

Building evidence for conservation globally

Journal of Threatened Taxa



Open Access



10.11609/jott.2026.18.8.29375-29558
www.threatenedtaxa.org

26 August 2026 (Online & Print)
18(8): 29375-29558
ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)



ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

Publisher
Wildlife Information Liaison Development Society
www.wild.zooreach.org

Host
Zoo Outreach Organization
www.zooreach.org

Srivari Illam, No. 61, Karthik Nagar, 10th Street, Saravanampatti, Coimbatore, Tamil Nadu 641035, India
Registered Office: 3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore, Tamil Nadu 641006, India
Ph: +91 9385339863 | www.threatenedtaxa.org
Email: sanjay@threatenedtaxa.org

EDITORS

Founder & Chief Editor

Dr. Sanjay Molur

Wildlife Information Liaison Development (WILD) Society & Zoo Outreach Organization (ZOO),
Coimbatore, Tamil Nadu 641006, India

Assistant Editor

Dr. Chaithra Shree J., WILD/ZOO, Coimbatore, Tamil Nadu 641006, India

Managing Editor

Mr. B. Ravichandran, WILD/ZOO, Coimbatore, Tamil Nadu 641006, India

Associate Editors

Dr. Mandar Paingankar, Government Science College Gadchiroli, Maharashtra 442605, India

Dr. Ulrike Streicher, Wildlife Veterinarian, Eugene, Oregon, USA

Ms. Priyanka Iyer, ZOO/WILD, Coimbatore, Tamil Nadu 641006, India

Board of Editors

Dr. Russel Mittermeier

Executive Vice Chair, Conservation International, Arlington, Virginia 22202, USA

Prof. Mewa Singh Ph.D., FASc, FNA, FNAsc, FNAPsy

Ramanna Fellow and Life-Long Distinguished Professor, Biopsychology Laboratory, and
Institute of Excellence, University of Mysore, Mysuru, Karnataka 570006, India; Honorary
Professor, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore; and Adjunct
Professor, National Institute of Advanced Studies, Bangalore

Stephen D. Nash

Scientific Illustrator, Conservation International, Dept. of Anatomical Sciences, Health Sciences
Center, T-8, Room 045, Stony Brook University, Stony Brook, NY 11794-8081, USA

Dr. Fred Pluthero

Toronto, Canada

Dr. Priya Davidar

Sigur Nature Trust, Chadapatti, Mavinhalla PO, Nilgiris, Tamil Nadu 643223, India

Dr. John Fellowes

Honorary Assistant Professor, The Kadoorie Institute, 8/F, T.T. Tsui Building, The University of
Hong Kong, Pokfulam Road, Hong Kong

Prof. Dr. Mirco Solé

Universidade Estadual de Santa Cruz, Departamento de Ciências Biológicas, Vice-coordenador
do Programa de Pós-Graduação em Zoologia, Rodovia Ilhéus/Itabuna, Km 16 (45662-000)
Salobrinho, Ilhéus - Bahia - Brasil

Dr. Rajeev Raghavan

Professor of Taxonomy, Kerala University of Fisheries & Ocean Studies, Kochi, Kerala, India

English Editors

Mrs. Mira Bhojwani, Pune, India

Dr. Fred Pluthero, Toronto, Canada

Copy Editors

Ms. Paloma Noronha, Daman & Diu, India

Ms. Priyanka Iyer, Zooreach. Coimbatore, India

Ms. Trisa Bhattacharjee, Zooreach. Coimbatore, India

Ms. Usha Ravindra, Zooreach, Coimbatore, India

Mr. S. Sushanth, Zooreach. Coimbatore, India

Web Development

Mrs. Latha G. Ravikumar, ZOO/WILD, Coimbatore, India

Typesetting

Mrs. Radhika, Zooreach, Coimbatore, India

Mrs. Geetha, Zooreach, Coimbatore India

Fundraising/Communications

Mrs. Payal B. Molur, Coimbatore, India

Subject Editors 2021–2023

Fungi

Dr. B. Shivaraju, Bengaluru, Karnataka, India

Dr. R.K. Verma, Tropical Forest Research Institute, Jabalpur, India

Dr. Vatsavaya S. Raju, Kakatiya University, Warangal, Andhra Pradesh, India

Dr. M. Krishnappa, Jnana Sahyadri, Kuvempu University, Shimoga, Karnataka, India

Dr. K.R. Sridhar, Mangalore University, Mangalagotri, Mangalore, Karnataka, India

Dr. Gunjan Biswas, Vidyasagar University, Midnapore, West Bengal, India

Dr. Kiran Ramchandra Ranadive, Annasaheb Magar Mahavidyalaya, Maharashtra, India

Plants

Dr. G.P. Sinha, Botanical Survey of India, Allahabad, India

Dr. N.P. Balakrishnan, Ret. Joint Director, BSI, Coimbatore, India

Dr. Shonil Bhagwat, Open University and University of Oxford, UK

Prof. D.J. Bhat, Retd. Professor, Goa University, Goa, India

Dr. Ferdinando Boero, Università del Salento, Lecce, Italy

Dr. Dale R. Calder, Royal Ontario Museum, Toronto, Ontario, Canada

Dr. Cleofas Cervancia, Univ. of Philippines Los Baños College Laguna, Philippines

Dr. F.B. Vincent Florens, University of Mauritius, Mauritius

Dr. Merlin Franco, Curtin University, Malaysia

Dr. V. Irudayaraj, St. Xavier's College, Palayamkottai, Tamil Nadu, India

Dr. B.S. Kholia, Botanical Survey of India, Gangtok, Sikkim, India

Dr. Pankaj Kumar, Department of Plant and Soil Science, Texas Tech University, Lubbock, Texas, USA.

Dr. V. Sampath Kumar, Botanical Survey of India, Howrah, West Bengal, India

Dr. A.J. Solomon Raju, Andhra University, Visakhapatnam, India

Dr. Vijayasankar Raman, University of Mississippi, USA

Dr. B. Ravi Prasad Rao, Sri Krishnadevaraya University, Anantpur, India

Dr. K. Ravikumar, FRLHT, Bengaluru, Karnataka, India

Dr. Aparna Watve, Pune, Maharashtra, India

Dr. Qiang Liu, Xishuangbanna Tropical Botanical Garden, Yunnan, China

Dr. Noor Azhar Mohamed Shazili, Universiti Malaysia Terengganu, Kuala Terengganu, Malaysia

Dr. M.K. Vasudeva Rao, Shiv Ranjani Housing Society, Pune, Maharashtra, India

Prof. A.J. Solomon Raju, Andhra University, Visakhapatnam, India

Dr. Mandar Datar, Agharkar Research Institute, Pune, Maharashtra, India

Dr. M.K. Janarthanam, Goa University, Goa, India

Dr. K. Karthikeyan, Botanical Survey of India, India

Dr. Errol Vela, University of Montpellier, Montpellier, France

Dr. P. Lakshminarasimhan, Botanical Survey of India, Howrah, India

Dr. Larry R. Noblick, Montgomery Botanical Center, Miami, USA

Dr. K. Haridasan, Pallavur, Palakkad District, Kerala, India

Dr. Analinda Manila-Fajard, University of the Philippines Los Banos, Laguna, Philippines

Dr. P.A. Sinu, Central University of Kerala, Kasaragod, Kerala, India

Dr. Afroz Alam, Banasthali Vidyapith (accredited A grade by NAAC), Rajasthan, India

Dr. K.P. Rajesh, Zamorin's Guruvayurappan College, GA College PO, Kozhikode, Kerala, India

Dr. David E. Boufford, Harvard University Herbaria, Cambridge, MA 02138-2020, USA

Dr. Ritesh Kumar Choudhary, Agharkar Research Institute, Pune, Maharashtra, India

Dr. A.G. Pandurangan, Thiruvananthapuram, Kerala, India

Dr. Navendu Page, Wildlife Institute of India, Chandrabani, Dehradun, Uttarakhand, India

Dr. Kannan C.S. Warriar, Institute of Forest Genetics and Tree Breeding, Tamil Nadu, India

Invertebrates

Dr. R.K. Avasthi, Rohtak University, Haryana, India

Dr. D.B. Bastawade, Maharashtra, India

Dr. Partha Pratim Bhattacharjee, Tripura University, Suryamaninagar, India

Dr. Kailash Chandra, Zoological Survey of India, Jabalpur, Madhya Pradesh, India

Dr. Ansie Dippenaar-Schoeman, University of Pretoria, Queenswood, South Africa

Dr. Rory Dow, National Museum of Natural History Naturalis, The Netherlands

Dr. Brian Fisher, California Academy of Sciences, USA

Dr. Richard Gallon, Llandudno, North Wales, LL30 1UP

Dr. Hemant V. Ghate, Modern College, Pune, India

Dr. M. Monwar Hossain, Jahangirnagar University, Dhaka, Bangladesh

For Focus, Scope, Aims, and Policies, visit https://threatenedtaxa.org/index.php/JoTT/aims_scope
For Article Submission Guidelines, visit <https://threatenedtaxa.org/index.php/JoTT/about/submissions>
For Policies against Scientific Misconduct, visit https://threatenedtaxa.org/index.php/JoTT/policies_various

continued on the back inside cover

Cover: *Minervarya cepfi* & *Nyctibatrachus petraeus*—mix media. © P Kritika



A study on the avifaunal diversity and community dynamics of Karanji Lake, Mysuru, Karnataka, India

S. Sushanth¹ & K.S. Raghunandan²

¹Zoo Outreach Organisation, 3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore, Tamil Nadu 641006, India.

²Postgraduate Department of Zoology, Maharani's Science College for Women, Autonomous, Mysuru, Karnataka 570005, India.

¹s-sushanth@zooreach.org (corresponding author), ²dorsraaghu@gmail.com

Abstract: We conducted the present field study to record avifaunal diversity at Karanji Lake, Mysuru, Karnataka, from April 2021 to March 2022 on a bimonthly basis. Point count method with a fixed radius was carried out within the lake premises, with 14 grids. A total of 94 bird species were recorded belonging to 16 orders and 47 families. Highest number of birds was represented by order Passeriformes, with 23 families, and the family Ardeidae dominated with eight species. A total of 90 species were 'Least Concern', and two species were 'Near Threatened'. Further, these birds were grouped into omnivorous (33%), insectivorous (27.6%), carnivorous (23.4%), piscivorous (7.4%), frugivorous (3.2%), nectarivores (2.1%), granivorous (2.1%), and herbivorous (1.1%) based on feeding habits. Shannon-Wiener value was $3.1517 \pm 0.31_{SE}$, Simpson diversity was 0.6937, and Pielou's evenness value was 0.694. The different diversity index values revealed the occurrence of a good number of bird species, conveying that the Karanji Lake still has potential to support avifauna. This study will help understand the conservation of birds at the Lake in future, an important biodiversity perspective.

Keywords: Birds, Chamundi Hills, diversity indices, feeding guilds, Mysore Zoo, Near Threatened, waterbody, wetland birds.

Editor: H. Byju, Coimbatore, Tamil Nadu, India.

Date of publication: 26 August 2026 (online & print)

Citation: Sushanth, S. & K.S. Raghunandan (2026). A study on the avifaunal diversity and community dynamics of Karanji Lake, Mysuru, Karnataka, India. *Journal of Threatened Taxa* 18(8): 29418–29429. <https://doi.org/10.11609/jott.10539.18.8.29418-29429>

Copyright: © Sushanth & Raghunandan 2026. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use, reproduction, and distribution of this article in any medium by providing adequate credit to the author(s) and the source of publication.

Funding: Self-funded.

Competing interests: The authors declare no competing interests.

Author details S. SUSHANTH is a researcher from Zoo Outreach Organisation, pursuing a PhD on species-composition in abandoned-plantations of the Western Ghats. He has involved in this field for over a decade, with field experience on birds, rodents, herpetofauna, stingless bees, and plants. He is a Rufford and PCI grantee and an IUCN Red List assessor. DR. K.S. RAGHUNANDAN, serving as guest faculty in the Postgraduate Department of Zoology at Maharani's Science College for Women (Autonomous). Government First Grade College, Mysuru. His areas of specialization include entomology (apidology) and ornithology. His current research focuses on the bioecology of Asian giant wild honeybees and avian conservation biology.

Author contributions: SS—data collection, manuscript writing, analysis; KSR—conceived the study, manuscript editing.

Acknowledgements: Authors thankful to Sri Ajith M. Kulkarni, IFS, executive director, Sri Chamarajendra Zoological Garden, Mysuru for granting the permission to carry out this research work. Special thanks to Ms. Sujosha, education officer and all the staff of Sri Chamarajendra Zoological Garden, Mysuru for their support. Special thanks are also due to the principal, Maharani's Science College for women, Mysuru and Dr. M. Ramyashree, head of the department, and Dr. Nijgal, assistant professor, PG Department of Zoology, JSS College, Mysuru for encouragement.

zooreach
Zoo Outreach Organisation



INTRODUCTION

Birds are globally widespread and perform ecologically important functions as pollinator, scavengers, predators, and seed dispersers (Sekercioglu 2006). With over 11,000 species worldwide and approximately 1,358 in the Indian subcontinent (Birdlife International 2026), they are among the most studied taxa and serve as valuable bioindicators of environmental changes because they respond rapidly to changes in landscape configuration, composition, and function (Gregory et al. 2004). Monitoring bird diversity therefore provides insights into habitat quality and ecosystem health. Birds also contribute to multiple ecosystem services, such as provisioning, regulating, cultural, and supporting services, which sustain human well-being (Sekercioglu et al. 2016). Despite their importance, bird communities are increasingly threatened by habitat loss, anthropogenic disturbance, urbanisation, and climate change. Monitoring and conserving bird diversity remain critical for maintaining ecosystem function and biodiversity.

Mysuru City is among the few places in India that has detailed bird documentation since the 1940s. In their landmark survey of the Mysore State, Ali & Whistler (1942–43) documented several wetlands in and around the city, providing an early baseline for avian studies. Wetlands are known to provide key habitats for both resident and migratory birds for breeding, drinking, feeding, resting, and for social interactions (Kaur & Braich 2021). These freshwater bodies often succumb to changes in land use in their catchment areas, resulting in reduced inflows and a declining quality of the “runoff” that passes through agricultural fields and urban areas (Verma et al. 2001). The depletion of wetlands as a result of numerous human activities and/or climate change poses a serious threat to the diversity and number of waterbird species worldwide, with some species becoming extinct across several wetlands (Wetlands International 2012). With this background, the present study was undertaken to assess current avifaunal diversity at Karanji Lake using the point count method. It quantifies species richness, abundance and guilds while evaluating threats. Outcomes will inform urban wetland conservation in Mysuru.

MATERIALS AND METHODS

Study Area

The study was carried out in Karanji Lake (12.3028° N, 76.6736° E; Image 1), located in the Mysuru District, Karnataka, within the Chamundi Hills foothills. It has an altitude ranging 861–944 m, and the surrounding plateau is 1,024–1,057 m high (Mishra et al. 2007). The lake was constructed by the Maharaja of Mysore and is one of the biggest lakes in Karnataka. The total area of the lake is about 36.4 ha. The green cover area measured within the lake premises is about 14 ha. The lake also has a marshy area of about 0.0675 km² and a dry area of 0.280 km², and has a catchment area of 745 ha. The lake water capacity is 629.2 ML, and the highest flood level is 744.14 m (Kumara et al. 2010; Mysore Nature 2025).

Sampling Method

The present study was conducted from April 2021 to March 2022 on a bimonthly basis, with a total of 24 surveys. Surveys were conducted between 0630 h and 1000 h, as bird activity is known to be highest during morning hours. Point count method (Bibby et al. 2000) was employed to estimate the bird richness and abundance that was present in the sampling site. There were a total of 14 grids with one point count station per grid. We spent 15 minutes at each point (3.5 h per replication of all the grids), yielding ~84 h of total sampling effort. The birds were counted within the fixed radius (100 m) (Buckland et al. 2001) using binoculars (10 x 42) and a digital camera was used to photograph. Minimum three replications of point count surveys at every sampling point were carried out in each season (summer, winter, and monsoon). The birds were identified using a field guide (Grimmett et al. 2016). Bird species were classified into feeding guilds following Ghosh et al. (2022) and Jamakhandi & Kadadevaru (2024).

Data Analysis

To assess the adequacy of sampling for bird diversity and sampling effort sufficiency, species accumulation curves were plotted with the cumulative number of bird species that were recorded across all the sampling sites against cumulative effort using the R software v4.3.1 and RStudio v2025.09.2 + 418 (R core team 2025; RStudio team 2025) with ‘vegan’ package (Oksanen et al. 2025) and all the graphs were created with ‘ggplot2’ package (Wickham 2016). The diversity indices (including species richness, Shannon-Wiener diversity, Simpson diversity, and Pielou’s evenness) were calculated using the same

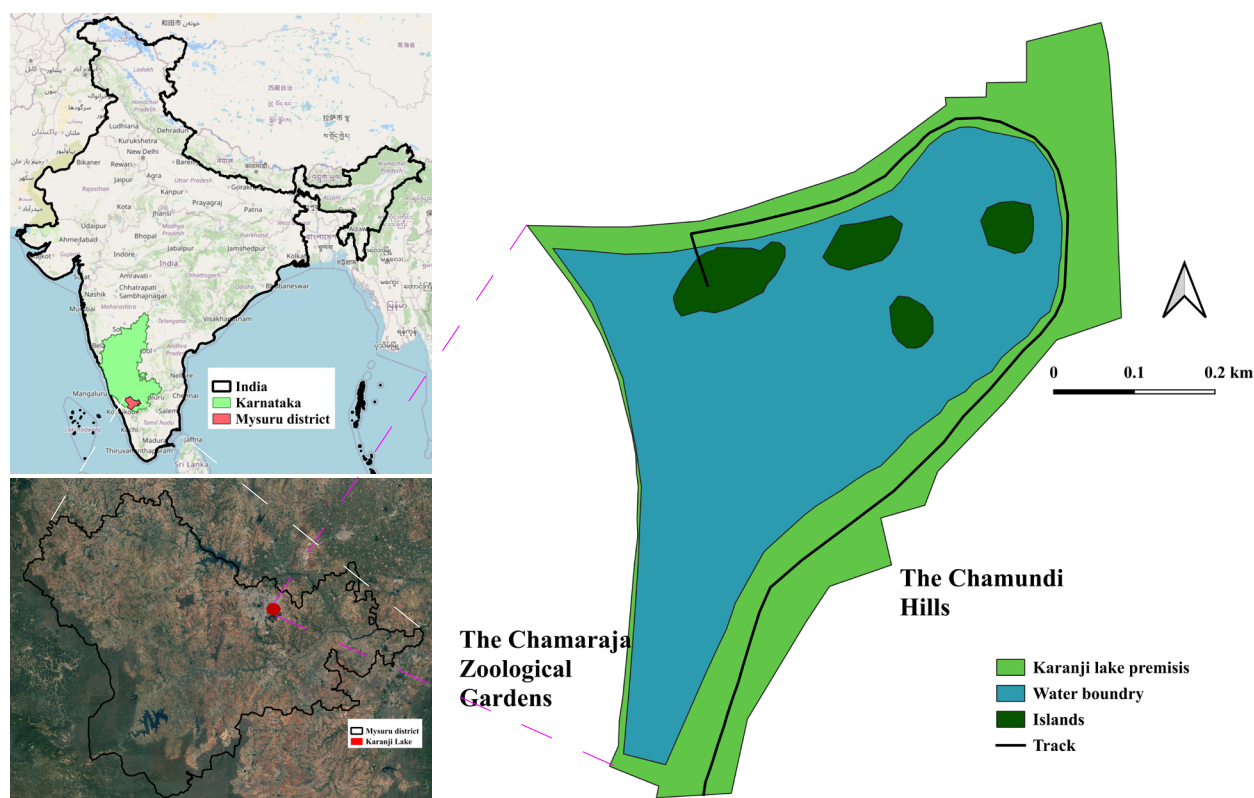


Image 1. The map of the study area, created using QGIS v3.26.2 (<https://qgis.org>) along with the survey track (from the entrance to the end point—1.5 km).

software with ‘vegan’ package (Oksanen et al. 2025).

RESULTS AND DISCUSSION

A total of 94 bird species were recorded belonging to 16 orders and 47 families. The order Passeriformes and the family Ardeidae had the highest number of bird species in them, with 43 and eight, respectively. Three Western Ghats endemic birds were recorded (White-spotted Fantail *Rhipidura albogularis*, White-cheeked Barbet *Psilopogon viridis*, and Mottled Wood-Owl *Strix ocellata*). According to their feeding guilds, the birds were categorised into eight groups, viz., omnivorous (31 species), insectivorous (26 species), carnivorous (22 species), piscivorous (7 species), frugivorous (3 species), nectarivores (2 species), granivorous (2 species), and herbivorous (1 species) (Table 1; Image 4). Based on IUCN 2026, there were only two categories: ‘Least Concern’ (LC) (90 species), ‘Near Threatened’ (NT) (2 species) (Black-headed Ibis *Threskiornis melanocephalus* and Spot-billed Pelican *Pelecanus philippensis*) and two species are not assessed (Grey-headed Swamphen *Porphyrio poliocephalus* and Cinereous Tit *Parus*

cinereus) (Table 1).

The order Passeriformes had the highest number of bird species of 43, with the highest occurrence percentage of 45.75%. The lowest number of species recorded was in four orders (Ciconiiformes, Podicipediformes, Psittaciformes, and Strigiformes) with one species each and with 1.06% occurrence each (Image 5). The family Ardeidae had the highest number of bird species, with eight recorded and the highest occurrence of 8.52%. The least number of bird species was recorded in 21 different families with one species in each and 1.06% occurrence each (Table 2; Image 3).

The species accumulation curve suggested that the sampling effort was adequate, as it reached an asymptote from the tenth month (Image 2). The species richness was 94. The Shannon-Wiener diversity value was $3.1517 \pm 0.31_{SE}$. The Simpson’s diversity index value was 0.6937, and the Pielou’s evenness value was 0.694 (Table 3).

Karanji Lake serves as a key urban ecology site in Mysuru City, sustaining a wide variety and diversity of birds. It serves as breeding ground for several bird species (Black-headed Ibis *Threskiornis melanocephalus*, Spot-billed Pelican *Pelecanus philippensis*, Greater

Table 1. The updated list of bird species recorded in Karanji Lake, Mysuru.

	Common name	Scientific name	IUCN Red List	Diet
I	Accipitriformes			
i	Accipitidae			
1	Shikra	<i>Accipiter badius</i>	LC	CV
2	Black Kite	<i>Milvus migrans</i>	LC	CV
3	Brahminy Kite	<i>Haliastur Indus</i>	LC	CV
II	Anseriformes			
ii	Anatidae			
4	Indian Spot-billed Duck	<i>Anas poecilorhyncha</i>	LC	OV
5	Lesser Whistling-Duck	<i>Dendrocygna javanica</i>	LC	OV
iii	Phasianidae			
6	Indian Peafowl	<i>Pavo cristatus</i>	LC	OV
III	Bucerotiformes			
iv	Bucerotidae			
7	Indian Grey Hornbill	<i>Ocyrceros birostris</i>	LC	OV
v	Upupidae			
8	Common Hoopoe	<i>Upupa epops</i>	LC	OV
IV	Charadriiformes			
vi	Charadriidae			
9	Red-wattled Lapwing	<i>Vanellus indicus</i>	LC	CV
vii	Jacaniidae			
10	Bronze-winged Jacana	<i>Metopidius indicus</i>	LC	CV
viii	Scolopacidae			
11	Green Sandpiper	<i>Tringa ochropus</i>	LC	OV
12	Common Sandpiper	<i>Actitis hypoleucos</i>	LC	CV
13	Wood Sandpiper	<i>Tringa glareola</i>	LC	CV
V	Ciconiiformes			
ix	Ciconiidae			
14	Painted Stork	<i>Mycteria leucocephala</i>	LC	CV
VI	Columbiformes			
x	Columbidae			
15	Rock Dove	<i>Columba livia</i>	LC	OV
16	Spotted Dove	<i>Spilopelia chinensis</i>	LC	GV
VII	Coraciiformes			
xi	Alcedinidae			
17	Common Kingfisher	<i>Alcedo atthis</i>	LC	PV
18	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	LC	PV
19	Stork-billed Kingfisher	<i>Pelargopsis capensis</i>	LC	PV
VIII	Cuculiformes			
xii	Cuculidae			
20	Greater Coucal	<i>Centropus sinensis</i>	LC	OV
21	Asian Koel	<i>Eudynamis scolopaceus</i>	LC	OV

22	Common Hawk-Cuckoo	<i>Hierococcyx varius</i>	LC	IV
IX	Gruiformes			
xiii	Rallidae			
23	Eurasian Coot	<i>Fulica atra</i>	LC	OV
24	Eurasian Moorhen	<i>Gallinula chloropus</i>	LC	OV
25	Grey-headed Swampphen	<i>Porphyrio poliocephalus</i>	-	OV
26	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	LC	OV
X	Passeriformes			
xiv	Acrocephalidae			
27	Sykes's Warbler	<i>Iduna rama</i>	LC	IV
28	Clamorous Reed Warbler	<i>Acrocephalus stentoreus</i>	LC	IV
29	Blyth's Reed Warbler	<i>Acrocephalus dumetorum</i>	LC	IV
30	Booted Warbler	<i>Iduna caligata</i>	LC	IV
xv	Aegithinidae			
31	Common Iora	<i>Aegithina tiphia</i>	LC	IV
xvi	Apodidae			
32	Asian Palm Swift	<i>Cypsiurus balasensis</i>	LC	IV
33	Little Swift	<i>Apus affinis</i>	LC	IV
xvii	Campephagidae			
34	Small Minivet	<i>Pericrocotus cinnamomeus</i>	LC	IV
35	Black-headed Cuckooshrike	<i>Coracina melanoptera</i>	LC	IV
xviii	Chloropseidae			
36	Jerdon's Leafbird	<i>Chloropsis jerdoni</i>	LC	OV
xix	Cisticolidae			
37	Common Tailorbird	<i>Orthotomus sutorius</i>	LC	OV
38	Ashy Prinia	<i>Prinia socialis</i>	LC	IV
xx	Corvidae			
39	House Crow	<i>Corvus splendens</i>	LC	OV
40	Large-billed Crow	<i>Corvus macrorhynchos</i>	LC	OV
xxi	Dicaeidae			
41	Pale-billed Flowerpecker	<i>Dicaeum erythrorhynchos</i>	LC	OV
xxii	Dicruridae			
42	Black Drongo	<i>Dicrurus macrocerus</i>	LC	IV
43	Ashy Drongo	<i>Dicrurus leucophaeus</i>	LC	IV
xxiii	Estrildidae			
44	Scaly-breasted Munia	<i>Lonchura punctulata</i>	LC	OV
45	White-rumped Munia	<i>Lonchura striata</i>	LC	GV
xxiv	Hirundinidae			

	Common name	Scientific name	IUCN Red List	Diet
46	Red-rumped Swallow	<i>Cecropis daurica</i>	LC	IV
47	Barn Swallow	<i>Hirundo rustica</i>	LC	IV
xxv	Monarchidae			
48	Indian Paradise Flycatcher	<i>Terpsiphone paradisi</i>	LC	IV
xxvi	Motacillidae			
49	Forest Wagtail	<i>Dendronanthus indicus</i>	LC	IV
50	Gray Wagtail	<i>Motacilla cinerea</i>	LC	CV
51	White-browed Wagtail	<i>Motacilla maderaspatensis</i>	LC	IV
xxvii	Muscicapidae			
52	Asian Brown Flycatcher	<i>Muscicapa dauurica</i>	LC	IV
53	Indian Robin	<i>Saxicoloides fulicatus</i>	LC	OV
54	Oriental Magpie Robin	<i>Copsychus saularis</i>	LC	OV
55	Tickell's Blue Flycatcher	<i>Cyornis tickelliae</i>	LC	IV
56	White-rumped Shama	<i>Copsychus malabaricus</i>	LC	IV
xxviii	Nectariniidae			
57	Purple-rumped Sunbird	<i>Leptocoma zeylonica</i>	LC	NV
58	Purple Sunbird	<i>Cinnyris asiaticus</i>	LC	NV
xxix	Oriolidae			
59	Indian Golden Oriole	<i>Oriolus kundoo</i>	LC	OV
xxx	Paridae			
60	Cinereous Tit	<i>Parus cinereus</i>	-	IV
xxxi	Phylloscopidae			
61	Green Warbler	<i>Phylloscopus nitidus</i>	LC	IV
xxxii	Pittidae			
62	Indian Pitta	<i>Pitta brachyura</i>	LC	CV
xxxiii	Pycnonotidae			
63	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	LC	OV
64	Red-vented Bulbul	<i>Pycnonotus cafer</i>	LC	OV
xxxiv	Rhipiduridae			
65	White-spotted Fantail	<i>Rhipidura albogularis</i>	LC	IV
xxxv	Sturnidae			
66	Common Myna	<i>Acridotheres tristis</i>	LC	OV
67	Jungle Myna	<i>Acridotheres fuscus</i>	LC	OV
68	Chestnut-tailed Starling	<i>Sturnia malabarica</i>	LC	OV
xxxvi	Zosteropidae			
69	Indian White-eye	<i>Zosterops palpebrosus</i>	LC	HV
XI	Pelecaniformes			
xxxvii	Ardeidae			
70	Purple Heron	<i>Ardea purpurea</i>	LC	CV
71	Indian Pond Heron	<i>Ardeola grayii</i>	LC	OV

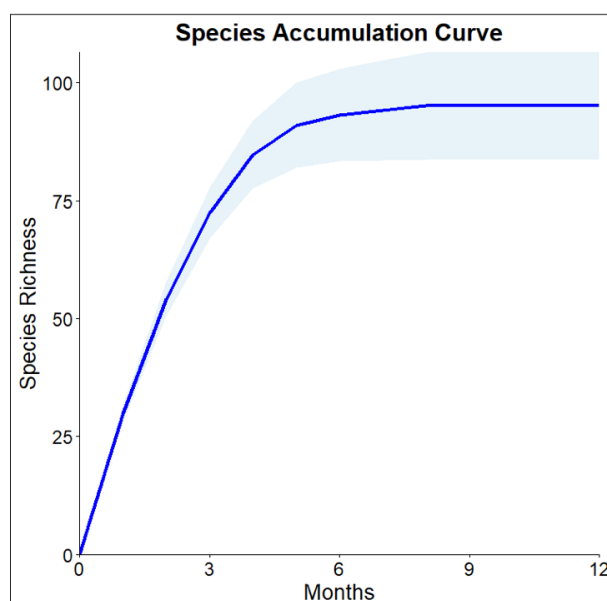
	Common name	Scientific name	IUCN Red List	Diet
72	Little Egret	<i>Egretta garzetta</i>	LC	CV
73	Intermediate Egret	<i>Ardea intermedia</i>	LC	CV
74	Great White Egret	<i>Ardea alba</i>	LC	CV
75	Cattle Egret	<i>Bubulcus ibis</i>	LC	CV
76	Gray Heron	<i>Ardea cinerea</i>	LC	CV
77	Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	LC	OV
xxxviii	Threskiornithidae			
78	Red-naped Ibis	<i>Pseudibis papillosa</i>	LC	CV
79	Black-headed Ibis	<i>Threskiornis melanocephalus</i>	NT	CV
80	Glossy Ibis	<i>Plegadis falcinellus</i>	LC	CV
XII	Piciformes			
xxxix	Megalauidae			
81	Coppersmith Barbet	<i>Megalaima haemacephala</i>	LC	FV
82	White cheeked Barbet	<i>Psilopogon viridis</i>	LC	FV
xl	Meropidae			
83	Asian Green Bee-eater	<i>Merops orientalis</i>	LC	IV
84	Blue-tailed Bee-eater	<i>Merops philippinus</i>	LC	IV
xli	Picidae			
85	Black-rumped Flameback	<i>Dinopium benghalense</i>	LC	OV
86	White-naped Woodpecker	<i>Chrysocolaptes festivus</i>	LC	OV
XIII	Podicipediformes			
xlii	Podicipedidae			
87	Little Grebe	<i>Tachybaptus ruficollis</i>	LC	CV
XIV	Psittaciformes			
xliii	Psittaculidae			
88	Rose-ringed Parakeet	<i>Psittacula krameri</i>	LC	FV
XV	Strigiformes			
xliv	Strigidae			
89	Mottled Wood-Owl	<i>Strix ocellata</i>	LC	CV
XVI	Sulliformes			
xl	Anhingidae			
90	Oriental Darter	<i>Anhinga melanogaster</i>	LC	CV
xlvi	Pelecanidae			
91	Spot-billed Pelican	<i>Pelecanus philippensis</i>	NT	PV
xlvi	Phalacrocoracidae			
92	Great Cormorant	<i>Phalacrocorax carbo</i>	LC	PV
93	Little Cormorant	<i>Microcarbo niger</i>	LC	PV
94	Indian Cormorant	<i>Phalacrocorax fuscicollis</i>	LC	PV

I (Capital roman numerals)—order | I (sentence case roman numerals)—family | 1 (Arabic numerals)—species | LC—Least Concerned | NT—Near Threatened | GV—Granivorous | CV—Carnivorous | OV—Omnivorous | IV—Insectivorous | FV—Frugivorous | HV—Herbivorous.

Table 2. Family-wise bird species recorded in Karanji Lake, Mysuru.

	Name of the family	No. of bird species recorded	% Occurrence		Name of the family	No. of bird species recorded	% Occurrence
1	Accipitridae	3	3.19	25	Monarchidae	1	1.06
2	Anatidae	2	2.13	26	Motacillidae	3	3.19
3	Phasianidae	1	1.06	27	Muscicapidae	5	5.33
4	Bucerotidae	1	1.06	28	Nectariniidae	2	2.13
5	Upupidae	1	1.06	29	Oriolidae	1	1.06
6	Charadriidae	1	1.06	30	Paridae	1	1.06
7	Jacaniidae	1	1.06	31	Phylloscopidae	1	1.06
8	Scolopacidae	3	3.19	32	Pittidae	1	1.06
9	Ciconiidae	1	1.06	33	Pycnonotidae	2	2.13
10	Columbidae	2	2.13	34	Rhipiduridae	1	1.06
11	Alcedinidae	3	3.19	35	Sturnidae	3	3.19
12	Cuculidae	3	3.19	36	Zosteropidae	1	1.06
13	Rallidae	4	4.27	37	Ardeidae	8	8.52
14	Acrocephalidae	4	4.27	38	Threskiornithidae	3	3.19
15	Aegithinidae	1	1.06	39	Megalaimidae	2	2.13
16	Apodidae	2	2.13	40	Meropidae	2	2.13
17	Campephagidae	2	2.13	41	Picidae	2	2.13
18	Chloropseidae	1	1.06	42	Podicipedidae	1	1.06
19	Cisticolidae	2	2.13	43	Psittaculidae	1	1.06
20	Corvidae	2	2.13	44	Strigidae	1	1.06
21	Dicaeidae	1	1.06	45	Anhingidae	1	1.06
22	Dicruridae	2	2.13	46	Pelecanidae	1	1.06
23	Estrildidae	2	2.13	47	Phalacrocoracidae	3	3.19
24	Hirundinidae	2	2.13	Total		94	100

Cormorant *Phalacrocorax carbo*, Indian Cormorant *Phalacrocorax fuscicollis*, Little Cormorant *Microcarbo niger*, Grey Heron *Ardea cinerea*, Pond Heron *Ardeola grayii*, Black-crowned Night Heron *Nycticorax nycticorax*, Painted Stork *Mycteria leucocephala*, Indian Spot-billed Duck *Anas poecilorhyncha*, Lesser whistling Duck *Dendrocygna javanica*, Black Kite *Milvus migrans*, Brahminy Kite *Haliastur indus*) (S. Sushanth pers. obs.). Earlier studies on birds from the same area have recorded 135 species of birds (Kumara et al. 2010), which is a decline in bird diversity compared to the present study. The bird diversity is lower than the other two major lakes of Mysuru (Kukkarahalli lake and Lingambudhi lake) with 98 and 213 species, respectively (Kumara et al. 2010). All of these declines, even though there are methodological limitations in different survey periods, underscore its role amid ongoing urbanization pressures. However, index values indicate substantial richness of the wetland's biodiversity; species richness


Image 2. Species accumulation curve for birds of Karanji Lake, Mysuru. The feather area indicates 95% confidence intervals.

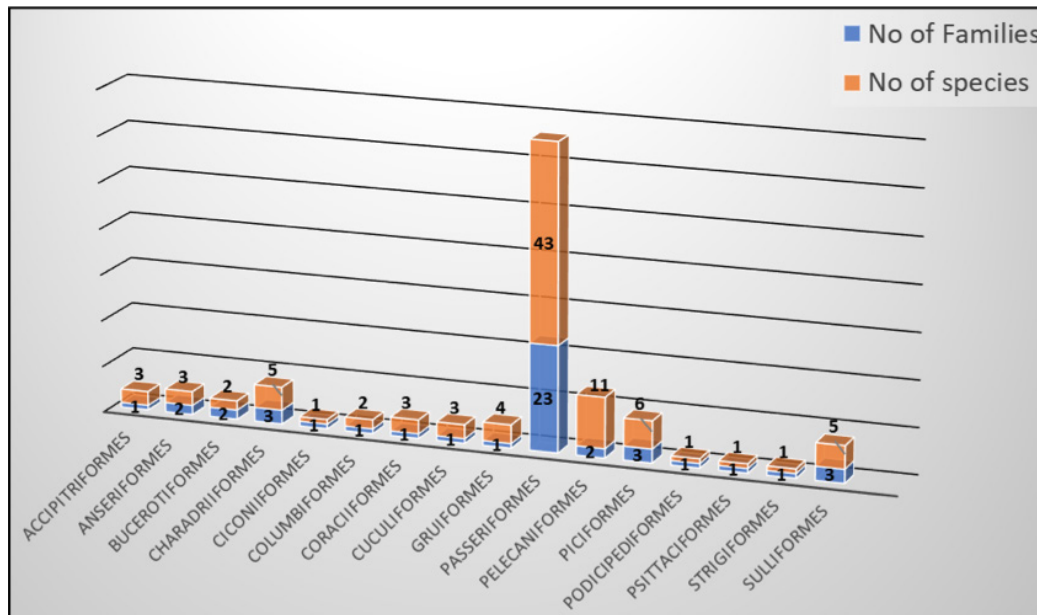


Image 3. Graph representing order-wise families and species recorded at Karanji Lake, Mysuru.

Table 3. Diversity Indices values of birds recorded at Karanji Lake, Mysuru.

	Diversity Indices	Values
1	Species richness	94
2	Shannon-Wiener diversity Index	3.1517 ± 0.31 _{SE}
3	Simpson diversity Index	0.6937
4	Pielou's evenness	0.694

and Shannon-Wiener values reflect robust taxonomic representation along with high community uncertainty driven by even species proportions. Simpson's value signifies low dominance probability among species pairs, wherein Pielou evenness demonstrates equitable abundance distribution supporting stability.

The dominance of certain birds in lake ecosystems is known to reflect habitat structure, food availability, and ecological suitability. The order Passeriformes dominated as they are globally the most species-rich and commonly abundant bird order, dominating mixed lake-edge and adjacent terrestrial habitats, where shrubs, trees, and open ground favour insectivores, omnivores, and generalists, explaining the higher number of omnivores and insectivores (Franci & Schnell 2002; Traut & Hostetler 2004; Schmitt & Edwards 2022; Naveen et al. 2025, 2026). Habitat heterogeneity of lakes (such as open water, shallow margin, aquatic vegetation, and riparian trees) provides a mosaic of complementary habitats for wetland birds (along with food), which

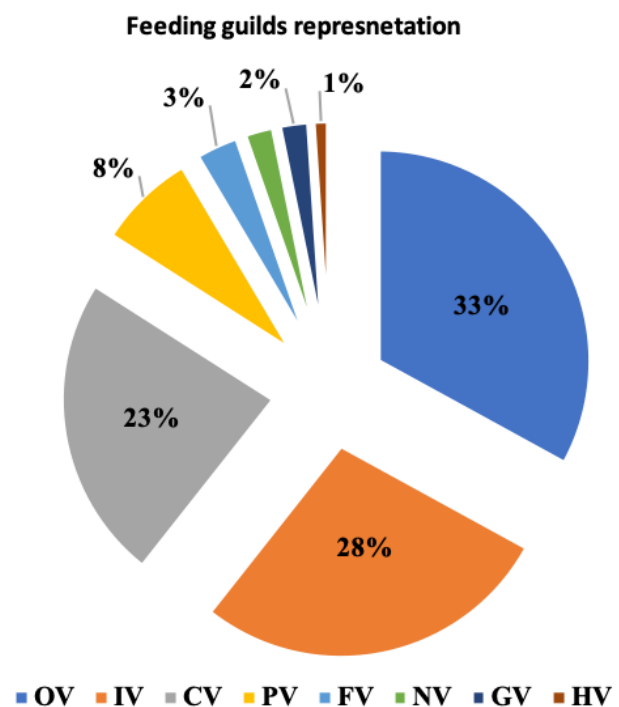


Image 4. Representation of feeding guilds of birds recorded at Karanji Lake, Mysuru: CV—Carnivorous | FV—Frugivorous | GV—Granivorous | HV—Herbivorous | IV—Insectivorous | NV—Nectarivorous | OV—Omnivorous | PV—Piscivorous.

are known to be key drivers of waterbird abundance, explaining the elevated presence of Pelecaniformes and Ardeidae (Ramachandran et al. 2017; Ramesh et al. 2020; Meerhoff & González-Sagrario 2022; Nag 2022).

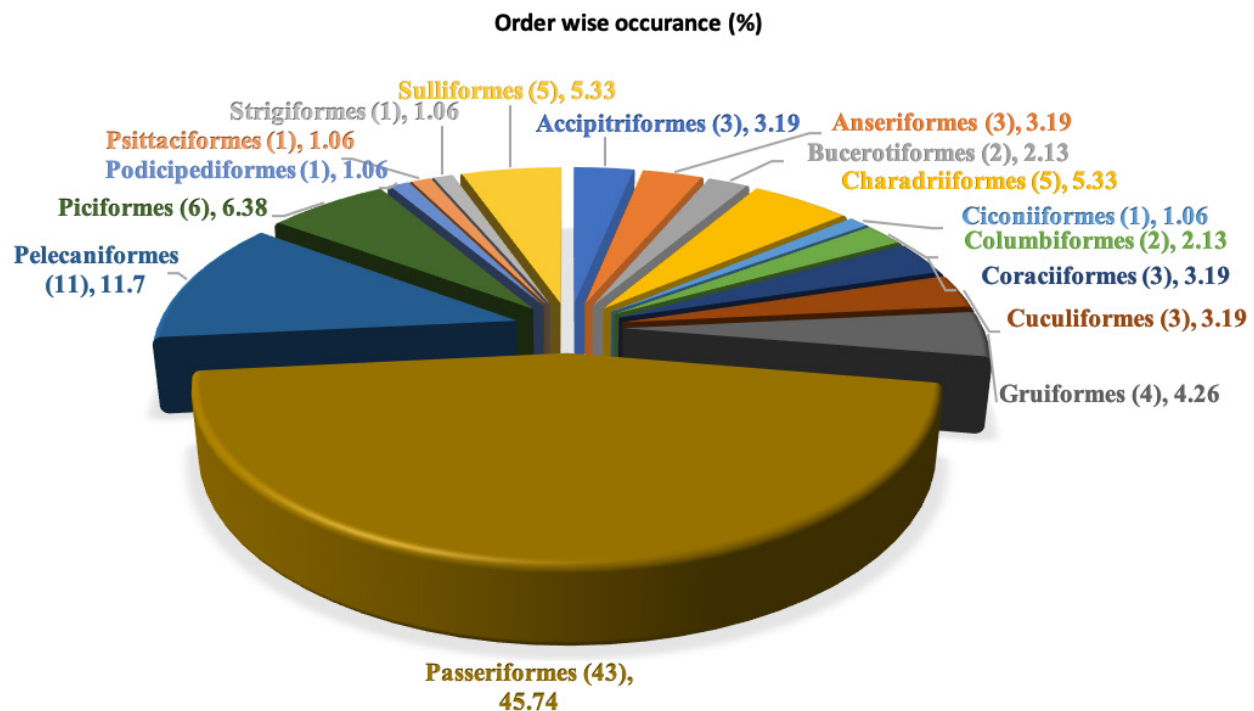


Image 5. Order-wise bird species recorded in Karanji Lake, Mysuru.

Wetland habitat heterogeneity (wooded area, marshes, open water) supports functional diversity through dominant feeding guilds, primarily omnivores, insectivores, and carnivores, that drive pest regulation and nutrient cycling, indicating robust trophic interactions typical of urban refugia (Panda et al. 2021). However, the prevalence of omnivores and insectivores alongside declining representation of other guilds indicates strong ecological filtering and reduced resource heterogeneity (Ahmed & Khan 2022). Such guild patterns favouring broad trophic niches under urban-driven habitat simplification—predictably erode trophic complexity and functional diversity (Hagen et al. 2017; El-Sabaawi 2018; Sol et al. 2020; Panda et al. 2021; Ahmed & Khan 2022). The present study also highlights that there could be a potentially significant relationship between Karanji Lake and Chamundi Hills, as there were personal observations of the movement of birds between both of these places. They are two separate areas, but connected by some of these life forms which are dependent on both of these areas. Further, systematic investigation is required to understand the fine-scale relationship between birds and these areas.

Urban wetlands like Karanji Lake act as an important refugium and help maintain species richness and functional diversity because they provide necessary resources that can support both resident and migratory

birds within otherwise heavily built-up landscapes, making them especially valuable where natural wetlands have been lost or degraded. However, during the study, it was found that Karanji Lake is under several threats, falling into i) anthropogenic (sewage intrusion, tourist boating, path alterations) and ii) ecological threats (hyacinth mats, natural siltation, eutrophication), as these threats should be considered to take conservation actions by the concerned authorities. All of these are known to affect the bird community negatively, consistent with regional declines potentially reducing migratory influx (Bhendekar et al. 2024; Nandhini & Jagatheeswari 2024). Detailed studies in future would help to directly assess the effect of these threats on bird populations of the area. Bhatnagar et al. (2007) reported similar findings in India. It was observed that the various decaying weeds in the lakes formed floating vegetation islands/mats, which are known to deteriorate habitat quality and also interfere with foraging activities of waterbirds. These threats are also known to affect the distribution of wetland birds and cause local extinctions (Harisha & Hosetti 2017), which might lead to fewer migratory bird visits to the lake.

Considering these facts, there is a need to create awareness among local people about the richness of this place and take adequate steps and measures towards protection and conservation of the Lake, avifauna and

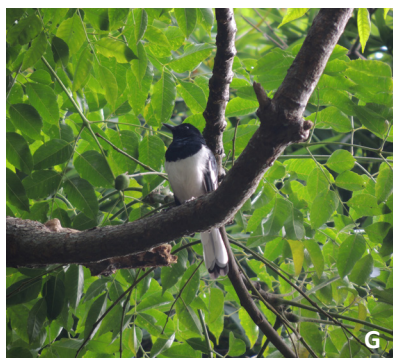
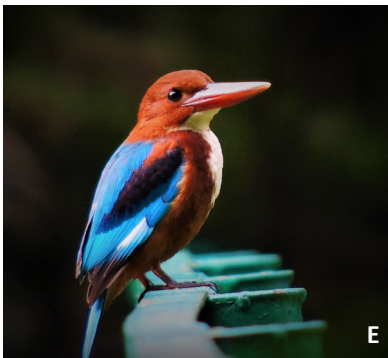


Image 6 A—L. Photographs of select birds recorded at the Karanji Lake, Mysuru during the study period. A—Shikra | B—Brahminy Kite | C—Indian Spot-billed Duck | D—Eurasian Hoopoe | E—White-throated Kingfisher | F—Stork-billed Kingfisher | G—Black-headed Cuckooshrike | H—Ashy Drongo | I—Oriental magpie Robin | J—Tickell's Blue Flycatcher | K—Indian Golden Oriole | L—Cinerous Tit. © S. Sushanth.

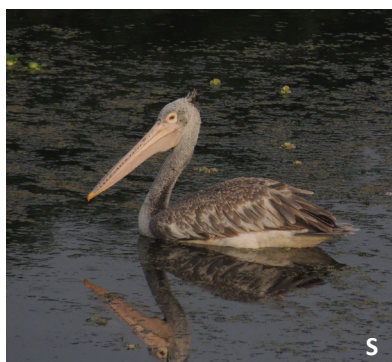
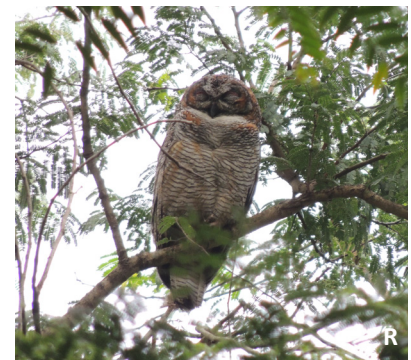


Image 6 M–T. Photographs of select birds recorded at the Karanji Lake, Mysuru during the study period. M—Indian Pitta | N—Purple Heron | O—Black-rumped Flameback | P—White-naped Woodpecker | Q—Rose-ringed Parakeet | R—Mottled Wood-Owl | S—Spot-billed Pelican | T—Great Cormorant. © S. Sushanth.

the lake's avian heritage. Conservation via targeted measures such as aquatic de-weeding, wastewater diversion, mechanical/biocontrol hyacinth eradication, and water aeration by mechanical pumps needs to be carried out from time to time for sustaining aquatic bird populations; more native trees and host plants should be planted, which would attract prey base and increase prey abundance (Grutters et al. 2015; Woo et al. 2018; Peterson et al. 2025). Hence, it is required by the Sri Chamarajendra Zoological Gardens to help restore its biodiversity value, bolster flyway stopovers, and model urban wetland management, with speculated Chamundi Hills connectivity. Further follow-up studies of the same lake for a longer period will help to determine

the species-specific aquatic and other bird and habitat conservation. Conservation of such wetlands is essential to sustain migratory bird populations, as it is probably an abode during their migratory route, serving a vital role in the conservation of these species (Harisha & Hosetti 2017). Thus, to have a long-term conservation measure, it is necessary to have knowledge about bird species diversity present in an area. The richness of species diversity in the present study site may be attributed to its geographical location, heterogeneity of land characteristics, and number of tree & shrub species, which makes the place more complex structurally.

CONCLUSION

The outcome of the present study highlights the importance of wetland habitat as refugia for avifaunal diversity in urban ecosystems, with Karanji Lake sustaining 94 species and critical guilds despite urbanization pressures, thereby maintaining ecological regulation via pest control and nutrient cycling. Management must prioritize sewage diversion, hyacinth eradication, and zoned tourism to preserve breeding sites for NT species like Painted Stork, preventing trophic cascades from guild loss. The current study not only acts as baseline data from scientific and systematic effort, but also helps in understanding the value of such urban wetlands. Such studies will also aid in monitoring and conserving bird diversity in and around urban areas. Although the present habitat is providing shelter and acting as a breeding ground for many bird species, there is a need for an awareness campaign and bio-monitoring programmes for maintaining and protecting the avian heritage. However, if proper steps are not taken, the available richness of these glorified birds is under threat due to uncontrolled urbanization constraints. These may severely affect the ecological balance and alter the avian diversity of this Lake. Future research should deploy radio-telemetry for hills-lake connectivity and functional trait analyses to quantify resilience thresholds under climate-urban gradients.

REFERENCES

- Ahmed, T. & A. Khan (2022). Avifaunal feeding guilds' response to landscape compositional heterogeneity and their drivers in forest mosaic, Uttarakhand, India. *Journal of Tropical Ecology* 38(4): 183–193. <https://doi.org/10.1017/S0266467422000049>
- Ali, S. & H. Whistler (1942–43). The birds of Mysore. Part I, II and III. *Journal of the Bombay Natural History Society*. 43:130–147, 318–341, 573–595; 44: 9–26, 208–220.
- Bhatnagar, C.C.B et al. (2007). Vanishing habitats of aquatic birds in the city of lakes, Udaipur: a case study. *Indian Forester* 133(10): 1395–1402.
- Bhendekar, G. et al. (2024). Seasonal bird diversity of an urban lake with the history of eutrophication and restoration. *Tropical Ecology* 65(4): 592–608. <https://doi.org/10.1007/s42965-024-00354-9>
- Bibby, C.J. et al. (2000). *Bird Census Techniques*. 2nd Edition. Academic Press, London, 302 pp.
- BirdLife International (2026). BirdLife is the world leader in Bird Conservation. <https://www.birdlife.org/>
- Buckland, S.T. et al. (2001). *Introduction to distance sampling: estimating abundance of biological populations*. Oxford University Press, Oxford, UK.
- El-Sabaawi, R. (2018). Trophic structure in a rapidly urbanizing planet. *Functional Ecology* 32(7): 1718–1728. <https://doi.org/10.1111/1365-2435.13114>
- Francl, K.E. & G.D. Schnell (2002). Relationships of human disturbance, bird communities, and plant communities along the land-water interface of a large reservoir. *Environmental Monitoring and Assessment* 73(1): 67–93. <https://doi.org/10.1023/A:1012615314061>
- Ghosh, M. et al. (2022). Species composition and classification of guilds in birds with respect to food and feeding behavior: evidences from suburban landscape in Hooghly District, West Bengal. *Asian Journal of Conservation Biology* 11(1): 143–153. <https://doi.org/10.53562/ajcb.67216>
- Gregory, R.D. et al. (2004). The state of play farmland birds: population trends and conservation status of lowland farmland birds in the United Kingdom. *Ibis* 146: 1–13. <https://doi.org/10.1111/j.1474-919X.2004.00358.x>
- Grimmett, R. et al. (2013). *Birds of the Indian Subcontinent*. Oxford University Press.
- Grutters, B.M. et al. (2015). Native and non-native plants provide similar refuge to invertebrate prey, but less than artificial plants. *PLoS One* 10(4): e0124455. <https://doi.org/10.5061/dryad.11h73>
- Hagen, E.O. et al. (2017). Impacts of urban areas and their characteristics on avian functional diversity. *Frontiers in Ecology and Evolution* 5: 84. <https://doi.org/10.3389/fevo.2017.00084>
- Harisha, M.N. & B.B. Hosetti (2017). Conservation status, threats and diversity of wetland birds of Dyamannana lake (Kere), Bhadravathi Taluk, Shivamogga District, Karnataka, India. *Environment and Ecology* 35(4): 3071–3076.
- IUCN (2026). The IUCN Red List of Threatened Species. Version 2025-2. <https://www.iucnredlist.org>. Accessed on 02.vii.2026.
- Jamakhandi, H.S. & G.G. Kadadevaru (2024). Avifaunal diversity and feeding guild structure in and around Unkal Lake: a semiarid urban wetland in Karnataka, India. *Indian Journal of Ecology* 51(2): 453–467. <https://doi.org/10.55362/IJE/2024/4258>
- Kaur, R. & O.S. Brraich (2021). Abundance and diversity of threatened birds in Nangal Wetland, Punjab, India. *Journal of Threatened Taxa* 13(12): 19733–19742. <https://doi.org/10.11609/jott.4062.13.12.19733-19742>
- Kumara, H.N. et al. (2010). Preparation of biodiversity conservation plan for Mysore Forest Division. Technical report submitted to Karnataka Forest Department, Mysore Forest Division, Mysore, Karnataka, India.
- Meerhoff, M. & M. de los Angeles González-Sagrario (2022). Habitat complexity in shallow lakes and ponds: importance, threats, and potential for restoration. *Hydrobiologia* 849(17): 3737–3760. <https://doi.org/10.1007/s10750-021-04771-y>
- Mishra, D. et al. (2007). Birds of Chamundi Hills Reserve Forest, Mysore, Karnataka. *Indian Birds* 3(3): 82–86.
- Mysore Nature (2025). Mysore Nature website. <https://www.mysorenature.org/home>. Accessed on 02.vii.2026.
- Nag, K.C. (2022). Height variations of Great Cormorant *Phalacrocorax carbo sinensis* nests in response to anthropogenic presence at two lakes in Bengaluru, India. *Indian Birds* 18(3): 74–78.
- Nandhini, M. & J. Jagatheeswari (2024). Diversity and conservation of wetland avifauna in Nanjarayan Lake, Tiruppur, Tamil Nadu, India. *Uttar Pradesh Journal of Zoology* 45(18): 254–267.
- Naveen, K.S. et al. (2026). Waterbird assemblage structure, seasonal dynamics and anthropogenic Ppressures in Sengulam Lake, an urban wetland of the Noyyal River Basin, south India. *AgroEnvironmental Sustainability* 4(2): 157–171. <https://doi.org/10.59983/s2026040206>
- Naveen, K.S. et al. (2025). Avifaunal diversity of Chinnavedampatti Lake: An urban wetland in Coimbatore, Tamil Nadu, India. *Journal of Experimental Zoology India* 28: 1383–1395. <https://doi.org/10.51470/jez.2025.28.2.1383>
- Oksanen, J. et al. (2025). *vegan: Community ecology package*. R package version 2.7-2. <https://CRAN.R-project.org/package=vegan>
- Panda, B.P. et al. (2021). Habitat heterogeneity and seasonal variations influencing avian community structure in wetlands. *Journal of Asia-Pacific Biodiversity* 14(1): 23–32. <https://doi.org/10.1016/j.japb.2020.10.001>
- Peterson, M.I. et al. (2025). Benefits of aquatic vegetation for fish in an ecosystem dominated by an invasive piscivore. *Freshwater Biology* 70(5): e70045. <https://doi.org/10.1111/fwb.70045>

- Ramachandran, R. et al. (2017). Hunting or habitat? Drivers of waterbird abundance and community structure in agricultural wetlands of southern India. *Ambio* 46(5): 613–620. <https://doi.org/10.1007/s13280-017-0907-9>
- Ramesh, T. et al. (2020). Abundance, Assemblage, Habitat Characteristics and Seasonal Diversity of Waterbirds at Kalpakkam, South East Coast of India. *Asian Journal of Conservation Biology* 9(1): 156–166.
- R Core Team (2025). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org>
- RStudio Team (2025). RStudio: Integrated development for R. RStudio, PBC. <http://www.rstudio.com/>
- Schmitt, C.J. & S.V. Edwards (2022). Passerine birds. *Current Biology* 32(20): R1149–R1154. <https://doi.org/10.1016/j.cub.2022.08.061>
- Sekercioglu, C.H. (2006). Increasing awareness of avian ecological function. *Trends in Ecology & Evolution* 21(8): 464–471. <https://doi.org/10.1016/j.tree.2006.05.007>
- Sekercioglu, C.H. et al. (2016). *Why Birds Matter: Avian Ecological Function and Ecosystem Services*. University of Chicago.
- Sol, C. et al. (2020). The worldwide impact of urbanisation on avian functional diversity. *Ecology Letters* 23(6): 962–972. <https://doi.org/10.1111/ele.13495>
- Traut, A.H. & M.E. Hostetler (2004). Urban lakes and waterbirds: effects of shoreline development on avian distribution. *Landscape and Urban Planning* 69(1): 69–85. <https://doi.org/10.1016/j.landurbplan.2003.08.009>
- Verma, M. et al. (2001). Economic valuation of Bhoj wetland for sustainable use. Unpublished project report for World Bank assistance to Government of India, Environmental Management Capacity-Building, Indian Institute of Forest Management, 35: 1–32, Bhopal.
- Wetlands International (2012). *Waterbird Population Estimates* (5th ed.). Wetlands International, Wageningen, Netherlands.
- Wickham, H. (2016). *ggplot2: Elegant Graphics for Data Analysis*. Springer-Verlag, New York.
- Woo, I. et al. (2018). Enhanced invertebrate prey production following estuarine restoration supports foraging for multiple species of juvenile salmonids (*Oncorhynchus* spp.). *Restoration Ecology* 26(5): 964–975. <https://doi.org/10.1111/rec.12658>



Mr. Jatishwor Singh Irungbam, Biology Centre CAS, Branišovská, Czech Republic.
Dr. Ian J. Kitching, Natural History Museum, Cromwell Road, UK
Dr. George Mathew, Kerala Forest Research Institute, Peechi, India
Dr. John Noyes, Natural History Museum, London, UK
Dr. Albert G. Orr, Griffith University, Nathan, Australia
Dr. Sameer Padhye, Katholieke Universiteit Leuven, Belgium
Dr. Nancy van der Poorten, Toronto, Canada
Dr. Kareen Schnabel, NIWA, Wellington, New Zealand
Dr. R.M. Sharma, (Retd.) Scientist, Zoological Survey of India, Pune, India
Dr. Manju Siliwal, WILD, Coimbatore, Tamil Nadu, India
Dr. G.P. Sinha, Botanical Survey of India, Allahabad, India
Dr. K.A. Subramanian, Zoological Survey of India, New Alipore, Kolkata, India
Dr. P.M. Sureshan, Zoological Survey of India, Kozhikode, Kerala, India
Dr. R. Varatharajan, Manipur University, Imphal, Manipur, India
Dr. Eduard Vives, Museu de Ciències Naturals de Barcelona, Terrassa, Spain
Dr. James Young, Hong Kong Lepidopterists' Society, Hong Kong
Dr. R. Sundararaj, Institute of Wood Science & Technology, Bengaluru, India
Dr. M. Nithyanandan, Environmental Department, La Ala Al Kuwait Real Estate. Co. K.S.C., Kuwait
Dr. Himender Bharti, Punjabi University, Punjab, India
Mr. Purnendu Roy, London, UK
Mr. Saito Motoki, The Butterfly Society of Japan, Tokyo, Japan
Dr. Sanjay Sondhi, TITLI TRUST, Kalpavriksh, Dehradun, India
Dr. Nguyen Thi Phuong Lien, Vietnam Academy of Science and Technology, Hanoi, Vietnam
Dr. Nitin Kulkarni, Tropical Research Institute, Jabalpur, India
Dr. Robin Wen Jiang Ngiam, National Parks Board, Singapore
Dr. Lionel Monod, Natural History Museum of Geneva, Genève, Switzerland.
Dr. Asheesh Shivam, Nehru Gram Bharti University, Allahabad, India
Dr. Rosana Moreira da Rocha, Universidade Federal do Paraná, Curitiba, Brasil
Dr. Kurt R. Arnold, North Dakota State University, Saxony, Germany
Dr. James M. Carpenter, American Museum of Natural History, New York, USA
Dr. David M. Claborn, Missouri State University, Springfield, USA
Dr. Kareen Schnabel, Marine Biologist, Wellington, New Zealand
Dr. Amazonas Chagas Júnior, Universidade Federal de Mato Grosso, Cuiabá, Brasil
Mr. Monsoon Jyoti Gogoi, Assam University, Silchar, Assam, India
Dr. Heo Chong Chin, Universiti Teknologi MARA (UiTM), Selangor, Malaysia
Dr. R.J. Shiel, University of Adelaide, SA 5005, Australia
Dr. Siddharth Kulkarni, The George Washington University, Washington, USA
Dr. Priyadarsanan Dharma Rajan, ATREE, Bengaluru, India
Dr. Phil Alderslade, CSIRO Marine And Atmospheric Research, Hobart, Australia
Dr. John E.N. Veron, Coral Reef Research, Townsville, Australia
Dr. Daniel Whitmore, State Museum of Natural History Stuttgart, Rosenstein, Germany.
Dr. Yu-Feng Hsu, National Taiwan Normal University, Taipei City, Taiwan
Dr. Keith V. Wolfe, Antioch, California, USA
Dr. Siddharth Kulkarni, The Hormiga Lab, The George Washington University, Washington, D.C., USA
Dr. Tomas Ditrich, Faculty of Education, University of South Bohemia in Ceske Budejovice, Czech Republic
Dr. Mihaly Foldvari, Natural History Museum, University of Oslo, Norway
Dr. V.P. Uniyal, Wildlife Institute of India, Dehradun, Uttarakhand 248001, India
Dr. John T.D. Caleb, Zoological Survey of India, Kolkata, West Bengal, India
Dr. Priyadarsanan Dharma Rajan, Ashoka Trust for Research in Ecology and the Environment (ATREE), Royal Enclave, Bangalore, Karnataka, India

Fishes

Dr. Topiltzin Contreras MacBeath, Universidad Autónoma del estado de Morelos, México
Dr. Heok Hee Ng, National University of Singapore, Science Drive, Singapore
Dr. Rajeev Raghavan, St. Albert's College, Kochi, Kerala, India
Dr. Robert D. Sluka, Chiltern Gateway Project, A Rocha UK, Southall, Middlesex, UK
Dr. E. Vivekanandan, Central Marine Fisheries Research Institute, Chennai, India
Dr. Davor Zanella, University of Zagreb, Zagreb, Croatia
Dr. A. Biju Kumar, University of Kerala, Thiruvananthapuram, Kerala, India
Dr. Akhilesh K.V., ICAR-Central Marine Fisheries Research Institute, Mumbai Research Centre, Mumbai, Maharashtra, India
Dr. J.A. Johnson, Wildlife Institute of India, Dehradun, Uttarakhand, India
Dr. R. Ravinesh, Gujarat Institute of Desert Ecology, Gujarat, India

Amphibians

Dr. Sushil K. Dutta, Indian Institute of Science, Bengaluru, Karnataka, India
Dr. Annemarie Ohler, Muséum national d'Histoire naturelle, Paris, France

Reptiles

Dr. Gernot Vogel, Heidelberg, Germany
Dr. Raju Vyas, Vadodara, Gujarat, India
Dr. Pritpal S. Soorae, Environment Agency, Abu Dhabi, UAE.
Prof. Dr. Wayne J. Fuller, Near East University, Mersin, Turkey
Prof. Chandrashekher U. Rivonker, Goa University, Taleigao Plateau, Goa. India
Dr. S.R. Ganesh, Kalinga Foundation, Agumbe, India.
Dr. Himansu Sekhar Das, Terrestrial & Marine Biodiversity, Abu Dhabi, UAE

Birds

Dr. Hem Sagar Baral, Charles Sturt University, NSW Australia
Mr. H. Byju, Coimbatore, Tamil Nadu, India
Dr. Chris Bowden, Royal Society for the Protection of Birds, Sandy, UK
Dr. Priya Davidar, Pondicherry University, Kalapet, Puducherry, India
Dr. J.W. Duckworth, IUCN SSC, Bath, UK
Dr. Rajah Jayapal, SAGON, Coimbatore, Tamil Nadu, India
Dr. Rajiv S. Kalsi, M.L.N. College, Yamuna Nagar, Haryana, India
Dr. V. Santharam, Rishi Valley Education Centre, Chittoor Dt., Andhra Pradesh, India
Dr. S. Balachandran, Bombay Natural History Society, Mumbai, India
Mr. J. Praveen, Bengaluru, India
Dr. C. Srinivasulu, Osmania University, Hyderabad, India
Dr. K.S. Gopi Sundar, International Crane Foundation, Baraboo, USA
Dr. Gombobaatar Sunde, Professor of Ornithology, Ulaanbaatar, Mongolia
Prof. Reuven Yosef, International Birding & Research Centre, Eilat, Israel
Dr. Taej Mundkur, Wetlands International, Wageningen, The Netherlands
Dr. Carol Inskipp, Bishop Auckland Co., Durham, UK
Dr. Tim Inskipp, Bishop Auckland Co., Durham, UK
Dr. V. Gokula, National College, Tiruchirappalli, Tamil Nadu, India
Dr. Arkady Lelej, Russian Academy of Sciences, Vladivostok, Russia
Dr. Simon Dowell, Science Director, Chester Zoo, UK
Dr. Mário Gabriel Santiago dos Santos, Universidade de Trás-os-Montes e Alto Douro, Quinta de Prados, Vila Real, Portugal
Dr. Grant Connette, Smithsonian Institution, Royal, VA, USA
Dr. P.A. Azeez, Coimbatore, Tamil Nadu, India

Mammals

Dr. Giovanni Amori, CNR - Institute of Ecosystem Studies, Rome, Italy
Dr. Anwaruddin Chowdhury, Guwahati, India
Dr. David Mallon, Zoological Society of London, UK
Dr. Shomita Mukherjee, SAGON, Coimbatore, Tamil Nadu, India
Dr. Angie Appel, Wild Cat Network, Germany
Dr. P.O. Nameer, Kerala Agricultural University, Thrissur, Kerala, India
Dr. Ian Redmond, UNEP Convention on Migratory Species, Lansdown, UK
Dr. Heidi S. Riddle, Riddle's Elephant and Wildlife Sanctuary, Arkansas, USA
Dr. Karin Schwartz, George Mason University, Fairfax, Virginia.
Dr. Lala A.K. Singh, Bhubaneswar, Orissa, India
Dr. Mewa Singh, Mysore University, Mysore, India
Dr. Paul Racey, University of Exeter, Devon, UK
Dr. Honnavalli N. Kumara, SAGON, Anaikatty P.O., Coimbatore, Tamil Nadu, India
Dr. Nishith Dharaiya, HNG University, Patan, Gujarat, India
Dr. Spartaco Gippoliti, Socio Onorario Società Italiana per la Storia della Fauna "Giuseppe Altobello", Rome, Italy
Dr. Justus Joshua, Green Future Foundation, Tiruchirappalli, Tamil Nadu, India
Dr. H. Raghuram, Sri S. Ramasamy Naidu Memorial College, Virudhunagar, Tamil Nadu, India
Dr. Paul Bates, Harison Institute, Kent, UK
Dr. Jim Sanderson, Small Wild Cat Conservation Foundation, Hartford, USA
Dr. Dan Challender, University of Kent, Canterbury, UK
Dr. David Mallon, Manchester Metropolitan University, Derbyshire, UK
Dr. Brian L. Cypher, California State University-Stanislaus, Bakersfield, CA
Dr. S.S. Talmale, Zoological Survey of India, Pune, Maharashtra, India
Prof. Karan Bahadur Shah, Budhanilakantha Municipality, Kathmandu, Nepal
Dr. Susan Cheyne, Borneo Nature Foundation International, Palangkaraja, Indonesia
Dr. Hemanta Kafley, Wildlife Sciences, Tarleton State University, Texas, USA

Other Disciplines

Dr. Aniruddha Belsare, Columbia MO 65203, USA (Veterinary)
Dr. Mandar S. Paingankar, University of Pune, Pune, Maharashtra, India (Molecular)
Dr. Jack Tordoff, Critical Ecosystem Partnership Fund, Arlington, USA (Communities)
Dr. Ulrike Streicher, University of Oregon, Eugene, USA (Veterinary)
Dr. Hari Balasubramanian, EcoAdvisors, Nova Scotia, Canada (Communities)
Dr. Rayanna Hellem Santos Bezerra, Universidade Federal de Sergipe, São Cristóvão, Brazil
Dr. Jamie R. Wood, Landcare Research, Canterbury, New Zealand
Dr. Wendy Collinson-Jonker, Endangered Wildlife Trust, Gauteng, South Africa
Dr. Rajeshkumar G. Jani, Anand Agricultural University, Anand, Gujarat, India
Dr. O.N. Tiwari, Senior Scientist, ICAR-Indian Agricultural Research Institute (IARI), New Delhi, India
Dr. L.D. Singla, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, India
Dr. Rupika S. Rajakaruna, University of Peradeniya, Peradeniya, Sri Lanka
Dr. Bahar Baviskar, Wild-CER, Nagpur, Maharashtra 440013, India

Reviewers 2021–2023

Due to pausity of space, the list of reviewers for 2021–2023 is available online.

The opinions expressed by the authors do not reflect the views of the Journal of Threatened Taxa, Wildlife Information Liaison Development Society, Zoo Outreach Organization, or any of the partners. The journal, the publisher, the host, and the partners are not responsible for the accuracy of the political boundaries shown in the maps by the authors.

Print copies of the Journal are available at cost. Write to:
The Managing Editor, JoTT,
c/o Wildlife Information Liaison Development Society,
3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore,
Tamil Nadu 641006, India
ravi@threatenedtaxa.org & ravi@zooreach.org

Journal of Threatened Taxa is indexed/abstracted in Bibliography of Systematic Mycology, Biological Abstracts, BIOSIS Previews, CAB Abstracts, EBSCO, Google Scholar, Index Copernicus, Index Fungorum, JournalSeek, National Academy of Agricultural Sciences, NewJour, OCLC WorldCat, SCOPUS, Stanford University Libraries, Virtual Library of Biology, Zoological Records.

NAAS rating (India) 5.64



OPEN ACCESS



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

August 2026 | Vol. 18 | No. 8 | Pages: 29375–29558

Date of Publication: 26 August 2026 (Online & Print)

DOI: 10.11609/jott.2026.18.8.29375-29558

www.threatenedtaxa.org

Articles

Bat assemblages at two contrasting agricultural sites in northern Algeria: a preliminary conservation assessment

– Saida Meghezzi, Fatima Zohra Bissad, Farid Bounaceur, Afaf Boukhari, Moncef Ait-Abdesselam & Leila Benfekih, Pp. 29375–29389

Linear power infrastructure and vulture electrocution risk: mitigation through carcass dump relocation in Sudhauwala, Dehradun, India

– Javed Anver, Yash Vardhan Singh Sengar, Bikash Ghimire, Vonchano Ngullie, Hemam Rama Nanda, Tashi P. Dorji, Ankit Sharma, Akshay Jain, Sas Biswas, Arun Kumar & M. Muzahed, Pp. 29390–29400

Avifaunal diversity of the central Western Ghats in Uttara Kannada, Karnataka, India

– Rounak Patra, Nonita Rana, S.J.D. Frank & Govindan Veeraswami Gopi, Pp. 29401–29417

A study on the avifaunal diversity and community dynamics of Karanji Lake, Mysuru, Karnataka, India

– S. Sushanth & K.S. Raghunandan, Pp. 29418–29429

A preliminary checklist and seasonal diversity of wetland-associated birds in Bajali District, Assam, India

– Bidyut Kumar Das, Pp. 29430–29446

Fish diversity and conservation status across habitat guilds in the river Rupnarayan, West Bengal, India

– Mridul Kanti Kar, Mohd Shahnawaz Khan, Anamitra Anurag Danda & Kripal Datt Joshi, Pp. 29447–29458

Community structure and environmental determinants of amphibians in the Western Ghats watersheds of eastern Goa, India

– Mayur M. Gawas, Sharan S. Sawal & Nitin S. Sawant, Pp. 29459–29469

Microhabitat associations and seasonal dynamics of amphibians in the lateritic rocky outcrops along the western coast of Goa, India

– Dipak Yashawant Bowalkar & Nitin Savlo Sawant, Pp. 29470–29482

Distribution, population status, associations, and biotic challenges of *Sanjappa cynometroides*, an endemic legume tree (Leguminosae: Caesalpinoideae) in the southern Western Ghats, Kerala, India

– Suresh Gopika & Moothedathu Venugopalan Nair Krishnaraj, Pp. 29483–29492

Lichen diversity of Churdhar Wildlife Sanctuary and adjacent areas of Himachal Pradesh, India

– Anupma Devi, Gaurav K. Mishra & Manjoosha Srivastava, Pp. 29493–29506

Communications

New record of the Malayan Porcupine (Rodentia: Hystricidae: *Hystrix brachyura* Linnaeus, 1758) in Tripura, India

– Omkar Patil, Ashutosh Joshi & Rutuja Digaskar, Pp. 29507–29514

Fishermen-led documentation of bycatch of sea snakes (Serpentes: Elapidae: Hydrophiinae) on the Malabar coast of southwestern India

– R. Sree Vishnu & S.R. Ganesh, Pp. 29515–29520

Checklist of the plants of Radhabai Kale Mahila Mahavidyalaya Campus, Ahilyanagar, Maharashtra, India

– Manjushree Gokul Bhagwat & Sharad Suresh Kambale, Pp. 29521–29531

Review

Exploring the agarwood trade in India and its promising horizon

– H.V. Girisha, Ajay Maletha, S.P. Goyal, Miatcha Tangjang, Avishek Bhattacharjee, Sayan Chakraborty, M.R. Ranjith Layola, Sudipta Sardar, Shabnam Bandyopadhyay, Bidisha Mallick, Oindrila Chakraborty, Sanchayita Sengupta, Tanay Shil, Sayak Chakraborty, Ranjan Shaw & Farheen Banu, Pp. 29532–29543

Short Communications

Nesting of Shikra *Accipiter badius* on *Gliricidia sepium* (Jacq.) Kunth (Leguminosae)

– Sunil M. Gaikwad & Manoj M. Lekhak, Pp. 29544–29547

New addition to the Odonata fauna of India: *Gynacantha basiguttata* Selys, 1882 (Odonata: Aeshnidae) from Arunachal Pradesh – a rectification

– R. Mahesh, Rajesh Gopinath, Dattaprasad Sawant, Gaurav Joshi & Roshan Upadhaya, Pp. 29548–29551

Notes

Breeding tern colonies in Valinokkam Lagoon, Tamil Nadu, India: additional records from the Gulf of Mannar region

– H. Maitreyi, H. Byju, N. Raveendran & S. Ravichandran, Pp. 29552–29554

Addition of *Athyrium rhachidosorum* (Hand.-Mazz.) Ching, 1934 (Polypodiales: Woodsiaceae) to the pteridophyte diversity of India

– Chhandam Chanda & Christopher Roy Fraser-Jenkins, Pp. 29555–29558

Publisher & Host



Threatened Taxa