdinidae** | | | | | |
| 63 | Common Kingfisher | *Alcedo atthis* | AF/FA | C | Resident | LC |
| 64 | White-throated Kingfisher | *Halcyon smyrnensis* | AF/FA/UA | MC | Resident | LC |
| 65 | Pied Kingfisher | *Ceryle rudis* | WA/AF/FA | NC | Resident | LC |
| | **Family-Meropidae** | | | | | |
| 66 | Green Bee-eater | *Merops orientalis* | AF/FA/UA | MC | Resident | LC |
| 67 | Blue-cheeked Bee-eater | *Merops persicus* | AF/FA | NC | Resident | LC |
| | **Family-Coraciidae** | | | | | |
| 68 | Indian Roller | *Coracias benghalensis* | AF/FA/UA | MC | Resident | LC |
| | **Family-Upupidae** | | | | | |
| 69 | Common Hoopoe | *Upupa epops* | AF/FA | C | Resident | LC |
| | **Family-Picidae** | | | | | |
| 70 | Eurasian Wryneck | *Jynx torquilla* | AF/FA | NC | Winter | LC |
| 71 | Lesser Goldenbackd Woodpecker | *Dinopium benghalense* | AF/FA | R | Resident | LC |
| | **Family-Alaudidae** | | | | | |
| 72 | Ashy-crowned Sparrow-Lark | *Eremopterix grisea* | AF/FA | C | Resident | LC |
| 73 | Common Crested Lark | *Galerida cristata* | AF/FA | R | Resident | LC |
| | **Family-Hirundinidae** | | | | | |
| 74 | Dusky Crag-Martin | *Hirundo concolor* | WM/FA/UA | NC | Resident | LC |

| | Name | Scientific Name | Habitat | Abundance | Residential status | Conservation Status |
|---|---|---|---|---|---|---|
| 75 | Wire-tailed Swallow | *Hirundo smithii* | WM/FA/UA | NC | Resident | LC |
| 76 | Red-rumped Swallow | *Hirundo daurica* | WM/FA/UA | NC | Resident | LC |
| | **Family-Laniidae** | | | | | |
| 77 | Bay-backed Shrike | *Lanius vittatus* | AF/FA | C | Winter | LC |
| 78 | Long-tailed Shrike | *Lanius schach* | AF/FA/UA | NC | Resident | LC |
| | **Family-Dicruridae** | | | | | |
| 79 | Black Drongo | *Dicrurus adsimilis* | AF/FA/UA | MC | Resident | LC |
| | **Family-Sturnidae** | | | | | |
| 80 | Brahminy Starling | *Sturnus pagodarum* | AF/FA/UA | MC | Resident | LC |
| 81 | Rosy Starling | *Sturnus roseus* | AF/FA/UA | C | Resident | LC |
| 82 | Common Starling | *Sturnus vulgaris* | FA | NC | Resident | LC |
| 83 | Asian Pied Starling | *Sturnus contra* | FA | C | Resident | LC |
| 84 | Common Myna | *Acridotheres tristis* | AF/FA/UA | C | Resident | LC |
| 85 | Bank myna | *Acridotheres ginginianus* | AF/FA/UA | C | Resident | LC |
| | **Family-Corvidae** | | | | | |
| 86 | Rufous Treepie | *Dendrocitta vagabunda* | AF/FA/UA | NC | Resident | LC |
| 87 | House Crow | *Corvus splendens* | AF/FA/UA | MC | Resident | LC |
| 88 | Jungle Crow | *Corvus macrorhynchos* | AF/FA | NC | Resident | LC |
| 89 | Raven | *Corvus corax* | FA | NC | Resident | LC |
| | **Family-Pycnonotidae** | | | | | |
| 90 | White-cheeked Bulbul | *Pycnonotus leucotis* | AF/FA/UA | C | Resident | LC |
| 91 | Red-vented Bulbul | *Pycnonotus cafer* | AF/FA/UA | MC | Resident | LC |
| | **Family-Timaliidae** | | | | | |
| 92 | Yellow-eyed Babbler | *Chrysomma sinense* | AF/FA | NC | Resident | LC |
| 93 | Common Babbler | *Turdoides caudatus* | AF/FA/UA | NC | Resident | LC |
| 94 | Jungle Babbler | *Turdoides striatus* | AF/FA/UA | C | Resident | LC |
| 95 | Large Grey Babbler | *Turdoides malcolmi* | AF/FA/UA | R | Resident | LC |
| | **Family-Cisticolidae** | | | | | |
| 96 | Common Tailorbird | *Orthotomus sutorius* | FA | NC | Resident | LC |
| | **Family-Sylviidae** | | | | | |
| 97 | Common Whitethroat | *Sylvia communis* | AF/FA/UA | R | Resident | LC |
| | **Family-Phylloscopidae** | | | | | |
| 98 | Common Chiffchaff | *Phylloscopus collybita* | AF/FA/UA | NC | Resident | LC |
| | **Family-Muscicapidae** | | | | | |
| 99 | Bluethroat | *Erithacus svecicus* | AF/FA/UA | NC | Winter | LC |
| 100 | Brown Rock Chat | *Cercomela fusca* | AF/FA | NC | Resident | LC |
| 101 | Pied Bushchat | *Saxicola caprata* | AF/FA | NC | Winter | LC |
| 102 | Desert Wheatear | *Oenanthe deserti* | AF/FA | C | Resident | LC |

| | Name | Scientific Name | Habitat | Abundance | Residential status | Conservation Status |
|---|---|---|---|---|---|---|
| 103 | Indian Robin | *Saxicoloides fulicata* | AF/FA/UA | MC | Resident | LC |
| | **Family-Motacillidae** | | | | | |
| 104 | Paddyfield Pipit | *Anthus rufulus* | WM/AF | C | Resident | LC |
| 105 | Yellow Wagtail | *Motacilla flava* | WM/AF | C | Resident | LC |
| 106 | Citrine Wagtail | *Motacilla citreola* | WM/AF | C | Resident | LC |
| 107 | Grey Wagtail | *Motacilla cinerea* | WM/AF | NC | Resident | LC |
| 108 | White Wagtail | *Motacilla alba* | WM/AF/ UA | NC | Resident | LC |
| 109 | White-browed Wagtail | *Motacilla maderaspatensis* | WM/AF/ UA | C | Resident | LC |
| | **Family-Nectariniidae** | | | | | |
| 110 | Purple Sunbird | *Nectarinia asiatica* | AF/FA/UA | NC | Resident | LC |
| | **Family-Passeridae** | | | | | |
| 111 | House Sparrow | *Passer domesticus indicus* | AF/FA/UA | MC | Resident | LC |
| | **Family-Ploceidae** | | | | | |
| 112 | Baya Weaver | *Ploceus philippinus* | AF/FA | NC | Resident | LC |

**MC: Most Common, C: Common, NC: Not Common and R: Rare**
**WM/AF/FA/UA: All habitat Show, WM: Marsh / Wetland, AF: Agricultural Field, FA: Forest Areas and UA: Urbanized Areas**
**LC: Least Concern, DD: Data Deficient, NT: Near Threatened, VU=Vulnerable**

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**Acknowledgements:** The authors are grateful to S.M. Mohnot, emeritus professor of Zoology and chairman, Primate Research Centre, Jodhpur for his continuous encouragement, and to the head, Department of Zoology, J.N.V. University, Jodhpur for providing facilities and logistic support during this study.

**Citation:** Singh, A., H. Kumawat, G. Sharma & L.S. Rajpurohit (2021). Avian diversity along with Hanuman Langur troops in and around Jodhpur, Rajasthan. Bird-o-soar #66, In: *Zoo's Print* 36(1): 10–15.

# First record of MacQueen's Bustard from Rajkot, Gujarat

**Image 1. Habitat shot of MacQueen's Bustard.**

MacQueen's Bustard *Chlamydotis macqueenii* is a winter visitor to Pakistan and northwestern India. It breeds in southern Pakistan (Grimmett et al. 2016). The IUCN Red List has categorized and evaluated this species as Vulnerable (VU).

MacQueen's Bustard also known as Asian Houbara was for long regarded as a subspecies of the African Houbara Bustard *Chlamydotis undulata*, which is native to northern Africa and southwestern Asia. Recent studies of courtship behavior, vocalizations, and mitochondrial & nuclear DNA have shown consistent differences between MacQueen's and Houbara Bustard. Together with clear-cut plumage differences, these new data suggest that MacQueen's and Houbara Bustard are best treated as separate species (Sanster et al. 2004). MacQueen's Bustard is a partial latitudinal migrant while the Houbara Bustard is more sedentary. The central Asian populations are known to migrate southwards for wintering.

MacQueen's Bustards are large birds that are able and fast flyers. They prefer, however, to run on the ground and favour open landscapes with vegetation low enough to allow for long distance vision (Lampen et al. 2005). The MacQueen's Bustard is found in sandy desert, semi-desert type mixed with bushes and grassy clumps. Another typical habitat is sand dunes on the coast. It also visits open low hills and broken stony ground. It is able to camouflage itself extremely well and becomes difficult to spot even in open (Dharmakumarsinhji 1957).

On 11 October 2020 around 08.06h, the first author (JR) noticed a big bird in flight which resembled a bustard. The habitat where the bird was found, Khambala Vidi (22.309605 N, 70.685555 E; Image 1) is a grassland area of approximately 100ha. Majority of the area is open with very few trees; mostly covered in grasses like *Heteropogon contortus*, *Chloris* sp., *Cenchrus biflorus*, *Eragrostis* sp., and *Themeda* sp. The grassland is dotted with some patches of thorny bushes and small trees such as *Vachellia nilotica*. Topographically, the area is generally flat with some small, rolling hills. The region is situated right at the edge of the city and surrounded by farmlands along its periphery (Image 2).

He was able to take a few pictures and confirmed the bird as MacQueen's Bustard (Image 3). He also observed and photographed a Black Drongo chasing the bustard (Image 4) until the bird landed in the grassland. After landing, the bird camouflaged well in the grassland and the author

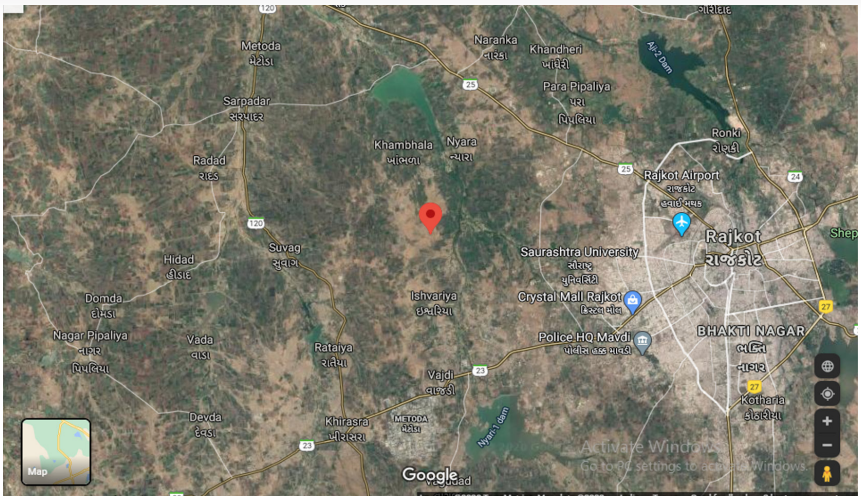

Image 2. Overview of the location taken from Google maps.


Image 3. Black Drongo chasing the bustard.


Image 4. MacQueen's Bustard in flight.

was not able to find it. JR visited the same place for four consecutive days but the bird was not sighted again. The bird may be a passage migrant in this grassland or it may be a winter visitor to the area with local movement in the nearby grasslands.

**Status and conservation:** Rapid population declines of about 50% were seen in their breeding grounds in Kazakhstan between 1998 and 2002 and thought to be due to hunting, especially in their winter grounds (Tourenq et al. 2004). Annual declines over a 10-year period across Asia were estimated at 27–30% in 2004. The main threat to the species is degradation of semi-desert habitat by the introduction of agriculture and by infrastructure development such as roads and electricity, which are responsible for increased mortality of birds. They also are at considerable risk during migration from heavy poaching as well as a lack of suitable habitats (Tourenq et al. 2005).

**Past records from Gujarat:** In Saurashtra, it is an uncommon but regular visitor in the northern portion from Jamnagar to Dhrangadhra; specimens have been shot in Wankaner and Jasdan, and it is a straggler to eastern Saurashtra, having been recorded in Bhavnagar a number of times (Dharmakumarsinhji 1957). It is an uncommon winter migrant to Gujarat with scattered sightings from Little Rann of Kutch area and Greater Rann of Kutch area, where it winters in small numbers. Recently, there have been isolated photographic records from Jamnagar District (Jamnagar City outskirts and Positra near Dwarka) and few unconfirmed reports from other areas (Ganpule 2014).

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https://ebird.org/checklist/S51245763 (with photograph)
https://ebird.org/gbbc/checklist/S27641910 (without photograph)
https://ebird.org/checklist/S52135920 (without photograph)

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**Citation:** Rindani, J., P. Bhatnagar & K. Adhiya (2021). First record of MacQueen's Bustard from Rajkot, Gujarat. Bird-o-soar #67, In: *Zoo's Print* 36(1): 16–18.

# A checklist of birds sighted from Sri Sivasubramanium Nadar (SSN) College of Engineering, Chengalpet, Tamil Nadu

Bird diversity studies from educational institutions with wildlife-friendly habitats are valuable datasets, as they could highlight the peaceful co-existence of birds and humans. An invaluable insight to the historical work from a campus in this district is from MCC, where Dr. Gift Siromoney compiled his observations of birds and butterflies (Siromoney 1978). This work serves as a baseline for the bird diversity for the district where Sri Sivasubramanium Nadar College of Engineering (SSN-CE) is located. Here I report the avifauna of SCE campus.

SSN-CE is located at SSN nagar, at Kalavakkam in the newly created district of Chengalpet in Tamil Nadu. The campus spans 250 acres, with a mixture of scrub, wooded country and maintained lawns. Some patches of grassland are also present in the western parts of campus. The campus also has a pond located near the Electrical & Electronics Department (EEE), which fills up during the winter months and attracts many species of birds such as sandpipers and quails. The expanse beyond the cricket stadium is one of the most important birding zones in campus, where more than 75% of the species recorded in campus have been sighted.

The cricket stadium is a great vantage point that was used to spot birds that visited the large water tank adjacent to the western boundary of campus (not to be confused with the previously described pond).

Birding walks were opportunistically conducted for a period of more than three years (2017–2020) around the entire campus. These walks were carried out through various periods of the day to ensure better temporal coverage. Additionally, formal, day-long, Campus Bird Counts were done with student-participation, to educate students on the bird life of the campus. These exercises, along with other monitoring surveys such as Endemic Bird Day (Bird Count India 2020) and World Wetland Day, helped boost student engagement in the field. Though opportunistic birding was the prime mode of data collection, certain hotspots were identified in campus and a more concentrated approach was focus on these areas when compared to other spots in campus. These spots include the cricket stadium, football field, open spaces infront of the EEE and chemical engineering departments, the regions behind the chemistry department and the clock tower. Apart from these spots, four transects were frequented during the counts. These include the pathways leading to the cricket stadium, the pathway beyond the cricket stadium, the road connecting the EEE and chemistry department and the road leading to the chemical engineering department. On average 15

individuals/100m, 20 individuals/100m, 3 individuals/100m, 5 individuals/100m were observed in each of these pathways respectively.

A total of 174 species of birds were recorded in the campus in the three years of survey. Of these, five peninsular India endemics, nine other species endemic to the Indian subcontinent were recorded from campus. Two species, Tawny Eagle *Aquila rapax* and Greater Spotted Eagle *Clanga clanga*, are listed vulnerable according to the IUCN (Birdlife International 2020a,b). The most frequently encountered species in campus include House Crow *Corvus splendens*, Large-billed Crow *Corvus macrorhynchos*, Common Myna *Acridotheres tristis*, Black Drongo *Dicrurus macrocercus*, Indian Pond Heron *Ardeola grayii*, Asian Palm Swift *Cypsiurus balasiensis*, White-throated Kingfisher *Halcyon smyrnensis*, Rufous Treepie *Dendrocitta vagabunda*, Plain Prinia *Prinia inornata*, and Red-vented Bulbul *Pycnonotus cafer*. Among migrants, Barn Swallows *Hirundo rustica* dominated the campus, with flocks of nearly 500 individuals recorded in campus. Other characteristic migrants seen on walks included wagtails, pipits, harriers, and warblers.

Table 1 provides a checklist of birds that were recorded during the study period. It includes the exact on-campus location in which the birds were recorded, to enable future researchers. The migratory status of the bird species was given based on the following criteria: Resident—found year-round; Winter Migrant—found predominantly November through February; etc. The abundance status was assigned as follows: C—Common (>60%), O—Occasional (40–60%), R—Rare (20–40%), VR—Very Rare (<20%), where % describe the chance of seeing the species, calculated on basis of number of sightings with respect to the number of surveys done.

**Selected species accounts:**

**Rain Quail *Coturnix coromandelica***

Two birds were heard calling and the call was recorded (Nagarajan 2018) on the 10 December 2018. A male was also seen on the 14 February 2020 beyond the cricket stadium. The distinct black breast and other features noted in the field. There are many recent observations of this species from neighbouring Kanchipuram District (eBird India 2020c).

**Black Baza *Aviceda leuphotes***

On the 26 October 2017, a single individual was seen near the clock tower. It was following the thermals and flying northwards. Another bird was seen flying close to it, but was its identity was not confirmed due to the distance. This is the only sighting of this bird from the Chennai surroundings in the recent past. The bird had been recorded more often in the years preceding 1990 and is a stray visitor to Chennai (Kannan 1985; Santharam 2009).

**Pied Harrier *Circus melanoleucos***

Two birds were seen, the first was a male by the lake near the cricket stadium on the 2 March 2018. The second was seen at the

**Table 1. Checklist of birds recorded from SSN College of Engineering from 2017–20.**

| Common Name | Scientific name | Best seen at | Migratory Status to district | Abundance in SSN-CE |
|---|---|---|---|---|
| Fulvous Whistling Duck | *Dendrocygna bicolor* | Water body at campus edge | Resident | O |
| Lesser Whistling Duck | *Dendrocygna javanica* | Flyover | Resident | R |
| Knob-billed Duck | *Sarkidiornis melanotos* | Water body at campus edge | Winter migrant | R |
| Cotton Pygmy Goose | *Nettapus coromandelianus* | Water body at campus edge | Resident | R |
| Garganey | *Spatula querquedula* | Flyover | Winter migrant | C |
| Northern Shoveler | *Spatula clypeata* | Flyover | Winter migrant | C |
| Indian Spot-billed Duck | *Anas poecilorhyncha* | Flyover | Resident | C |
| Northern Pintail | *Anas acuta* | Flyover | Winter migrant | C |
| Tufted Duck | *Aythya fuligula* | Flyover | Winter migrant | R |
| Indian Peafowl | *Pavo cristatus* | SSN Pond | Resident | C |
| Rain Quail | *Coturnix coromandelica* | Beyond Cricket Stadium | Winter migrant | VR |
| Jungle Bush Quail | *Perdicula asiatica* | SSN Pond | Resident | R |
| Grey Francolin | *Francolinus pondicerianus* | Football ground | Resident | C |
| Little Grebe | *Tachybaptus ruficollis* | SSN Pond, water body at campus edge | Resident | O |
| Rock Pigeon (Feral) | *Columba livia* | Throughout campus | Resident | C |
| Eurasian Collared Dove | *Streptopelia decaocto* | Beyond Cricket Stadium | Resident | O |
| Spotted Dove | *Streptopelia chinensis* | Throughout campus | Resident | C |
| Laughing Dove | *Streptopelia senegalensis* | Beyond Cricket Stadium | Resident | R |
| Greater Coucal | *Centropus sinensis* | Outside Chemical Engineering department | Resident | C |
| Blue-faced Malkoha | *Phaenicophaeus viridirostris* | Beyond Cricket Stadium | Resident | O |
| Pied Cuckoo | *Clamator jacobinus* | Cricket Stadium | Resident | C |
| Asian Koel | *Eudynamys scolopaceus* | All Ficus trees in campus | Resident | C |
| Grey-bellied Cuckoo | *Cacomantis passerinus* | Cricket Stadium | Resident | C |
| Common Hawk Cuckoo | *Hierococcyx varius* | Management area | Resident | C |
| Little Swift | *Apus affinis* | Flyover | Resident | C |
| Asian Palm Swift | *Cypsiurus balasiensis* | Flyover | Resident | C |
| Eurasian Moorhen | *Gallinula chloropus* | Water body at campus edge | Resident | C |
| Eurasian Coot | *Fulica atra* | Water body at campus edge | Resident | C |
| Grey-headed Swamphen | *Porphyrio poliocephalus* | Water body at campus edge | Resident | C |

| Common Name | Scientific name | Best seen at | Migratory Status to district | Abundance in SSN-CE |
|---|---|---|---|---|
| Watercock | *Gallicrex cinerea* | Water body at campus edge | Resident | C |
| White-breasted Waterhen | *Amaurornis phoenicurus* | Water body at campus edge | Resident | C |
| Baillon's Crake | *Zapornia pusilla* | Water body at campus edge | Winter migrant | O |
| Black-winged Stilt | *Himantopus himantopus* | Cricket stadium (After flooding) | Resident | R |
| Yellow-wattled Lapwing | *Vanellus malabaricus* | Cricket stadium | Resident | O |
| Red-wattled Lapwing | *Vanellus indicus* | Cricket stadium | Resident | C |
| Little ringed Plover | *Charadrius dubius* | Cricket stadium (After flooding) | Resident | R |
| Pheasant-tailed Jacana | *Hydrophasianus chirurgus* | Water body at campus edge | Resident | C |
| Whimbrel | *Numenius phaeopus* | Flyover | Winter migrant | R |
| Common Snipe | *Gallinago gallinago* | Football field | Winter migrant | C |
| Pin-tailed Snipe | *Gallinago stenura* | Cricket stadium (After flooding) | Winter migrant | R |
| Common Sandpiper | *Actitis hypoleucos* | SSN Pond | Winter migrant | C |
| Green Sandpiper | *Tringa ochropus* | SSN Pond | Winter migrant | O |
| Wood Sandpiper | *Tringa glareola* | SSN Pond | Winter migrant | O |
| Indian Courser | *Cursorius coromandelicus* | Flyover | Resident | R |
| Brown-headed Gull | *Chroicocephalus brunnicephalus* | Flyover | Winter migrant | R |
| Little Tern | *Sternula albifrons* | Flyover | Winter migrant | R |
| Gull-billed Tern | *Gelochelidon nilotica* | Flyover | Winter migrant | O |
| Caspian Tern | *Hydroprogne caspia* | Flyover | Winter migrant | R |
| Whiskered Tern | *Chlidonias hybrida* | Water body at campus edge | Winter migrant | O |
| Asian Openbill | *Anastomus oscitans* | Water body at campus edge | Resident | C |
| Woolly-necked Stork | *Ciconia episcopus* | Flyover | Resident | R |
| Painted Stork | *Mycteria leucocephala* | Water body at campus edge | Resident | C |
| Oriental Darter | *Anhinga melanogaster* | Water body at campus edge | Resident | C |
| Little Cormorant | *Microcarbo niger* | Water body at campus edge | Resident | C |
| Great Cormorant | *Phalacrocorax carbo* | Water body at campus edge | Resident | C |
| Indian Cormorant | *Phalacrocorax fuscicollis* | Water body at campus edge | Resident | C |
| Spot-billed Pelican | *Pelecanus philippensis* | Flyover | Resident | C |
| Yellow Bittern | *Ixobrychus sinensis* | Water body at campus edge | Resident | C |
| Chestnut Bittern | *Ixobrychus cinnamomeus* | Water body at campus edge | Resident | R |

| Common Name | Scientific name | Best seen at | Migratory Status to district | Abundance in SSN-CE |
|---|---|---|---|---|
| Black Bittern | *Ixobrychus flavicollis* | Water body at campus edge | Resident | O |
| Grey Heron | *Ardea cinerea* | Water body at campus edge | Resident | C |
| Purple Heron | *Ardea purpurea* | Water body at campus edge | Resident | C |
| Great Egret | *Ardea alba* | Water body at campus edge | Resident | O |
| Intermediate Egret | *Ardea intermedia* | Water body at campus edge | Resident | C |
| Little egret | *Egretta garzetta* | Water body at campus edge | Resident | C |
| Cattle Egret | *Bubulcus ibis* | Water body at campus edge | Resident | C |
| Indian Pond Heron | *Ardeola grayii* | Water body at campus edge | Resident | C |
| Black-crowned Night Heron | *Nycticorax nycticorax* | Flyover | Resident | C |
| Glossy Ibis | *Plegadis falcinellus* | Flyover | Resident | C |
| Black-headed Ibis | *Threskiornis melanocephalus* | Flyover | Resident | C |
| Osprey | *Pandion haliaetus* | Water body at campus edge | Winter migrant | C |
| Black-winged Kite | *Elanus caeruleus* | Football field | Resident | C |
| Oriental Honey Buzzard | *Pernis ptilorhynchus* | Flyover | Resident | C |
| Black Baza | *Aviceda leuphotes* | Flyover (Clock Tower) | Passage Migrant | VR |
| Short-toed Snake Eagle | *Circaetus gallicus* | Cricket Stadium | Resident | R |
| Greater-Spotted Eagle | *Clanga clanga* | Cricket Stadium | Winter migrant | R |
| Booted Eagle | *Hieraaetus pennatus* | Cricket Stadium | Winter migrant | O |
| Tawny Eagle | *Aquila rapax* | Flyover (Clock Tower) | Winter migrant | VR |
| Bonelli's Eagle | *Aquila fasciata* | Flyover (Clock Tower) | Resident | R |
| White-eyed Buzzard | *Butastur teesa* | Flyover | Resident | C |
| Eurasian Marsh Harrier | *Circus aeruginosus* | Water body at campus edge | Winter migrant | C |
| Pallid Harrier | *Circus macrourus* | Water body at campus edge | Winter migrant | C |
| Pied Harrier | *Circus melanoleucos* | Water body at campus edge | Winter migrant | R |
| Montague's Harrier | *Circus pygargus* | Water body at campus edge | Winter migrant | O |
| Shikra | *Accipiter badius* | Throughout campus | Resident | C |
| Eurasian Sparrowhawk | *Accipiter nisus* | Eastern edge of campus | Winter migrant | VR |
| Black Kite | *Milvus migrans* | Flyover (Clock Tower) | Resident | O |

| Common Name | Scientific name | Best seen at | Migratory Status to district | Abundance in SSN-CE |
|---|---|---|---|---|
| Brahminy Kite | *Haliastur indus* | Flyover | Resident | R |
| Spotted Owlet | *Athene brama* | Lawn | Resident | O |
| Eurasian Hoopoe | *Upupa epops* | Cricket Stadium | Resident | O |
| Common Kingfisher | *Alcedo atthis* | Water body at campus edge | Resident | C |
| White-throated Kingfisher | *Halcyon smyrnensis* | Throughout Campus | Resident | C |
| Pied Kingfisher | *Ceryle rudis* | Water body at campus edge | Resident | C |
| Green Bee-eater | *Merops orientalis* | Cricket Stadium | Resident | C |
| Blue-tailed Bee-eater | *Merops philippinus* | Cricket Stadium | Resident | C |
| Indian Roller | *Coracias benghalensis* | Cricket Stadium | Resident | C |
| Coppersmith Barbet | *Psilopogon haemacephalus* | All Ficus trees in campus | Resident | C |
| Black-rumped Flameback | *Dinopium benghalense* | Throughout Campus | Resident | C |
| Eurasian Kestrel | *Falco tinnunculus* | Flyover | Winter migrant | O |
| Red-necked Falcon | *Falco chicquera* | Flyover | Resident | R |
| Peregrine falcon (Calidus form) | *Falco peregrinus* | Flyover | Winter migrant | R |
| Rose-ringed Parakeet | *Psittacula krameri* | Throughout Campus | Resident | C |
| Plum-headed Parakeet | *Psittacula cyanocephala* | Flyover | Resident | R |
| Indian Pitta | *Pitta brachyura* | Beyond Cricket Stadium | Winter migrant | R |
| Black-headed Cuckooshrike | *Lalage melanoptera* | Beyond Cricket Stadium | Resident | C |
| Indian Golden Oriole | *Oriolus kundoo* | Management area | Resident | C |
| Black-naped Oriole | *Oriolus chinensis* | Ficus Tree near Chemistry Department | Winter migrant | R |
| Ashy Woodswallow | *Artamus fuscus* | Flyover | Resident | C |
| Common Woodshrike | *Tephrodornis pondicerianus* | Beyond Cricket Stadium | Resident | C |
| Common Iora | *Aegithina tiphia* | Beyond Cricket Stadium | Resident | C |
| Black Drongo | *Dicrurus macrocercus* | Throughout Campus | Resident | C |
| Ashy Drongo | *Dicrurus leucophaeus* | Near Boy's Hostel | Winter migrant | R |
| Indian Paradise Flycatcher | *Terpsiphone paradisi* | Near Boy's Hostel | Winter migrant | O |
| Brown Shrike | *Lanius cristatus* | SSN Pond | Winter migrant | C |
| Bay-backed Shrike | *Lanius vittatus* | Beyond Cricket Stadium | Resident | O |
| Long-tailed Shrike | *Lanius schach* | Beyond Cricket Stadium | Resident | R |
| Rufous Treepie | *Dendrocitta vagabunda* | Throughout Campus | Resident | C |
| House Crow | *Corvus splendens* | Throughout Campus | Resident | C |
| Large-billed Crow | *Corvus macrorhynchos* | Throughout Campus | Resident | C |

| Common Name | Scientific name | Best seen at | Migratory Status to district | Abundance in SSN-CE |
|---|---|---|---|---|
| Ashy-crown Sparrow-Lark | *Eremopterix griseus* | Football field | Resident | R |
| Jerdon's Bushlark | *Mirafra affinis* | Football field | Resident | C |
| Oriental Skylark | *Alauda gulgula* | Football field | Resident | C |
| Common Tailorbird | *Orthotomus sutorius* | Opposite the chemical Department | Resident | C |
| Grey-breasted Prinia | *Prinia hodgsonii* | Beyond Cricket Stadium | Resident | O |
| Jungle Prinia | *Prinia sylvatica* | Beyond Cricket Stadium | Resident | C |
| Ashy Prinia | *Prinia socialis* | Beyond Cricket Stadium | Resident | C |
| Plain Prinia | *Prinia inornata* | Beyond Cricket Stadium | Resident | C |
| Zitting Cisticola | *Cisticola juncidis* | Beyond Cricket Stadium | Resident | O |
| Booted Warbler | *Iduna caligata* | Thickets near Chemistry department | Winter migrant | R |
| Sykes's Warbler | *Iduna rama* | Thickets near Chemistry department | Winter migrant | VR |
| Paddyfield Warbler | *Acrocephalus agricola* | Thickets near Chemistry department | Winter migrant | VR |
| Blyth's Reed Warbler | *Acrocephalus dumetorum* | Thickets near Chemistry department | Winter migrant | C |
| Clamorous Reed Warbler | *Acrocephalus stentoreus* | Water body at campus edge | Resident | O |
| Barn Swallow | *Hirundo rustica* | Electric cables on boundary | Winter migrant | C |
| Red-rumped Swallow | *Cecropis daurica* | Electric cables on boundary | Resident | C |
| Red-vented Bulbul | *Pycnonotus cafer* | Football field | Resident | C |
| Red-whiskered Bulbul | *Pycnonotus jocosus* | Beyond Cricket Stadium | Resident | C |
| White-browed Bulbul | *Pycnonotus luteolus* | Beyond Cricket Stadium | Resident | C |
| Greenish Warbler | *Phylloscopus trochiloides* | First Year Block | Winter migrant | R |
| Lesser Whitethroat (Hume's) | *Sylvia curruca* | First Year Block | Winter Migrant | R |
| Tawny-bellied Babbler | *Dumetia hyperythra* | Beyond Cricket Stadium | Resident | R |
| Yellow-billed Babbler | *Turdoides affinis* | Throughout Campus | Resident | C |
| Rosy Starling | *Pastor roseus* | Beyond Cricket Stadium | Winter migrant | O |
| Asian Pied Starling | *Gracupica contra* | Flyover | Resident | VR |
| Brahminy Starling | *Sturnia pagodarum* | Beyond Cricket Stadium | Resident | C |

| Common Name | Scientific name | Best seen at | Migratory Status to district | Abundance in SSN-CE |
|---|---|---|---|---|
| Common Myna | *Acridotheres tristis* | Throughout Campus | Resident | C |
| Orange-headed Thrush | *Geokichla citrina* | First Year Block | Winter migrant | R |
| Asian Brown Flycatcher | *Muscicapa dauurica* | First Year Block | Winter migrant | R |
| Indian Robin | *Copsychus fulicatus* | Cricket Stadium | Resident | C |
| Oriental Magpie Robin | *Copsychus saularis* | Throughout Campus | Resident | C |
| Siberian Stonechat | *Saxicola maurus* | Beyond Cricket Stadium | Winter migrant | R |
| Pied Bushchat | *Saxicola caprata* | Football field | Resident | C |
| Pale-billed Flowerpecker | *Dicaeum erythrorhynchos* | Throughout Campus | Resident | C |
| Purple-rumped Sunbird | *Leptocoma zeylonica* | Throughout Campus | Resident | C |
| Purple Sunbird | *Cinnyris asiaticus* | Throughout Campus | Resident | C |
| Loten's Sunbird | *Cinnyris lotenius* | Throughout Campus | Resident | C |
| Streaked Weaver | *Ploceus manyar* | Chemical Engineering Block | Resident | R |
| Baya Weaver | *Ploceus philippinus* | Beyond Cricket Stadium | Resident | O |
| Red Avadavat | *Amandava amandava* | Open space infront of EEE block | Resident | O |
| Indian Silverbill | *Euodice malabarica* | Beyond Cricket Stadium | Resident | C |
| White-rumped Munia | *Lonchura striata* | Beyond Cricket Stadium | Resident | O |
| Scaly-bellied Munia | *Lonchura punctulata* | Chemical Engineering Block | Resident | C |
| Tri-coloured Munia | *Lonchura malacca* | Water body at campus edge | Resident | C |
| House Sparrow | *Passer domesticus* | Main Gate | Resident | R |
| Yellow-throated Sparrow | *Gymnoris xanthocollis* | Football Feild | Resident | O |
| Western Yellow Wagtail | *Motacilla flava* | Cricket Stadium | Winter migrant | O |
| Citrine Wagtail | *Motacilla citreola* | Cricket Stadium | Winter migrant | O |
| White-browed Wagtail | *Motacilla maderaspatensis* | Cricket Stadium | Resident | C |
| White Wagtail | *Motacilla alba* | Cricket Stadium | Winter migrant | R |
| Richard's Pipit | *Anthus richardi* | Cricket Stadium | Winter migrant | C |
| Paddyfield Pipit | *Anthus rufulus* | Cricket Stadium | Winter migrant | C |
| Blyth's Pipit | *Anthus godlewskii* | Cricket Stadium | Winter migrant | O |
| Tawny Pipit | *Anthus campestris* | Cricket Stadium | Winter migrant | R |
| Tree Pipit | *Anthus trivialis* | Cricket Stadium | Winter migrant | VR |

same place on the same date in 2019, but was a female bird. On both occasions the bird seemed to be hunting, flushing out various species of ducks with its presence.

The Pied Harrier is infrequently seen in winter from the surroundings of Chennai (eBird India 2020b).

**Tawny Eagle *Aquila rapax***

One bird was seen by the Clock Tower, circling over campus in the thermals on the 20 October 2017. It was a very large bird and easily told apart from other similar species by its very pale appearance. The bird is a scare visitor to Chennai, and has been recorded from Poondi Lake (Kesavabharathi 2010) and historically from Guindy National Park (Kannan & Santharam 1982).

**Asian Pied Starling *Gracupica contra***

On the 8 February 2018, this bird was seen flying towards the west, being chased by a few Common Mynas *Acridotheres tristis*. The bird had a characteristic black and white appearance. Historically this is not a bird known from Chennai and its surroundings. However, it has been regularly reported around Chennai (eBird India 2020a) and trends in eBird (2020a) indicate that the bird may be extending its range southwards and move as far south as Cuddalore (Vigneshwaran 2020). However, there are to be no published articles of its presence around Chennai.

**Threats and conservation**: As is the case with any expanding educational institution, future construction projects are a foreseeable threat to the biodiversity of the campus. However, the management's appreciation of biodiversity and its value is commendable and bodes well for the local wildlife. Its policy of reforesting and maintain a campus with native species has ensured that the pressure on the biodiversity of campus is minimised. Further, the areas beyond the cricket stadium have virtually been untouched, allowing for wildlife to thrive. Other policies that have been initiated have encouraged birdlife to exist inside a bustling campus. For example, the restriction on walking over lawn spaces has now afforded ample and undisturbed foraging habitat for Cattle Egrets *Bubulcus ibis*, Indian Pond Herons *Ardeola grayii*, Indian Roller *Coracias benghalensis*, Black Drongo *Dicrurus macrocercus* and other species of birds. This continued approach to enable human-wildlife coexistence makes the campus a model for other institutions to follow.

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**Acknowledgements**
I thank the following: SSN management for providing permission for me to conduct bird walks at any time of my convenience; the Department of Chemical Engineering for their extended support; the participants of the Campus Bird Counts for their enthusiasm; Abhishek Krishnan for his constant support in the field and in other matters related to the study; the eBird reviewers of Tamil Nadu for confirming and validating my sightings and all their assistance; and Ragupathy Kannan for helping in perfecting this manuscript.

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**Citation:** Nagarajan, V.M. (2021). A checklist of birds sighted from Sri Sivasubramanium Nadar (SSN) College of Engineering, Chengalpet, Tamil Nadu. Bird-o-soar #68, In: *Zoo's Print* 36(1): 19–28.

# Record of Garganey in Nilgiris, Tamil Nadu, India

Image 1. Garganey in Ooty Lake, Udhagamandalam, The Nilgiris, Tamil Nadu.

The Garganey *Anas querquedula* breeds widely across the temperate and boreal regions of Eurasia, from the United Kingdom, continental Europe, and Scandinavia, east through Russia and other regions of northern and central Asia to the Kamchatka Peninsula, Sakhalin Island, and northern Japan (Brazil 2009; Mullarney & Zetterstrom 2009). It is highly migratory, wintering in northern and central Africa, and from Pakistan and India east through Southeast Asia to southern and eastern China, the Philippines, Indonesia, and Papua New Guinea (Brazil 2009; Mullarney & Zetterstrom 2009). Despite being an abundant and widespread dabbling duck throughout the Old World, recent evidence suggests that the Garganey is declining in several regions (IUCN 2014). Nilgiris acts as a connective junction of Eastern Ghats and the Western Ghats and providing excellent habitat for numerous life forms. Very scanty works are available in bird diversity and abundance in Nilgiris (Zarri et al. 2005; Samson et al. 2017). This short note represents the first known record on Garganey in Nilgiris, Tamil Nadu, India.

On 03 February 2020 we recorded two female Garganey in Ooty lake. Udhagamandalam, Tamil Nadu, India (Figure 1).

Garganey is a common winter visitor to the Indian subcontinent (Brazil 2009; Mullarney & Zetterstrom 2009). The records on the species are sprinkled in Telangana, Karnataka, Andhra Pradesh, Kerala, and Tamil Nadu, especially more records were from the Eastern side of Tamil Nadu (eBird 2020). In Nilgiris, only a few studies were comprehensively done on bird diversity.

Gokula (1996) recorded 266 species of birds from Mudumalai Tiger Reserve, Zarri et al. (2005) reported 196 species in the Upper Nilgiris region, Samson et al. (2017) observed 123 species of birds in Doddabetta areas of Nilgiris. Gokula (1996) recorded four migrating ducks species in Mudumalai Tiger Reserve namely Comb Duck *Sarkidiornis melanotos*, Cotton Pygmy Goose *Nettapus coromandelianus*, Common Teal *Anas crecca*, and Northern Pintail *Anas acuta*. Zarri et al. (2005) didn't record such migrating ducks in Upper Nilgiris during the study period 2000 to 2004.

Further confirmation of this species in this region eBird (2020) itself no such records in this species in Nilgiris. Hence this is the first know record of Garganey in Nilgiris. In a conclusion, further observation is needed on the water catchment areas to record more migrating water birds in Nilgiris.

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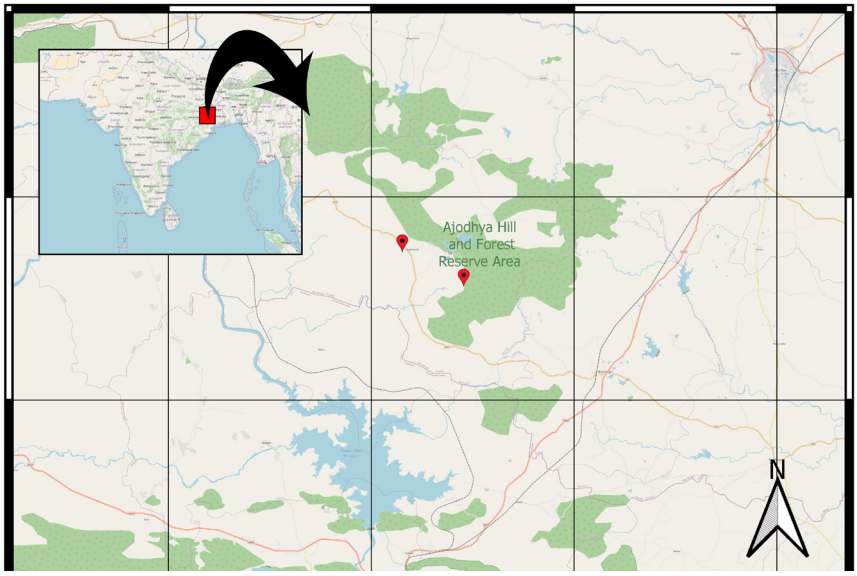
**Citation:** Moinudheen, N. & A. Samson (2021). Record of Garganey in Nilgiris. Bird-o-soar #69, In: *Zoo's Print* 36(1): 29–30.

# First record of Magadha Burrowing Frog from Purulia, West Bengal

*Sphaerotheca* genus has 11 species at present including the Magadha Burrowing Frog *Sphaerotheca magadha* Prasad, Dinesh, Das, Swamy, Shinde, & Vishnu, 2019 (Frost & AMNH 2020), which is the smallest member of the group (Varma 2019). It has also been recorded from Panna Tiger Reserve, central India (Prasad et al. 2020).

The species was photographed from Baghmundi Village on 3 September 12.53h using a Nikon D5600 camera with a Nikon 70– 300 mm lens. It

**Magadha Burrowing Frog *Sphaerotheca magadha* sighted in Baghmundi Village and Ajodhya Hill in Purulia, West Bengal, India. ©Adarsha Mukherjee.**




**Locations of the sightings of *Sphaerotheca magadha* in Baghmundi village and Ajodhya hill, Purulia, West Bengal, India.**

was also observed in Gobaria forest area in Ajodhya Hills. The specimens were not collected. The species was identified on the basis of its medium size, stumpy and squat body, wider head width than head length, rounded snout, first finger longer than the second and sub equal to third finger and moderate webbing (Prasad et al. 2019). Images were uploaded on amphibians of India website

**Dorsal view of Magadha Burrowing Frog *Sphaerotheca magadha*. ©Adarsha Mukherjee.**

with media codes bm076, bm077, bm078 (Anonymous 2020).

Both of the areas where the species was sighted are under the Chota Nagpur Plateau. Baghmundi Village in Purulia is located at 23.19$^0$N and 86.04$^0$E (263m elevation) and the second area Ajodhya Hill in Purulia is located at 23.16$^0$N, 86.10$^0$E (274m elevation).

The updated distribution range of *Sphaerotheca magadha* is from eastern India (Jharkhand & West Bengal) and central India (Madhya Pradesh).

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**Acknowledgments:** I am thankful to the all members of the Green Plateau, especially Mr. Supriya Samanta and Mr. Ayan Mondal for their encouragement, support and help.

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**Citation:** Mukherjee, A. (2021). First record of Magadha Burrowing Frog from Purulia, West Bengal. frog leg #141. In: *Zoo's Print* 36(1): 31–32.

# Additional report of anurans from Durgapur subdivision, Paschim Bardhaman, West Bengal

Amphibians have been known to be good indicators of environmental degradation, yet they are one of the least studied groups in most biodiversity related studies. They are highly vulnerable to various anthropogenic pressures and most recently there have been a great concern about their conservation all around the globe.

Studies on anuran diversity were carried out in different parts of India and West Bengal covering various habitat types (Deuti 1995; Padhye & Ghate 2002; Pratihar & Deuti 2011; Deuti et al. 2014; Deuti et al. 2017). In several previous studies on anurans, 11 anuran species were reported from the present study location (Pal et al. 2012, Dutta & Mukhopadhyay 2013, Chatterjee & Mondal 2014).

However, it was felt important to repeat the study since new species were observed in the later years.Thus, the present study was undertaken to update the checklist of anurans from Durgapur Subdivision.

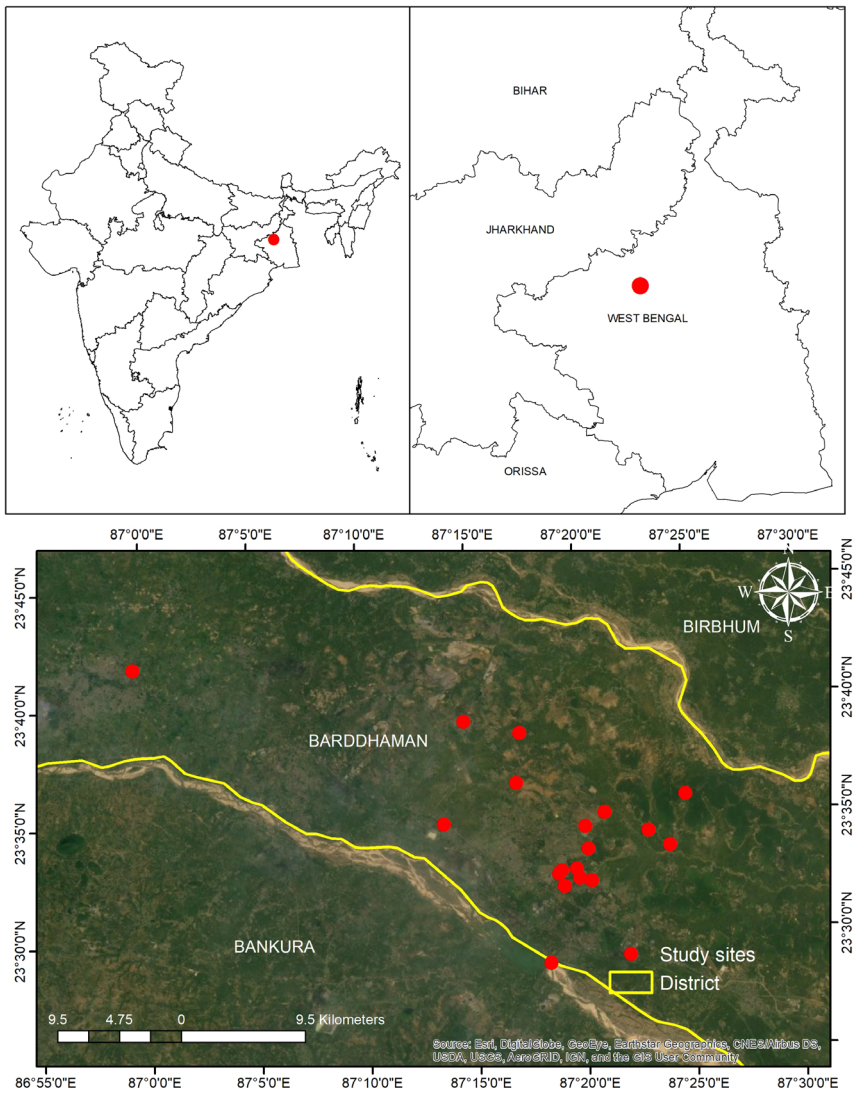


**Image 1. Study area under present investigation from Durgapur of Paschim Bardhaman District from West Bengal, India.**

## Materials and Methods

### Study area

The present study was carried out in the industrial city of Durgapur, Paschim Bardhaman which covers

Table 1. Checklist of anurans in Durgapur Subdivision based on previous and present study.

| Family | Common Name | Scientific Name | Local name | References |
|---|---|---|---|---|
| Bufonidae | Common Indian Toad | *Duttaphrynus melanostictus* | Kuno Bang | A, B, C, D |
| | Schneider's Dwarf Toad | *Duttaphrynus scaber* | Choto Kuno Bang | D |
| | Indian Marbled Toad | *Duttaphrynus stomatictus* | Kuno Bang | C, D |
| Dicroglossidae | Indian Skipper Frog | *Euphlyctis cyanophlyctis* | Churchure Bang | A, B, C, D |
| | Indian Pond Frog | *Euphlyctis hexadactylus* | Jar Bang | A, D |
| | Cricket Frog | *Minervarya sahyadrensis* | China Bang | A, B, C, D |
| | Jerdon's Bull Frog | *Hoplobatrachus crassus* | Choto Sona Bang | B, C, D |
| | Indian Bull Frog | *Hoplobatrachus tigerinus* | Sona Bang | A, B, C, D |
| | Terai Wart Frog | *Minervarya teraiensis* | China bang | D |
| Microhylidae | Indian Painted Frog | *Uperodon taprobanicus* | Vepu Bang | A, B, D |
| | Narrow Mouth Frog | *Microhyla sp* | Kath Bang | A, B, C, D |
| | Greater Balloon Frog | *Uperodon globulosus* | Phola Bang | A, B, D |
| | Variegated Globular Frog | *Uperodon variegatus* | - | D |
| Ranidae | Yellow Striped Frog | *Hylarana tytleri* | Pana Bang | D |
| Rhacophoridae | Common Indian Tree Frog | *Polypedates maculatus* | Gecho Bang | A, B, D |
| **References: A: Pal et al. (2012); B: Dutta & Mukhopadhyay (2013); C: Chatterjee & Mondal (2016); D: Present study.** | | | | |

an area of approximately 154 sqkm and is situated at the transition zone between Chotanagpur plateau and Gangetic plains (23.48$^0$N, 87.32$^0$E) (Image 1). The study area is presently dotted with a large number of industries and is surrounded by small forest patches. There are a number of permanent waterbodies and temporal water pools while agricultural lands and grasslands can be found sporadically that sustains wildlife amidst the industrial city (Gayen et al 2017).

## Methods

The present study was carried out for more than three years from May 2016 to October 2019. Multiple methods like visual encounter survey, extensive searches in microhabitats, call analysis, information from local people, road kill study and opportunistic sightings were used in the present study. Different frogs and toads were identified using suitable literatures (Deuti & Ayyaswamy 2009; Mathhew & Sen 2010; Gururaja 2012).

## Results and Discussion

A total of 15 anuran species belonging to five families were observed in the present study (Table 1). Among these 15 species, four species were not previously reported from this industrial area. The detailed accounts of the new findings are given below:

**Family Bufonidae**

**1. *Duttaphrynus scaber* (Schneider, 1799)**

**Common Name-** Dwarf Toad

**Local Name-** Choto Kuno Bang (Bengali)

Image 3. Female of *Duttaphrynus scaber*.

Image 2. *Duttaphrynus scaber*.

**Distribution:** It has been reported from various parts of the Indian subcontinent, mainly from the Central and southern India. But previously there are no records of this species from West Bengal. This species is quite recently added to the state checklist from Medinipore district of West Bengal (Mohapatra & Ghorai 2019).

**Comments:** On 24.viii.2018 and on 6.v.2019, we encountered a single individual (probably two females as they do not have any vocal sacs) each of an unknown variety of toad from Pardaha (23.5590$^0$N, 87.3382$^0$E) and Akandara (23.5768$^0$N, 87.3776$^0$E) of Durgapur Subdivision respectively and later identified it as *Duttaphrynus scaber* (not collected) based on the identification keys from suitable field guides. On 26.vii.2019 again we observed two individuals (two females again) of the same variety of toad from an agricultural field and road side puddles of Jhajra, Durgapur Subdivision (23.6409$^0$N, 87.3011$^0$E) and collected a single specimen for further studies. Later, male individuals of this species (probably more than 20, going by calling individuals) were recorded from various parts of Durgapur Subdivision like Malandighi (23.5613$^0$N, 87.4021$^0$E), Pardaha (23.5590$^0$N, 87.3382$^0$E) and Bijra (23.5846$^0$N, 87.3521$^0$E) areas of Durgapur Subdivision.

Small sized toad with depressed body (SVL= 36.42 mm), weak cranial ridges with closely set warts, distinct bony ridges on top of head, circular poison glands, tympanum

prominent (TYD= 2.57 mm) and rounded, head slightly wider than long (HW= 13.44 mm, HL= 10.47 mm), nostrils nearer to the snout (EN= 3.05 mm, SN= 0.89 mm), relative arrangement of fingers: I (2.73 mm) <II (2.77mm) <IV (3.26 mm) <III (4.57 mm), relative arrangement of toes: toes I (1.57 mm)<II (3.37 mm)<V (4.37 mm)<III (4.47 mm)<IV (6.57 mm), webbing present in toes, dorsum brownish coloured with cornified warts on back, fingers and toes ventral surface rough, warty and sand paper like, single vocal sac which is light yellowish in colour along with the distinct call pattern are the few morphological characters which helped in the identification of this toad as *Duttaphrynus scaber* (Image 2 & 3).

The specimen collected from Jhajra region of Durgapur (most probably a female) was preserved in 10% formalin and then transferred to 70% ethanol and submitted to Zoological Survey of India, Kolkata under the accession number ZSI A14491.

The males were recorded calling from the top of grasses and paddy plants from grasslands and agricultural fields in the monsoon months from mid-June to mid-September and the call can be described as “tre–tre–tre–tre”.

**Family Dicroglossidae**

**2. *Minervarya teraiensis* (Dubois, 1984)**

**Common Name-** Terai Cricket Frog

**Local Name-** Jhijhi Bang (Bengali)

**Distribution:** In India, recorded from Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura (Mathew & Sen 2010). This species was first reported from West Bengal by Deuti & Ayyaswamy in 2009. It is widespread in West Bengal also (Pratihar & Deuti 2017, Deuti *et al* 2017).

Image 4. *Minervarya teraiensis*.

**Comment:** One male on 17.vii.2018 was first observed from Pardaha area (23.5590$^0$N, 87.3382$^0$E) of Durgapur subdivision. Later, seven males on 25.vii.2019 were again observed from the same location. They were also recorded from other areas of Durgapur Subdivision.

The species is identified on the basis of its medium size, presence of supratympanic fold, dorsal skin with fine glandular folds, snout pointed and projected beyond mouth, fingers and toe tips rounded, dorsum colour grayish to brownish with darker spots, presence of blackish brown bar between the eyes and black bars on the upper lips, presence of fejervaryan lines on both sides of the belly, blackish colour vocal sacs and

distinctive call pattern. This species is quite easily distinguishable from other cricket frogs found in this region by its larger size and call pattern (Image 4). The males were observed calling from the edges of the temporal water pools and rain puddles in agricultural lands during the monsoon months. The call was louder than other Cricket frogs and was like "creak–creak".

**Family Microhylidae**

**3. *Uperodon variegatus* (Stoliczka, 1872)**

**Common Name-** Variegated Globular Frog

**Local Name-** Holde putkijukto phola bang (Bengali)

**Distribution:** Found in Madhya Pradesh, Orissa, Tamil Nadu, Karnataka and Kerala in Indian subcontinent (Daniels 2005). The species was reported for the first time from West Bengal by from Jhargram (Deuti 1998).

**Comment:** This species was first recorded from a grassland area near Heemsheela School (23.5438$^0$N, 87.3177$^0$E) in Durgapur on 10.ix.2017. Two males were observed calling from the temporal water pools while floating amongst the grasses. Later, on 15.vi.2019 more than seven calling males were also observed from Pardaha (23.5590$^0$N, 87.3382$^0$E). In respective years this species was observed from different parts of Durgapur, mainly around temporal water pools in agricultural fields, human habitations and in grasslands.

It was identified by its small size, blunt snout, triangular shaped body, absence of tympanum, presence of a strong fold from eye to shoulder, fingers with triangular dilations and presence of both inner and outer metatarsal tubercles, dorsum brownish in colour with yellow marbling and spots, ventrum whitish to off-whitish in colour, single vocal sac and distinctive call (Image 5-7).

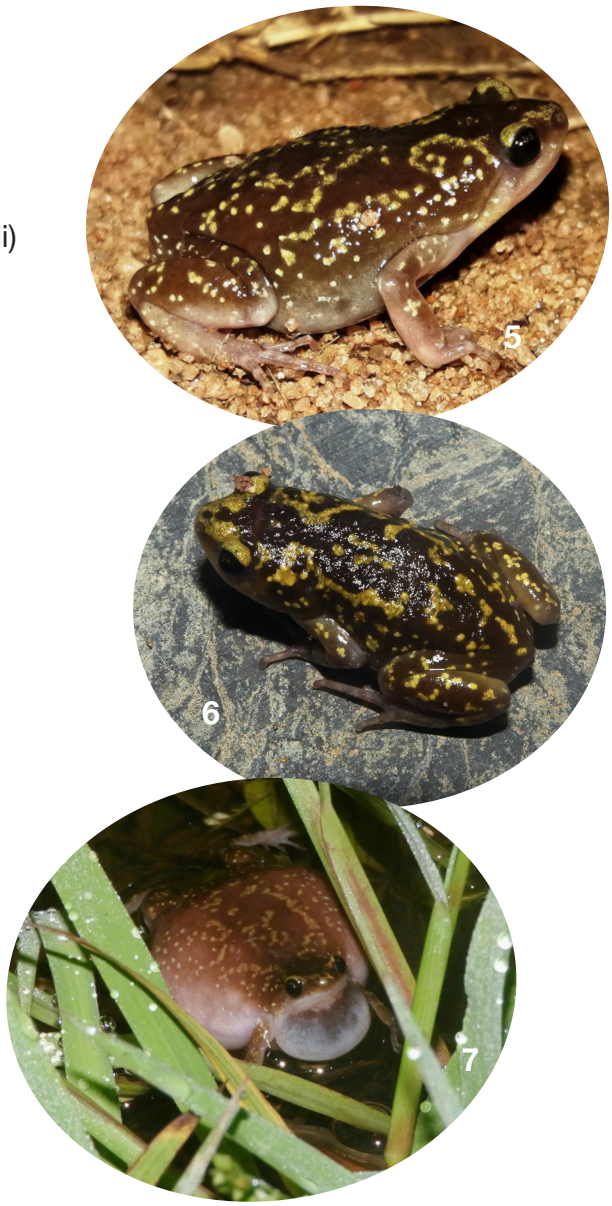


**Image 5-7. *Uperodon variegatus* (5 – side view; 6 – dorsal view, 7 – calling male).**

The males were observed to call while floating amidst the grasses in temporal water pools in grasslands and agricultural fields during the monsoon from July to September and the call can be described as like "quay–quay–quay".

**Family Ranidae**
**4. *Hylarana tytleri* (Theobald, 1868)**
**Common Name-** Yellow-striped Frog/ Reed Frog
**Local Name-** Pana Bang (Bengali)

**Distribution:** In India reported only from eastern and north eastern parts. This species is reported from various parts of West Bengal (Pratihar & Deuti 2011, Deuti et al 2017).

**Comment:** During the present study two individuals were observed from Pardaha (23.5590$^0$N, 87.3382$^0$E) and Rabindrapally (23.4766$^0$N, 87.3319$^0$E) of Durgapur on 26.v.2019 and 27.vi.2019 respectively.

The frog is identified on the basis of following characters- small size with smooth dorsum, body elongated and torpedo shaped, tympanum large and prominent, presence of two dorsolateral folds from the eyes to the groin on both side of the body, fingers and toes elongated with discs at the tips, toes with partial webbing, dorsum with light greenish colour (adult) and yellowish brown in colour (sub-adult) with two yellow bands on each side of the body, ventrum whitish in colour and distinctive chirping type of call.

The lone individual from Pardaha was found to be sitting on the grasses in an agricultural field whereas the adult individual from Rabindrapally was observed to call from a grassland area. The call is very distinct and is often compared to the chirping of tailor bird (Image 8).

**Image 8. *Hylarana tytleri.***

With the addition of these four new records, the total numbers of amphibians stand at 15 from Durgapur Subdivision which is quite encouraging for an industrial city. The records of *Fejervarya limnocharis* previously mentioned from this region are possibly misidentified and may point towards a complex of more than two species. It was also observed during this present study that those mentioned as *Fejervarya limnocharis* are generally *Minervarya sahyadrensis*, *Minervarya teraiensis* and other two unidentified species of *Minervarya*. Moreover the record of *Microhyla ornata* mentioned in the previous literatures is also possibly *Microhyla cf. mymensinghensis*.

The recent trends in the description of new species to science for the amphibians show that most of these are from the unexplored human habitation regions. The newly described *Sphaerotheca magadha* and *Polypedates bengalensis* are from human habitations in Jharkhand (Chotanagpur region) and West Bengal (Gangetic plain region) respectively which is in the vicinity of the present study area (Purkayastha et al 2019, Prasad et al 2019). As the present

study area lies in the transition zone of Chotanagpur plateau and Gangetic plain, so maybe more species including these two species can also be found here in the near future. Further studies covering more study sites and solving this confusion regarding identification of species will surely enrich our knowledge about the anuran populations of this industrial region. However, this area might face a huge decline in anuran diversity following various anthropogenic interventions and habitat. Furthermore, these new findings are really encouraging to carry out further extensive study of anuran diversity from this region which will surely help in the future conservation of these species from this industrial region.

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**Acknowledgements:** The authors sincerely thank Mr. Milan Kanti Mandal, DFO, Durgapur Subdivision for the necessary permissions needed for this study. The first author express gratitude to Dr. Kaushik Deuti (Scientist C, Zoological Survey of India) for his enormous help in the identification of various species and Dr. Tapajit Bhattacharya (Assistant Professor, Department of Conservation Biology, Durgapur Government College) for his help in this study.

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**Citation:** Gayen, D., S. Dey & U.S. Roy. (2021). Additional report of anurans from Durgapur subdivision, Paschim Bardhaman, West Bengal. frog leg #142. In: *Zoo's Print* 36(1): 33–39.

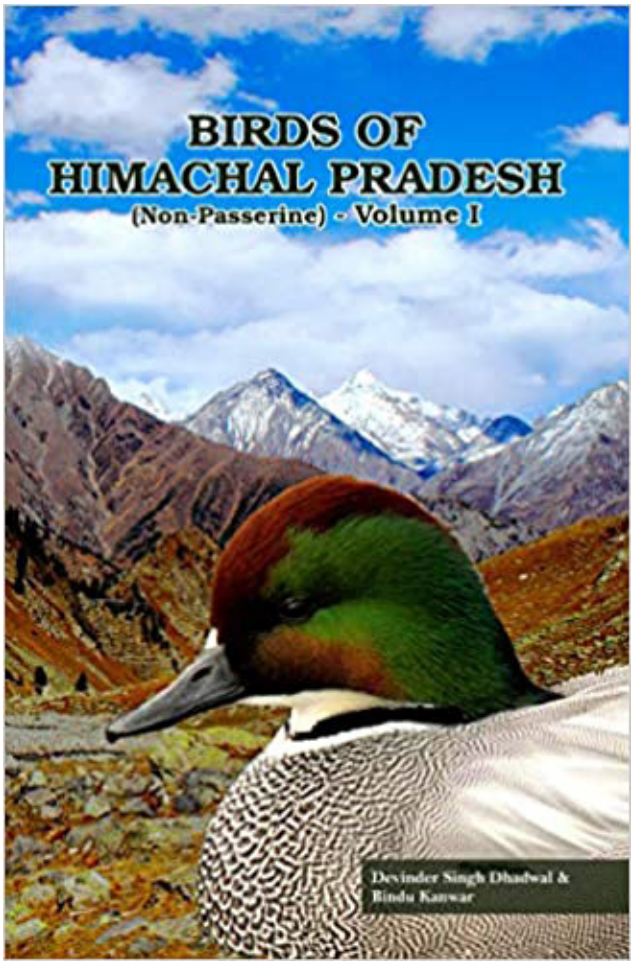
# BOOK REVIEW

## Birds of Himachal Pradesh (Non-Passerine - Volume 1)
**Devinder Singh Dhadwal & Bindu Kanwar. Paper back 301 Pp. Price: INR 1250/-**

## Birds of Himachal Pradesh (Passerine - Volume 2)
**Devinder Singh Dhadwal. Hardbound 340Pp. Price: INR 1350**

**Book Review by Praveen, J.**
**Villa #5, Embassy Homes, Mudavanmugal, Poojappura P.O, Thiruvananthapuram, Kerala 695012, India**
**Email: paintedstork@gmail.com**

Several states have brought out books on the birds of the state – Goa, Assam, Delhi, Kerala – to name of few. This set of two books from Himachal Pradesh (HP) is the most recent addition to the state series and towards a growing body of avian literature for the western Himalaya. These volumes aim to cover all the species that have been recorded from HP in recent years.




The first author, who works for the HP State Forest Department, has shown admirable passion in studying birds over a long time and he has amassed tremendous field knowledge almost single handedly on their status and distribution. All the images barring a few mentioned specifically were taken by the author. Though not mentioned, probably many of them were photographed within the state. To photo document most of the species that have occurred in an Indian state is an unparalleled, truly remarkable feat.

The skeleton of this work revolves around the photographs and their associated tweets. Each page has have one or two species and most species have multiple photographs. Photographs cover different age class, sex (using a rather non-standard notation ↑ ↓ vs ♂ ♀), angles of view, or posture. The tweets call out the main field feature, its status in the state and the sites/districts where it may be found. Additional information like IUCN threat status, Wildlife Protection Act (WPA) Schedule status and a relative abundance measure (Common, Not Common, Rare) are also included. Some species carry an estimated number of individuals that are recorded in the state. The first edition has a 13-page introductory section that starts with a 'Tribute to Birds', a few habitat photographs, and a list of main treks while the second edition has

lists of threatened birds, summer visitors, and winter visitors. Each volume has a complete checklist at the end for the species covered in that volume.

If one randomly browses through the book, there are some good photographs, in fact most pages have at least one good photograph. Some of the photographs are rather special for India – like the stunning image of the cute Little Gull in its breeding plumage; however, there are a number of passable images as well. An over insistence of reproducing self-taken photographs has surely affected the production. I do not think the readers would be happy with substandard images of widespread species like the Tawny-bellied Babbler. A state book on birds is expected to be a crowd puller; encouraging a fresh generation to pick up the hobby. I wonder if the photographs and field identification tweets do true justice to that. For e.g., the account of Indian Nuthatch calls out grey undertail coverts but both the photos do now show that feature.

With his vast field experience, a reader expects the correct status and distribution of all the species from the state is well covered; however, one tends to wonder why easily accessible status summaries like the eBird bar charts were not put to use. It is certainly giving an incomplete status for many species; like the Sulphur-bellied Warbler and White-browed Fulvetta that have only two sites called out while there are many more known sites. For WPA status, I recommend authors follow 'India Checklist' (Praveen et al. 2020) as there is a lot to be fixed in these volumes.

All new generation bird books have a stiff challenge to ensure that the photographs used are identified correctly, and this work is no exception. With an average of 3-4 images per page, this book has 2,000-2,500 images and getting every ID correct is a herculean task. The only time-proven method to get this right is to show the photographs to as many people as one can – and where identification is difficult or doubtful, drop the photograph. I would highly recommend the author to do run this process more intensely in the next edition, as I was able to find several mistakes in photographs that can be readily identified; not to mention others where it is impossible to be certain from the depicted images. I shall list out a few in the hope that they will get corrected in the next edition and rather not to belittle the wonderful work the author has showcased. Images of Great Egret are depicted as Intermediate Egret (p. 69), Wood Sandpiper & Temminck's Stint shown as Long-toed Stint (p. 111), Nordmann's Greenshank, a strictly coastal species that winter in Bangladesh, is almost certainly a Common Greenshank (p. 135), Steppe Eagle shown as Indian Spotted Eagle (p. 212), and Tawny Eagle (p. 214), an immature White-eyed Buzzard shown as Booted Eagle (p 219), and Fulvous-breasted Woodpecker depicted as Rufous-bellied Woodpecker. In the second volume, author found the warblers challenging. To call out a few, an Acrocephalus, probably a Blyth's Reed Warbler is assigned as a Blyth's Leaf Warbler (p. 123), the Green Warbler (p. 121) shown has a crown-stripe and is probably a Hume's Warbler, one of the pictures of Grey-sided Bush Warbler (p. 102) is a Brownish-flanked Bush Warbler, Clamarous Reed Warbler shown as Blyth's Reed Warbler (p. 106), Common Chiffchaff shown as Booted Warbler (p. 112), and one of the Buff-barred Warblers (p. 119) is Ashy-throated. I highly recommend the author to get all images vetted by multiple ID experts. I would also encourage the author to formally publish some of the important photographic records from the state, e.g., Lesser Flamingo, Black-crowned Sparrow Lark, Hume's Groundpecker, Common Reed Bunting, Lesser Shortwing, White-bellied Sea Eagle,

and Hume's Wheatear. As it stands, there are no sufficient details in the book for those records nor is it clear whether the associated photographs were captured within HP.

Some other general improvements I would suggest are additional sections on the history of ornithology in HP, a synthesis of the different bird communities of the state, a section on where to bird in HP and what birds to expect (not as trek routes), a neat map of the physiography, a proper section (rather than back of the front cover) on how to use the book and interpret the codes, and finally, to change the production style into a single volume – even a 700-page paperback is quite feasible. It is worthwhile using online databases to crosscheck the status and distribution of birds and make appropriate changes. Getting the tweets refereed by a couple of birdwatchers/ ornithologists familiar with the ornithology of HP is another avenue for quality improvement. Along with this, services of a good editor would be useful to tighten the language, site spellings (Nagrota Surian has 3 spellings in the book), uniformity in bird names, dates (month & year of some of author's published sightings do not match with the ones given in the book) and consistency in tables (e.g., threatened birds list has two species that are not in author's state checklist).

While thumbing through any book, I attempt to identify an audience for the same. The author has not spelt out clearly who the intended audience is but I found it really hard to identify the target audience of this work. While this book has plenty of photographs, it is not a field guide as the books do not attempt to depict all the plumages of every species to aid in field identification. It is also not a status and distribution handbook as it is mostly based on author's observations without utilizing the vast knowledge available online. Coffee table book, it certainly is not with the kind of photographs. The volumes provide a near-complete checklist of birds found in Himachal Pradesh with photographs of each species that are probably taken within the state; some exceptions are straightforward like the extralimital subspecies of the Common Wood Pigeon being depicted.

Credit to the author, the book is comprehensive in terms of species coverage – but that has resulted in the book being a sort of personal photo album. At a steep price of INR 2,600/-, I suspect only an avid book collector or a library would shell out the bucks to possess these volumes.

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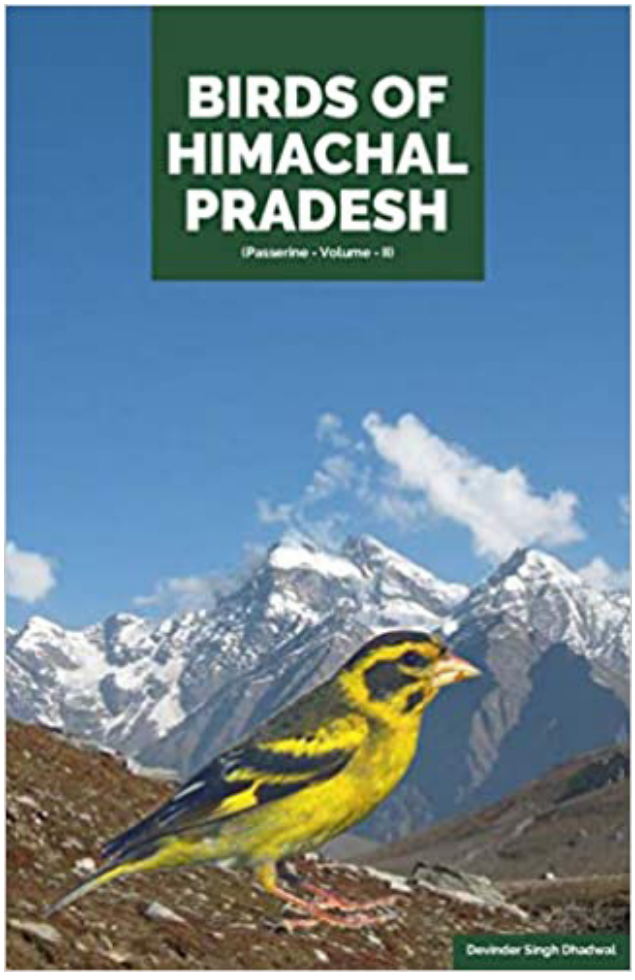
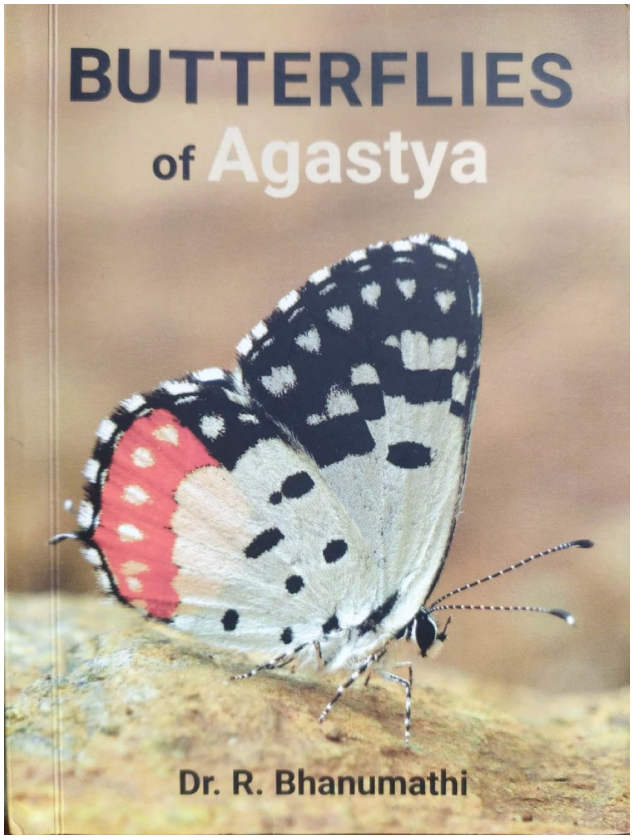


# Butterflies of Agastya

***Author: Dr. R. Bhanumathi***
**Publishers: Agastya International Foundation**
**Year: 2019**
**Size: (10.5x14cm)**
**Review by B.A. Daniel, Zoo Outreach Organization**

This field guide to butterflies observed at Agastya International Foundation (AIF) is the third publication of the series by the author. AIF is located in Gudivanka village, Chittoor district of Andhra Pradesh. The basis of this exceptional work is based on 15 months (from July 2015) of personal observation by the author on butterflies on the campus. She started the work initially just to do biodiversity documentation, later with the encouragement of the Foundation, it was made into a field guide. The Agastya campus is a semi-arid zone that has an elevation of 733 MSL alongside the Eastern Ghats. The author reports 104 butterflies along with photographs of dorsal and ventral views of 80 species.




I would say this is a very good reference book for beginners as the book has many interesting observations like congregation, basking, mud puddling, conservation needs, and also basic insect science such as morphology, life cycle, feeding, and larval host plants that will be very useful for the beginners. For easy reference, the families are given colour codes.

Information about species is spread across two pages with species information on the facing page with details such as common name, scientific name, wingspan, description, behavior, and larval host plant and photographs of butterflies on the left side. The photos will help users to identify the species as some of the photos has highlights and inserts of important taxonomic morphological characters.

Dr. R. Bhanumathi is a nature educationist for over three decades. She has authored and co-authored many publications on nature in English and Tamil. This book is not for sale. If interested in availing a copy of the book, visit www.agastya.org and email to AIF.

# Birds of the Campus

**By Jagadish Gopal Paithankar, K. Vineeth Kumar & Gincy Joseph; Edited by D. Smitha Hegde**
**Published by Nitte (Deemed to be University); Price: Rs. 950.00 (Approximately 100 pages)**
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Emily Dickson quotes “Hope is the thing with feathers,” this book in a nutshell as the editor visualizes this creation. The second edition book on the Birds of the Campus covers all species recorded in Paneer and KSHEMA campus of the NITTE (Deemed to be University), Mangalore.

The layout of the book is good and the authors have thoroughly compiled the details for any amateur or beginner to understand about common birds on the campus. Though the book is hardbound with amazing photographs, the cost seems to be on the higher side, probably due to the targeted audience and the quality of the print and paper, which is worth a buy for every campus lover. The black-and-white picture of the pair of Brahminy Kite in the front inside stands distinct among the colourful book. Each page in the book includes a colour photograph of each bird sighted in the campus with both common and scientific name, and size of the bird, symbolic behavioural illustrations, call patterns, breeding season, the IUCN Red List status, key identification features, and the place in the campus where you find the bird. This serves as a guide for the birders. Another interesting aspect of this book is the QR code embedded in the book that gives quick access to the well-known public domain Xeno-Canto with terrain pictorial representations, birdcalls, etc., keeping up with the latest trend of digital media influence in print media, which is a great improvement in bird identification for new bird watchers and amateurs. This could generate a lot of interest among beginners who find it difficult on the campus to identify birdcalls.


Interestingly even if the total species count is only 93, it has both diurnal and nocturnal birds, which is a positive way of highlighting the birdlife in the campus for bird watchers, representing 42 families. Among the 93 species seen on the campus, a few Near Threatened and Vulnerable species are also on the list. There are a few migratory species too in the book; well I leave it to the readers to go through the list to enjoy the findings on campus. The water bodies near the Paneer campus, the rainwater harvest pond, and the water treatment plant all are supporting birdlife on the campus. At the back end of the book, you can find the details of the authors and their contributions. A glossary, in the end, has the entire species list of the book with both common and scientific names on a single page.

This book helps in educating students, staff, and faculty members on the bird diversity in the campus and aids the next generation of students to conserve the campus green. This is a handy book for campus lovers, bird watchers, and amateurs inside the campus to learn and record more species in the future.

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**Communicating science for conservation**

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## Publication Information

**ZOO'S PRINT, ISSN 0973-2543**
Published at: Coimbatore

Owner: Zoo Outreach Organisation, 12, Thiruvannamalai Nagar, Saravanampatti - Kalapatti Road, Saravanampatti, Coimbatore, Tamil Nadu 641035, India.



ZOO'S PRINT magazine is informal and newsy as opposed to a scientific publication. ZOO'S PRINT magazine sometimes includes semi-scientific and technical articles which are reviewed only for factual errors, not peer-reviewed.

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