

Building evidence for conservation globally

# Journal of Threatened Taxa

10.11609/jott.2026.18.3.28455-28606  
[www.threatenedtaxa.org](http://www.threatenedtaxa.org)

26 March 2026 (Online & Print)  
18(3): 28455-28606  
ISSN 0974-7907 (Online)  
ISSN 0974-7893 (Print)



Open Access







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](http://www.threatenedtaxa.org)  
Email: [sanjay@threatenedtaxa.org](mailto: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. Usha Madgunaki**, Zooreach, Coimbatore, India

**Ms. Trisa Bhattacharjee**, Zooreach, Coimbatore, India

**Ms. Paloma Noronha**, Daman & Diu, 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, Mangalagangothri, 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. Karthigeeyan**, 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 Baños, 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](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](https://threatenedtaxa.org/index.php/JoTT/policies_various)

continued on the back inside cover

Cover: Digital illustration of Smooth-coated Otter *Lutrogale perspicillata* by Dupati Poojitha. Reference from the picture taken by Rana & Sugandhi.



## First photographic record of Smooth-coated Otter *Lutrogale perspicillata* from the canals in Upper Ganga Ramsar Site, Uttar Pradesh, India

Aftab Alam Usmani<sup>1</sup> , Pichaimuthu Gangaiamaran<sup>2</sup> , Ruchi Badola<sup>3</sup> & Syed Ainul Hussain<sup>4</sup>

<sup>1–3</sup> Wildlife Institute of India, Chandrabani, Dehradun, Uttarakhand 248001, India.

<sup>4</sup> Centre for Biodiversity and Sustainability Science, Plot No. 40, Doon Officers Enclave, Chandrabani, Dehradun, Uttarakhand 248002, India.

<sup>1</sup> [aftab.a.usmani@gmail.com](mailto:aftab.a.usmani@gmail.com) (corresponding author), <sup>2</sup> [bnhsgangai@gmail.com](mailto:bnhsgangai@gmail.com), <sup>3</sup> [ruchi@wii.gov.in](mailto:ruchi@wii.gov.in), <sup>4</sup> [ainul.hussain@gmail.com](mailto:ainul.hussain@gmail.com)

**Abstract:** Smooth-coated Otter *Lutrogale perspicillata* is one of the three species of otters found in India. Photographs from the Lower Ganga Canal confirmed the presence of the species in the Ganga River in January of 2021 and 2023. This is the first confirmed record of a Smooth-coated Otter from the canal network of the middle stretch of the Ganga River. This observation indicates the rich aquatic and riparian habitat of the Ganga River, associated canal network along the Upper Ganga River Ramsar Site that needs to be conserved on priority.

**Keywords:** Biodiversity, Carnivora, conservation, distribution, Mammalia, Mustelidae, Narora Barrage.

Otters are semi-aquatic mammals of the family Mustelidae (Hung & Law 2016). Three species of otters are reported from the Indian subcontinent—Asian Small-clawed Otter *Aonyx cinereus*, Smooth-coated Otter *Lutrogale perspicillata*, and Eurasian Otter *Lutra lutra* (Hussain 1993; Khoo et al. 2021). Otters, as a top predator of their ecosystems, are highly vulnerable to human-induced changes in the ecosystem (Peterson & Schulte 2016). The Smooth-coated Otter is an elusive and amphibious carnivore species (Hussain 1993). It has a widespread distribution range in India owing to its diverse habitat choices, ranging from forested rivers and freshwater wetlands to mangroves (Hussain

& Choudhury 1995, 1997). The population of Smooth-coated Otters is believed to have declined significantly in the past three decades owing to the intentional killing by fishermen, habitat loss, and destruction (Nawab & Hussain 2012). Although otters exhibit a higher tolerance towards human presence, they continue to experience conflict with humans over fish resources and are subject to indiscriminate killing (Shariff 1984; Foster-Turley 1992). As a result, the species is listed as ‘Vulnerable’ in the IUCN Red List of Species and Appendix I of CITES (Hussain & Choudhury 1997; Nawab & Hussain 2012; Peterson & Schulte 2016; Khoo et al. 2021). Despite the alarming rate of population declines, the information about otters’ occurrence in India remains sparse and not well-documented (Hussain & Choudhury 1997; Khoo et al. 2021).

Presently, otter distribution is fragmented into small populations across its range (Hussain 1999). Most of the sighting records in the upper gangetic plains are confined to the Terai Region of Uttarakhand, Uttar Pradesh, Bihar, and Nepal (Hussain 2002; Nawab & Hussain 2012; Gupta et al. 2020; Basak et al. 2021). Beyond the Terai Region, scattered populations of Smooth-coated Otters have been reported from the Ganga River in State Wildlife

**Editor:** Bhargavi Srinivasulu, Zoo Outreach Organisation, Hyderabad, India.

**Date of publication:** 26 March 2026 (online & print)

**Citation:** Usmani, A.A., P. Gangaiamaran, R. Badola & S.A. Hussain (2026). First photographic record of Smooth-coated Otter *Lutrogale perspicillata* from the canals in Upper Ganga Ramsar Site, Uttar Pradesh, India. *Journal of Threatened Taxa* 18(3): 28573–28577. <https://doi.org/10.11609/jott.10367.18.3.28573-28577>

**Copyright:** © Usmani et al. 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:** The National Mission for Clean Ganga, Ministry of Jal Shakti, Government of India.

**Competing interests:** The authors declare no competing interests.



**Acknowledgements:** We would like to acknowledge the National Mission for Clean Ganga (NMG) and the Ministry of Jal Shakti for funding the present study. We are grateful to the chief wildlife warden and other forest officials of the Uttar Pradesh Forest Department for providing the necessary permissions and support to undertake the ecological assessment of the Ganga River. We acknowledge the support provided by officials of Narora Atomic Power Station (NAPS) and the Nuclear Power Corporation of India (NPCIL).

Barasingha Sanctuary (formerly Hastinapur Wildlife Sanctuary), Ghaghara, Girwa, Babai, Rapti, Chambal rivers and streams of Son River in India and the Narayani River in Nepal (Hussain 1993; Acharya 1998; Khan et al. 2014; Rathar et al. 2019; Bashyal & Yadav 2020; Gawan et al. 2022; Acharya et al. 2023).

**MATERIALS AND METHODS**

The survey was conducted along the banks of the Ganga River between Brijghat and Narora (Image 1). The grassland patches and riparian areas along the Ganga River were surveyed to assess the presence of Smooth-coated Otter. The stretch of the Ganga River between Brijghat and Narora is designated as the Upper Ganga River Ramsar Site (Ramsar site no. 1574). The river stretch has fragmented grassland patches along the banks and on islands. The major vegetation of these grassland patches includes *Typha* sp., *Phragmites* sp., and *Sachharum* sp. This stretch of the river is inhabited by the Gangetic Dolphin *Platanista gangetica*, 76 species

of waterbirds, Gharial *Gavialis gangeticus*, Muger *Crocodylus palustris*, and six species of turtles (WII-GACMC 2018; Usmani et al. 2025). The major terrestrial species include Sambar *Rusa unicolour*, Hog Deer *Axis porcinus*, Chital *Axis axis*, and Leopard *Panthera pardus* (Usmani 2010).

Previous studies and surveys of otters in Uttar Pradesh were restricted to the State Wildlife Barasingha Sanctuary, and no rigorous attempt was made to understand the status of otters in further downstream areas. As a part of the long-term study to document the biodiversity of the Ganga River and its tributaries, we conducted boat-based visual encounter surveys to collect information on the presence of otters. Along with the field information, secondary information on the presence of the otter was gathered from locals, especially farmers and fishermen. Photographs of species and their pugmarks were shown for identification. Google Earth images were used to identify the potential habitat along the Ganga River. Each patch of potential habitat

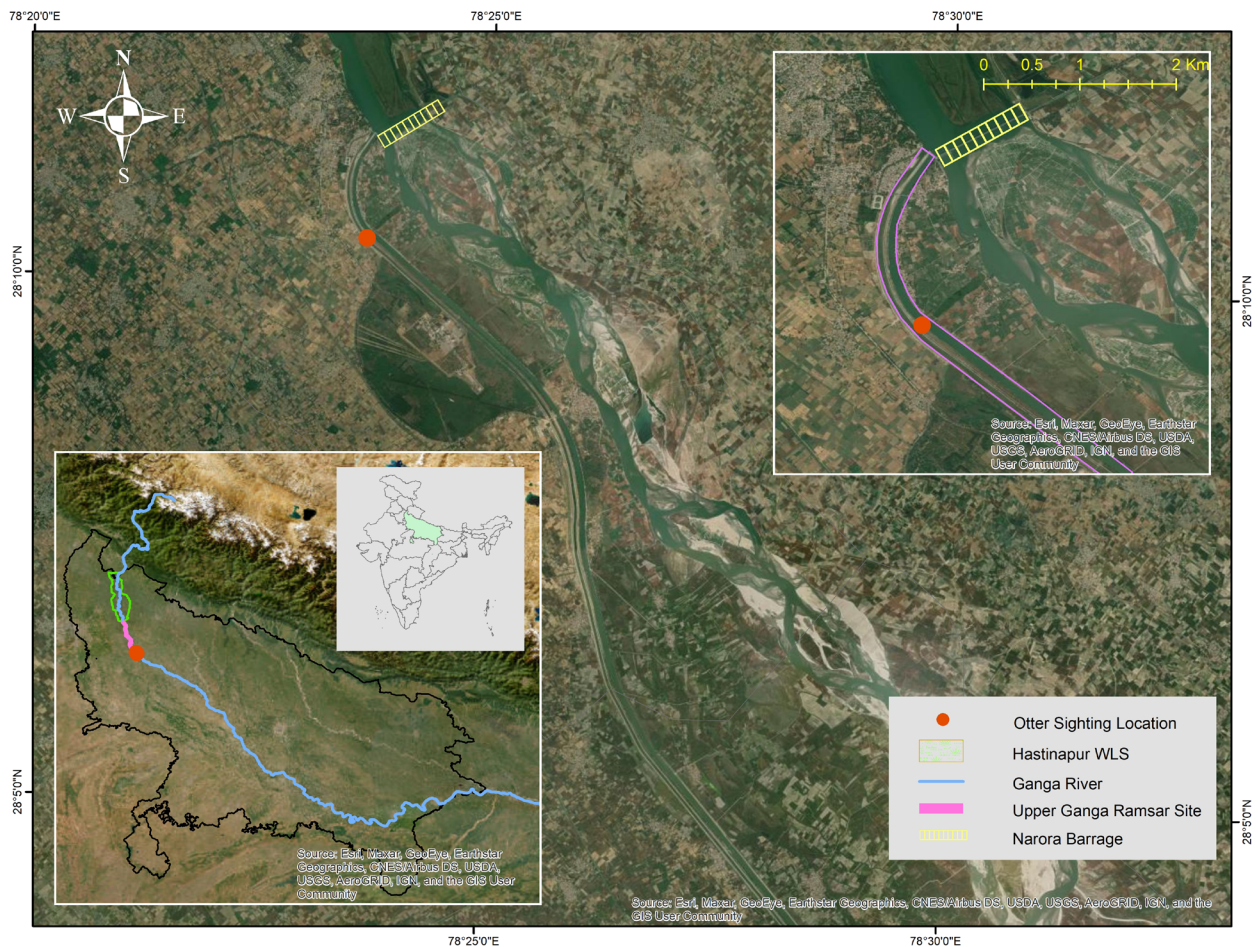


Image 1. The location of Smooth-coated Otter sighting near the Narora Barrage.





Image 2–4. Smooth-coated Otter seen in January 2023. © Aftab Alam Usmani.

was extensively surveyed both by walking and using a boat for otters. The entire surveyed area was outside the protected area.

## RESULTS

An adult otter individual was seen on the afternoon of 16 January 2023 in the concretized section of the Lower Ganga Canal approximately 1 km from the Lower Ganga Barrage at Narora, District Bulandshahr, Uttar Pradesh (28.174° N, 78.393° E) (Image 1). The otter was seen crossing the canal and moving towards the Ganga river (Images 2–4). Another individual was sighted fishing in the canal on 5 January 2021 (Images 5 & 6), approximately 100 m away from the previous observation (28.175° N, 78.393° E). The Lower Ganga Canal supports a rich diversity of fish species ( $n = 15$ ) that constitutes the primary prey base for otters, and its densely vegetated banks provide suitable shelter and

resting sites for the otters (Nawab & Hussain 2012).

## DISCUSSION

Anecdotal sightings of otters have been reported from the Ganga River in Haridwar, Uttarakhand. Indirect evidence of Smooth-coated Otters was also recorded from the State Wildlife Barasingha Sanctuary (Bashir et al. 2012; Khan et al. 2014). Studies conducted thereafter assumed the otter to be locally extirpated in the Ganga River downstream of State Wildlife Barasingha Sanctuary to Kanpur Barrage (Rao 2001). However, recent sightings of smooth-coated otters in 2021 and 2023 have proved the presence of the species in the irrigation canal network in the area.

The stretch of the Ganga River around Narora has abundant sandy banks with gradual slopes and vegetation cover, which provides a good habitat for smooth-coated otters. The sites are suitable due to low disturbances,

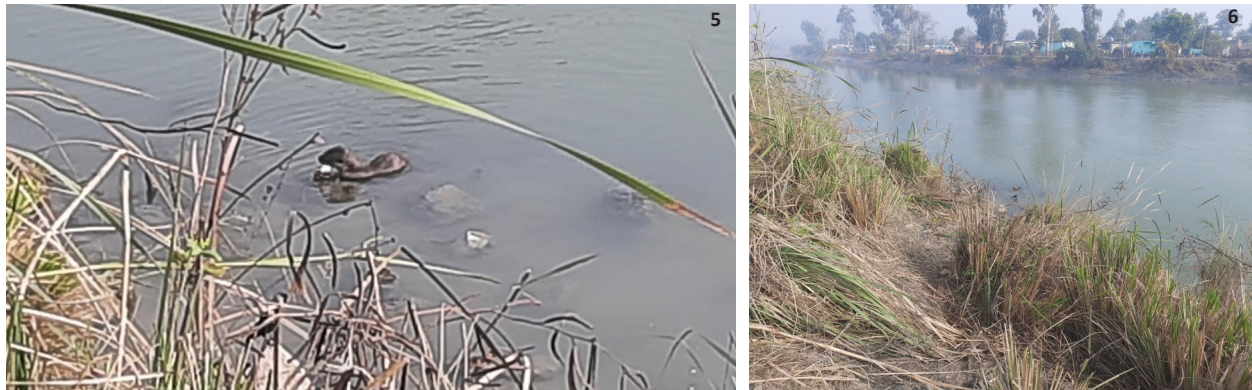


Image 5–6. Smooth-coated Otter seen in January 2021. © Aftab Alam Usmani.

abundant prey base, and banks with densely covered vegetation (Stephen et al. 2022; Gwachha et al. 2023; Moun et al. 2024). These factors have contributed to the survival of the Smooth-coated Otters in this area. The stretch falls near the exclusion zone of the Narora Atomic Power Plant (NAPS), which is characterised by dense vegetation cover, low human disturbances, and a high prey base. The area is surrounded by agricultural landscapes with interspersed, densely populated villages and towns with a population density of 836 individuals/km<sup>2</sup> (GUP 2021). The canal and the Ganga River in this area are extensively exploited for fishing using gill nets and cast nets. The common fish fauna of the area includes *Labeo rohita*, *Labeo catla*, *Sperata seenghala*, *Puntius sophore*, *Bagarius bagarius*, and *Wallago attu*.

Intensive fishing, uncontrolled burning, occasional sand mining, conversion of grass patches into croplands along the Ganga River and canal, and intentional killing of otters by the fisherman community, are the major threats to the otter in the area (Nawab & Hussain 2012; WII-GACMC 2018). Habitat loss and degradation by the construction of dams and barrages may further accelerate the extinction threat of declining otter populations (Nawab 2007). Fragmented habitat patches might not be sufficient to shelter a functional social otter group or breeding otters with poor dispersal ability (Collinge 1996; Lambeck 1997).

The Ganga River and associated aquatic habitat in this area also face a wide range of disturbances, including occasional cases of poaching, uncontrolled burning, agricultural encroachment, intensive grazing, and unsustainable vegetation extraction (Hussain & Choudhury 1997; Nawab & Hussain 2012; Peterson & Schulte 2016; Khoo et al. 2021). The otter population in this area is highly vulnerable to these stressors, and conservation interventions are required for the long-

term survival of otters in the region between Narora and Kanpur. Further, efforts to engage local communities are essential for the conservation and long-term service of the species. The Upper Ganga Canal provides stable aquatic habitat with dense riparian vegetation on the banks, supporting diverse fish assemblages. Water availability fluctuates seasonally based on the irrigation schedule, with reduced flows during non-cropping periods limiting habitat extent. Major threats to the canal include intensive fishing and the introduction of invasive species.

## REFERENCES

- Acharya, P.M. (1998). *Otter action plan: The country report Nepal*. A report submitted to the Otter Specialist Group, IUCN – The World Conservation Union, 11 pp.
- Acharya, P.M., P. Lamsal, S. Rajbhandari, H. Lama, B. Lama, M. Pathak & M. Niraula (2010). *Status of otter distribution in Narayani River, Chitwan National Park, Nepal*. A first phase research report submitted to the Rufford Foundation, UK.
- Acharya, P.M., P. Thainiramit, K. Techato, S. Baral, N. Rimal, M. Savage & D. Neupane (2023). Predicting the distribution and habitat suitability of the Smooth-coated Otter *Lutrogale perspicillata* in lowland Nepal. *Global Ecology and Conservation* 46: e02578. <https://doi.org/10.1016/j.gecco.2023.e02578>
- Basak, S., B. Pandav, J.A. Johnson & S.A. Hussain (2021). Resource utilisation by smooth-coated otters in the rivers of Himalayan foothills in Uttarakhand, India. *Global Ecology and Conservation* 32: e01896. <https://doi.org/10.1016/j.gecco.2021.e01896>
- Bashir, T., S.K. Behera, A. Khan & P. Gautam (2012). An inventory of mammals, birds and reptiles along a section of the river and banks of upper Ganges, India. *Journal of Threatened Taxa* 4(9): 2900–2910. <https://doi.org/10.11609/JoTT.o2692.2900-10>
- Bashyal, A. & B.P. Yadav (2020). Opportunistic Smooth-coated Otter (*Lutrogale perspicillata*) sightings record in Bardia National Park of Nepal. *IUCN Otter Specialist Group Bulletin* 37(2): 120–126.
- Collinge, S.K. (1996). Ecological consequences of habitat fragmentation: Implications of landscape architecture and planning. *Landscape and Urban Planning* 36(1): 59–77. [https://doi.org/10.1016/S0169-2046\(96\)00308-2](https://doi.org/10.1016/S0169-2046(96)00308-2)
- Foster-Turley, P.A. (1992). Conservation aspects of the ecology of Asian small-clawed and smooth otters on the Malay Peninsula. *IUCN Otter Specialist Group Bulletin* 7: 26–29.





- Gawan, S., A.K. Panda & A.M. Rawat (2022). First photographic record of the presence of Smooth-coated Otter (*Lutrogale perspicillata*) in Ghaghra River, India. *Journal of Threatened Taxa* 14(4): 20930–20934. <https://doi.org/10.11609/jott.7594.14.4.20930-20934>
- GUP (2021). *Government of Uttar Pradesh: Statistical Diary: Uttar Pradesh 2021*. Economics and Statistics Division, State Planning Institute, Planning Department, Uttar Pradesh, India. Available online at: [https://updes.up.nic.in/esd/reports/diary%20eng%202021\\_merged.pdf](https://updes.up.nic.in/esd/reports/diary%20eng%202021_merged.pdf)
- Gupta, N., V. Tiwari, M. Everard, M. Savage, S.A. Hussain, M.A. Chadwick & V.K. Belwal (2020). Assessing the distribution pattern of otters in four rivers of the Indian Himalayan biodiversity hotspot. *Aquatic Conservation: Marine and Freshwater Ecosystems* 30(3): 601–610. <https://doi.org/10.1002/aqc.3283>
- Gwachha, S., M. Koirala & P.M. Shrestha (2023). Habitat status of the Smooth-coated Otter (*Lutrogale perspicillata*) in Geruwa-Khaurahi River, Bardia National Park, Nepal. *Nepal Journal of Environmental Science* 11(2): 23–33
- Hung, N. & C.J. Law (2016). *Lutra lutra* (Carnivora: Mustelidae). *Mammalian Species* 48(940): 109–122. <https://doi.org/10.1093/mspecies/ sew006>
- Hussain, S.A. (1993). *Aspects of the ecology of smooth-coated otters Lutra perspicillata in National Chambal Sanctuary* (Unpublished PhD Thesis). Centre for Wildlife and Ornithology, Aligarh Muslim University, Aligarh, India.
- Hussain, S.A. (2002). Conservation status of otters in the Tarai and Lower Himalayas of Uttar Pradesh, India, pp. 131–142. In: Dulfer, R., J. Conroy, J. Nel & A. Gutleb (eds.). *Otter Conservation – An Example for a Sustainable Use of Wetlands*. IUCN Otter Specialist Group Bulletin 19, Trebon, Czech Republic, 396 pp.
- Hussain, S.A. & B.C. Choudhury (1995). Seasonal movement, home range and habitat use by smooth-coated otters (*Lutra perspicillata*) in National Chambal Sanctuary, India, pp. 45–55. In: Proceedings of VI International Otter Colloquium, Pietermaritzburg, South Africa, 146 pp.
- Hussain, S.A. & B.C. Choudhury (1997). Distribution and status of the Smooth-coated Otter (*Lutra perspicillata*) in National Chambal Sanctuary, India. *Biological Conservation* 80(2): 199–206. [https://doi.org/10.1016/S0006-3207\(96\)00052-2](https://doi.org/10.1016/S0006-3207(96)00052-2)
- Hussain, S.A. & R.K. Singh (1999). *Ecological Survey of the National Chambal Sanctuary to Assess the Need for Desiltation*. Study report. Wildlife Institute of India, Dehra Dun, India, 121 pp.
- Khan, M.S., N.K. Dimri, A. Nawab, O. Ilyas & P. Gautam (2014). Habitat use pattern and conservation status of smooth-coated otters (*Lutrogale perspicillata*) in the Upper Ganges Basin, India. *Animal Biodiversity and Conservation* 37(1): 69–76. <https://doi.org/10.32800/abc.2014.37.0069>
- Khoo, M., S. Basak, N. Sivasothi, P.K. de Silva & I.R. Lubis (2021). *Lutrogale perspicillata*. *The IUCN Red List of Threatened Species 2021*: e.T12427A164579961. <https://doi.org/10.2305/IUCN.UK.2021-3.RLTS.T12427A164579961.en>
- Lambeck, R.J. (1997). Focal species: A multi-species umbrella for nature conservation. *Conservation Biology* 11(4): 849–856. <https://doi.org/10.1046/j.1523-1739.1997.96319.x>
- Moun, A., P.R. Kumar, M.M. Priya, T. Ramesh & R. Kalle (2024). Multi-scale habitat influences sprainting and group size of a freshwater-obligate Smooth-coated Otter (*Lutrogale perspicillata*) in Tungabhadra Otter Conservation Reserve, India. *Ecological Processes* 13(1): 12. <https://doi.org/10.1186/s13717-024-00492-x>
- Nawab, A. (2007). *Ecology of otters in Corbett Tiger Reserve, Uttarakhand, India*. PhD Thesis. Forest Research Institute, Dehradun, India, 174 pp.
- Nawab, A. & S.A. Hussain (2012). Factors affecting the occurrence of Smooth-coated Otter (*Lutrogale perspicillata*) in aquatic systems of the Upper Gangetic Plains, India. *Aquatic Conservation: Marine and Freshwater Ecosystems* 22(5): 616–625. <https://doi.org/10.1002/aqc.2249>
- Peterson, E.K. & B.A. Schulte (2016). Impacts of pollutants on beavers and otters with implications for ecosystem ramifications. *Journal of Contemporary Water Research & Education* 157(1): 33–45. <https://doi.org/10.1111/j.1936-704X.2016.03218.x>
- Rao, R.J. (2001). Biological resources of the Ganga River, India. *Hydrobiologia* 458(1): 159–168. <https://doi.org/10.1023/A:1013138801994>
- Rather, T.A., S. Tajdar, S. Kumar & J.A. Khan (2019). First photographic record of Smooth-coated Otter (*Lutrogale perspicillata*) in Bandhavgarh Tiger Reserve, Madhya Pradesh, India. *IUCN Otter Specialist Group Bulletin* 36(2): 93–97.
- Shariff, S.M. (1984). Some observations on otters at Kuala Gula, Perak and National Park, Pahang. *Journal of Wildlife and Parks (Malaysia)* 4: 20–24.
- Usmani, A.A. (2010). *Some Ecological Studies of Gharial (Gavialis gangeticus) in Hastinapur Wildlife Sanctuary* (Unpublished M.Sc. Dissertation). Department of Wildlife Sciences, Aligarh Muslim University, Aligarh, India, 40 pp.
- Usmani, A.A., P. Gangaiamaran, V.B. Mathur, R. Badola & S.A. Hussain (2025). An annotated checklist of aquatic avifauna in the human-dominated middle stretch of the Ganga River. *Check List* 21(3): 596–617. <https://doi.org/10.15560/21.3.596>
- WII-GACMC (2018). *Macro fauna of Ganga River: Status and conservation of select species*. Ganga Aqualife Conservation Monitoring Centre, Wildlife Institute of India, Dehra Dun, India, 151 pp.





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. Rajeesh 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 Vyasa, Vadodara, Gujarat, India  
Dr. Pritpal S. Soorae, Environment Agency, Abu Dhabi, UAE.  
Prof. Dr. Wayne J. Fuller, Near East University, Mersin, Turkey  
Prof. Chandrashekhar 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

**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

#### 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, SACON, 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 Sundev, 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, SACON, 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, SACON, 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 paucity 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



[www.threatenedtaxa.org](http://www.threatenedtaxa.org)

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](http://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)

March 2026 | Vol. 18 | No. 3 | Pages: 28455–28606

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

DOI: 10.11609/jott.2026.18.3.28455-28606

## Articles

**Predicting the potential habitat of *Tragopan blythii* (Jerdon, 1870) (Aves: Galliformes: Phasianidae) in Mehao Wildlife Sanctuary of Arunachal Pradesh, India**

– Eba Tapo & Gibji Nimasow, Pp. 28455–28467

**Composition and ecological guild structure of birds at Chaudhary Devi Lal University campus, Haryana, India**

– Harkrishan Kamboj, Vijay Singh, Vivek Goyal & Vinay Malik, Pp. 28468–28478

**New record of two natricine snakes, *Hebius gilhodesi* (Wall, 1925) and *Herpetoreas davidi* Nguyen et al., 2024 (Reptilia: Squamata: Colubridae), from India**

– Sourav Dutta, Bitupan Boruah & Abhijit Das, Pp. 28479–28494

**Diversity and distribution pattern of geometrid moths (Insecta: Lepidoptera: Geometridae) along the altitudinal gradient, Kumaun Himalaya, India**

– Narendra Singh Lotani & Chandra Singh Negi, Pp. 28495–28509

**New distribution records and taxonomic studies of ascomycetous fungi *Xylaria* and *Daldinia* (Ascomycota: Xylariales: Xylariaceae) in Karnataka, India**

– S. Bharath Kumar, A. Muthu Kumar & Praveen Kumar Nagadesi, Pp. 28510–28523

**Identification of wildlife crime hotspots in Punjab, India via kernel density estimation analysis**

– Navdeep Sood & Rohan Kumar, Pp. 28524–28533

## Communications

**Assessing nutritional status of Chital *Axis axis* (Erxleben, 1777) (Mammalia: Artiodactyla: Cervidae) through bone marrow condition of predated individuals in Kanha Tiger Reserve, India**

– Shravana Goswami, Ujjwal Kumar & Yadvendra V. Jhala, Pp. 28534–28539

**Smooth-Coated Otter *Lutrogale perspicillata* (Mammalia: Carnivora: Mustelidae) observation near a community reservoir in Bannerghatta National Park**

– Amrita Nair & Avinash Krishnan, Pp. 28540–28545

**Range extension records of Tibetan Snowcock, Tibetan Sandgrouse, and Western Tragopan in Uttarakhand, India**

– Anuj Joshi, Ranjana Pal, Vineet K. Dubey & Sambandam Sathyakumar, Pp. 28546–28551

**Morphological and statistical perspectives on genital sexual dimorphism in Eupterotidae Swinhoe, 1892 (Insecta: Lepidoptera)**

– Sujata Saini & Shabnum Shafi, Pp. 28552–28563

**Distribution of rheophytes in Kopili River Basin, Assam and Meghalaya, India**

– Jayanta Das & Deepak K. Baruah, Pp. 28564–28572

## Short Communications

**First photographic record of Smooth-coated Otter *Lutrogale perspicillata* from the canals in Upper Ganga Ramsar Site, Uttar Pradesh, India**

– Aftab Alam Usmani, Pichaimuthu Gangaiamaran, Ruchi Badola & Syed Ainul Hussain, Pp. 28573–28577

**First camera-trap evidence of a ferret badger *Melogale sp.* (Mammalia: Carnivora: Mustelidae) from the community forests of Manipur, India**

– Chingrisoror Rumthao, Monesh Singh Tomar & Sushanto Gouda, Pp. 28578–28581

**Species composition of butterflies associated with nectar feeding on *Libidibia coriaria* (Jacq.) Schltld (Magnoliopsida: Fabales: Fabaceae)**

– V. Ajay Krishna, M.P. Gopika, S. Adithyan & K.S. Aneesh, Pp. 28582–28589

**New distribution records of five species of freshwater palaemonid prawns (Crustacea: Decapoda) in Nagaland, India**

– K. Valarmathi, Pp. 28590–28593

**Range extension of the lichenized ascomycete, *Cladonia fruticulosa* Kremp., 1882 (Lecanoromycetes: Lecanorales: Cladoniaceae), from Similipal Biosphere Reserve of Odisha**

– Shubham Pradhan, Satyabrata Dash, Bijayananda Sahoo & Biswajit Rath, Pp. 28594–28599

## Notes

**First photographic record of *Chitoria sordida sordida* (Moore, 1866) (Insecta: Lepidoptera: Nymphalidae: Apaturinae) from Arunachal Pradesh, India**

– Roshan Upadhaya, Rajesh Gopinath, R. Mahesh & Gaurav Joshi, Pp. 28600–28603

**Westward range extension of the Greater Bluewing *Rhyothemis plutonia* Selys, 1883 (Insecta: Odonata: Libellulidae) into Uttarakhand, India**

– Omkar Sanjay Damle, Pp. 28604–28606

Publisher & Host



Threatened Taxa