



Open Access

10.11609/jott.2022.14.4.20811-20950
www.threatenedtaxa.org

26 April 2022 (Online & Print)
14 (4): 20811-20950
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

No. 12, Thiruvannamalai Nagar, Saravanampatti - Kalapatti Road, Saravanampatti,
Coimbatore, Tamil Nadu 641035, 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),
12 Thiruvannamalai Nagar, Saravanampatti, Coimbatore, Tamil Nadu 641035, India

Deputy Chief Editor

Dr. Neelesh Dahanukar

Noida, Uttar Pradesh, India

Managing Editor

Mr. B. Ravichandran, WILD/ZOO, Coimbatore, 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 641035, India

Dr. B.A. Daniel, ZOO/WILD, Coimbatore, Tamil Nadu 641035, India

Editorial Board

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, Mavinahalla PO, Nilgiris, Tamil Nadu 643223, India

Dr. Martin Fisher

Senior Associate Professor, Battcock Centre for Experimental Astrophysics, Cavendish
Laboratory, JJ Thomson Avenue, Cambridge CB3 0HE, UK

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

Mr. P. Ilangoan, Chennai, India

Web Development

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

Typesetting

Mr. Arul Jagadish, ZOO, Coimbatore, India

Mrs. Radhika, ZOO, Coimbatore, India

Mrs. Geetha, ZOO, Coimbatore India

Fundraising/Communications

Mrs. Payal B. Molur, Coimbatore, India

Subject Editors 2019–2021

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

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, Kadoorie Farm and Botanic Garden Corporation, Hong Kong S.A.R., China

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

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

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: *Saproamanita praeclara*: Sporocarp in habitat © Kantharaja. R.



et al. 2002; Thapa et al. 2012; Srinivasulu & Srinivasulu 2019). India has most distribution records of Dormer's Bat and it has been recorded from 25 states; Andhra Pradesh, Assam, Bihar, Goa, Gujarat, Haryana, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttarakhand, Uttar Pradesh, and West Bengal (Bates & Harrison 1997; Molur et al. 2002; Srinivasulu & Srinivasulu 2019). The species has been reported from old temples of Rajshahi in western Bangladesh and a railway station at Dinajpur of northern Bangladesh (Khan 2001). Sialkot and Shikarpur were recorded localities in Pakistan (Bates & Harrison 1997). In Nepal, a male individual of Dormer's Bat was reported from southeastern Kusaha of Koshi Tappu wildlife reserve, Nepal (Thapa et al. 2012). Steamer Ghats, Bangladesh, and Sindh Pakistan are eastern- and western-most record of the species. Likewise Murapanadu Tamil Nadu, India and Firozpur, Punjab, India are southern- and northern-most distribution record of Dormer's Bat till now (Bates & Harrison 1997; Khan 2001; Molur et al. 2002; Srinivasulu & Srinivasulu 2019). It is distributed from sea

level to 2,000 m (Bates & Harrison 1997; Srinivasulu & Srinivasulu 2019). Here we add three new distribution localities and second, third, and fourth records of the species from Nepal (Thapa et al. 2012).

MATERIALS AND METHODS

Study area

A total of three sites were surveyed in eastern to western regions of Nepal. Morange River, Letang Municipality, Morang District and Ramjhoda, Barahachhetra Municipality, Sunsari District are two localities in the eastern region and Hattikhauwa, Tulsipur municipality, Dang District is in the western region of Nepal (Figure 1).

Morange River is the border of Letang Bazaar and Jante village, which is originated from Mahabharat range, however, the river is dry most of the time and is flooded during monsoon season. The surveyed locality in the Morange River lies at an elevation of 243 m. The locality is an arid subtropical area at the foothills of Churia range. Mist netting site is a small water canal and ditches at the eastern side of the river. Small patches of bamboo and paddy fields are in the surroundings. Ramjhoda,

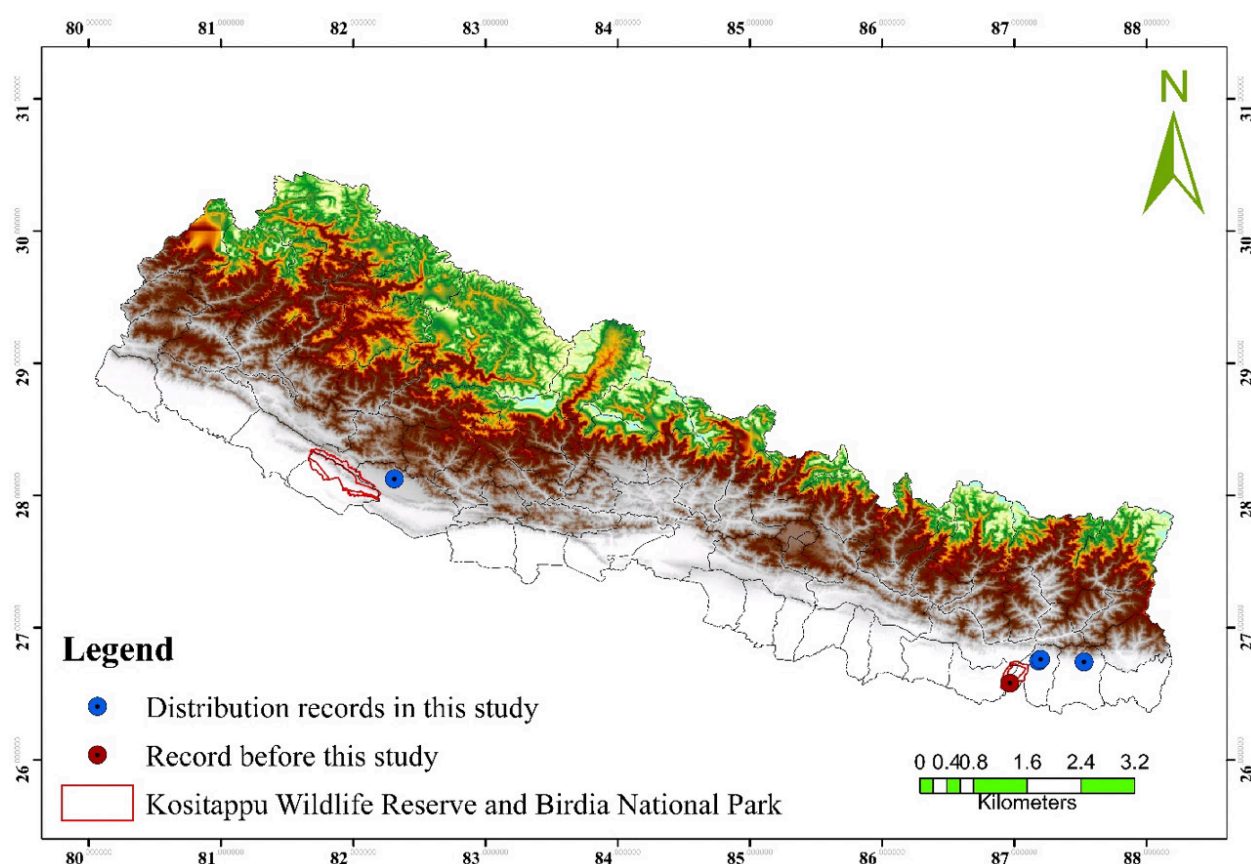


Figure 1. Distribution records of *S. dormeri* in Nepal.

Barahakshetra Municipality ward #5 in Sunsari District lies at an elevation of 119 m. The locality is also an arid area. It is a small village with traditional wooden houses in the human settlement surrounded by small patches of forest, fishponds and paddy croplands with water canals. Tulsipur municipality ward #6, Hattikhauwa is 635 m and in the eastern border of Tulsipur town. This locality is a small stream flowing through an arid area with red soil surrounded by patches of bamboo forest and maize and millet croplands.

Bat survey and identification

Field surveys were conducted during three months of January, October, and November 2020. Roost searches were conducted by direct observation of possible sites during daytime to select the mist netting sites in stream, pounds, walking trails or tree canopies. We searched for bats in cavities of wooden houses and huts, bamboo holes, old buildings, holes, and bark of dead trees. Cavity dwelling individuals were captured by gloved hands and released immediately after taking photographs and measurements of fore arm (FA) (Kunz et al. 2009). Six monofilament mist nets with 14 mm mesh size and of three sizes 6*3 m², 9*3 m² and 3*2.5 m² dimensions were installed over the stream, in the bank of pond, riverbank and edge of forest. At each site, mist-nets were opened at sunset just before the time of emergence of the bats (normally 1730 h) and closed after the bats activities came to an end (normally 2300 h) for a single night (Collins 2016). Captured bats were immediately taken out of mist-net by loose gloved hand without any stress. Morphology characters and morphometrics (forearm length 'FA') were recorded.

Measurements of FA were taken by FREEMANS IP54 digital vernier caliper. Captured bats were photographed from dorsal, ventral and lateral views using 18–55 mm and 75–300 mm lens (Cannon EOS 1100D). Bats were carefully released soon after handling. Bat capture and handling methods followed standard procedures and recommendations described in Kunz & Parsons (2009). The species was identified in the field based upon the morphological characters and morphometrics (Bates & Harrison 1997; Molur et al. 2002; Acharya et al. 2010; Srinivasulu et al. 2010; Thapa et al. 2012).

RESULTS

Four species of 18 bats were tapped in Hattikhauwa and Morange River survey stations but no bat was trapped in Ramjhoda (Table 1). Two males of *S. dormeri*, two individuals (male and female each) of *Scotophilus heathii* were trapped at Hattikhauwa and two individuals (male and female each) of *S. dormeri*, one male *Megaderma lyra*, one female *Cynopterus sphinx*, and 11 individuals (four male and seven female) of *S. heathii* were trapped in Morange River site. Densities of flight were extremely high from early evening until about two hours after sun set. All captured bats were released immediately after taking photographs and measurement without any stress.

Two roosts of *Pipistrellus* sp. and a roost of *S. dormeri* were reported from Ramjhoda. A colony of 10 individuals of *C. sphinx* was found in the canopy of *Saracaasoca* in Sikha School, more or less one kilometer west of the mist netting site at Tulsipur Municipality # 4 (Table no. 1). A colony of *Pipistrellus* sp. in a bamboo hollow of a cattle shed near the house was found and two male individuals

Table 1. Bat species identification three survey stations with sex, forearm (FA) length and types of survey.

	Date	Location	Species of bats	Ind. & sex	FA length (mm)	Type of survey	Elevation (meter)
1	22.i.2020	Ramjhoda, Barahachettra, Sunsari	<i>Pipistrellus</i> sp.	Male		Roost search	107
2	22.i.2020	Ramjhoda, Barahachettra, Sunsari	<i>Scotophilus heathii</i>	1 Ind.		Roost search	119
3	22.i.2020	Ramjhoda, Barahachettra, Sunsari	<i>Scotozous dormeri</i>	1 Male	34.31	Roost search	122
4	23.i.2020	Ramjhoda, Barahachettra, Sunsari	<i>Pipistrellus</i> sp.	1 Male		Roost search	118
5	4.x.2020	Hattikhauwa, Tulsipur, Dang	<i>Scotophilus heathii</i>	1 Male, 1 Female	Male: 63.39 & Female: 64.72	Mist netting	635
6	4.x.2020	Hattikhauwa, Tulsipur, Dang	<i>Scotozous dormeri</i>	2 Males	Male1: 36.01 & Male2: 34.64	Mist netting	636
7	5.x.2020	Hattikhauwa, Tulsipur, Dang	<i>Cynopterus sphinx</i>	10 Ind.		Roost search	663
8	4.xi.2020	Morange River, Letang, Morang	<i>Scotophilus heathii</i>	4 Male, 7 Female	Male1: 61.91 & Female1: 61.67	Mist netting	243
9	4.xi.2020	Morange River, Letang, Morang	<i>Cynopterus sphinx</i>	1 Female		Mist netting	243
10	4.xi.2020	Morange River, Letang, Morang	<i>Megaderma lyra</i>	1 Male		Mist netting	243
11	4.xi.2020	Morange River, Letang, Morang	<i>Scotozous dormeri</i>	1 Male, 1 Female	Male: 34.65 & Female: 34.04	Mist netting	243



Image 1. A—*S. dormeri* captured in Ramjhoda 1.i.2011 | B—*S. dormeri* in Ramjhoda 22.i.2020 | C—*S. dormeri* Morange River 11.iv.2020 | D—*S. dormeri* Hattikhauwa 10.iv.2020. © A—Dibya Raj Dahal | B—D—Sanjan Thapa.

was captured and measurement of FA and close up photographs were taken and then released immediately at Ramjhoda. A male individual of *Pipistrellus* sp. was roosting in a cavity of the wooden ceiling of a house, 500 m east of the first colony. A single individual of the Greater Asiatic Yellow House Bat *S. heathii* was found in a cavity of a bamboo cottage close to the second colony of

Pipistrellus sp. This was identified by direct observation and photography without capture. Male *S. dormeri* was found in a small cavity in a wooden pillar of an old house in southern Ramjhoda.

Five individuals (four males and one female) of Dormer's Bats were captured in Morange River, Letang, Morang District; Ramjhoda, Barahachetrra, Sunsari

District and Hattikhauwa, Tulsipur, Dang District. Four of them were trapped by mist netting in Morang and Dang districts whereas an individual was found roosting in Sunsari District (Table 1). A male was trapped in early evening and a female was netted in 2100 h at Morange River whereas both were netted in early evening just after sunset in Hattikhauwa. Forearm lengths of the five individuals measured were 34.04–36.01mm (n= 5, Mean= 34.04, Sd= 0.7591) (Table 1). Dorsal pelage was greyish-brown with silvery hair tips and ventral pelage was pale with buffy white hair tips (Image 1 A & B). Ear, face, and membranes of all individuals were brownish in color (Image 1C). Wing and inter femoral membrane were naked (Image 1C,D).

DISCUSSION

After the first national record of *S. dormeri* by Thapa et al. (2012), the second locality record of Dormer's Bats from Nepal was found about 20 km north-east from the first locality record at Paschim Kusaha. Another roost of the species was reported from a wooden house at southern Ramjhoda in 22 January 2020. The latter locality is 300 m east of the second record at Ramjhoda, which is the third report of the species in the country. The species at Ramjhoda was found in narrow cavities of wooden pillar of old wooden houses. A mature male and female of Dormer's bats were trapped in Morange River, Letang, Morang District on 4 November 2020, which is the eastern most record from Nepal. Morange River is around 36 km and 50 km east from Ramjhoda and Paschimkusaha, respectively. Two male individuals were captured in Hattikhauwa, Dang District in 4 October 2020, which is the fourth locality record and is 540 km west from Morange River and it is also the westernmost record for Nepal (Figure 1). Dormer's bats were roosting in cavities, cracks, holes of old building, temple and huts (Molur et al. 2002; Thapa et al. 2012; Srinivasulu & Srinivasulu 2019). The recent records were also found roosting in cavities of wooden pillars of old wooden houses at Ramjhoda. Thapa et al. (2012) reported the species from the bamboo hollow in a hut at Paschim Kusaha.

S. dormeri is distributed in tropical, semi-arid or arid climatic zone of near or within human settlements

(Srinivasulu & Srinivasulu 2019). All reported sites during the current surveys of Dormer's bat were arid and dry red soil. Suburban areas which contain wooden houses and agricultural terraces and croplands surrounded the surveyed sites. *Noelamarkia cadamba*, *Ficus benjamina* and *Pseudosasa japonica* were the dominant vegetation in surveyed sites throughout Nepal. *C. sphinx* and *S. kuhlii* were reported from the vicinity of the Dormer's Bat recorded sites.

REFERENCES

- Acharya, P.R., H. Adhikari, S. Dahal, A. Thapa & S. Thapa (2010). *Bats of Nepal. A field guide* 1 ed. Small Mammals Conservation and Research Foundations (SMCRF), Kathmandu, 64 pp.
- Advani, R. (1981). Feeding ecology and behaviour of Dormer's bat *Pipistrellus dormeri doemeri* (Dobson, 1875), in Indian desert. *Saugetierkundliche Mitt.* 29(4): 56–58.
- Agrawal, V.C. (1973). On a collection of bats from Goa. *Records Zoological Survey India* 67: 261–280.
- Bates, P.J.J. & D.L. Harrison (1997). *Bates of the Indian Subcontinent*. Harrison Zoological Museum Publication, Sevenoaks, England.
- Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* III. Bat Conservation Trust, London, 103pp.
- Dobson, G.E. (1875). On the genus *Scotophilus* description with new genus and species allied thereto. *Proceedings of the Zoological Society of London* 24: 368–373.
- Khan, M.A.R. (2001). Status and distribution of bats in Bangladesh with notes on their ecology. *Zoos' Print Journal* 16(5): 479–483. <https://doi.org/10.11609/jott.zpj.16.5.479-83>
- Kunz, T.H., R. Hodgkison & C.D. Weise (2009). Methods of capturing and handling bats. pp. 3–35. In: *Ecological and behavioral methods for the study of bats*. The Johns Hopkins University Press, Baltimore, Maryland.
- Kunz, T.H. & S. Parsons (2009). *Ecological and Behavioural methods for study of bats* II. The Johns Hopkins University Press, Baltimore, Maryland, 900 pp.
- Molur, S., G. Marimuthu, C. Srinivasulu, S. Mistry, A.M. Hutson, P.J.J. Bates & A.R.B. Priya (2002). Status of South Asian Chiroptera Conservation Assessment and Management Plan (C.A.M.P.) Workshop Report, 2002. 317pp.
- Sinha, Y.P. (1981). Studies of bats on Gujarat. *Records Zoological Survey India* 78: 101–112.
- Srinivasulu, B. & C. Srinivasulu (2019). *Scotozous dormeri*, Dormer's pipistrelle. *The IUCN Red List of Threatened Species*. <https://doi.org/10.2305/IUCN.UK.2019-3.RLTS.T17338A22129897.en>
- Srinivasulu, C., P. A. Racey & S. Mistry (2010). A key to the bats (Mammalia: Chiroptera) of South Asia. *Journal of Threatened Taxa* 2(7): 1001–1076. <https://doi.org/10.11609/jott.o2352.1001-76>
- Thapa, S., P. Subedi, N.B. Singh & M.J. Pearch (2012). The first record of *Scotozous dormeri* Dobson, 1875 from Nepal with new locality records of *Pipistrellus coromandra* (Gray, 1838) and *P. tenuis* (Temminck, 1840) (Chiroptera: Vespertilionidae). *Journal of Threatened Taxa* 4(4): 2481–2491. <https://doi.org/10.11609/jott.o2906.2481-9>



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
 Dr. 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. Neelesh Dahanukar, IISER, Pune, Maharashtra, India
 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

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. Chandrashekhar U. Rivonker, Goa University, Taleigao Plateau, Goa. India
 Dr. S.R. Ganesh, Chennai Snake Park, Chennai, Tamil Nadu, 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 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. M. Zafar-ul Islam, Prince Saud Al Faisal Wildlife Research Center, Taif, Saudi Arabia

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, The American College, Madurai, 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 2019–2021

Due to pausity of space, the list of reviewers for 2018–2020 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,
 No. 12, Thiruvannamalai Nagar, Saravanampatti - Kalapatti Road,
 Saravanampatti, Coimbatore, Tamil Nadu 641035, India
 ravi@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. 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)

April 2022 | Vol. 14 | No. 4 | Pages: 20811–20950

Date of Publication: 26 April 2022 (Online & Print)

DOI: 10.11609/jott.2022.14.4.20811-20950

www.threatenedtaxa.org

Communications

Study on the diversity of birds in the new abode of wetlands created by the 2004 tsunami in South Andaman

– Neelam Puri, V. Shiva Shankar, G. Narshimulu, Satyajit Halder, C. Ramayya & Ravi Pratap Singh, Pp. 20811–20820

Population abundance of Greater Flamingo *Phoenicopterus roseus* (Aves: Phoenicopteridae) in district Gurugram of Haryana, India

– Amit Kumar & Sarita Rana, Pp. 20821–20827

Freshwater fish diversity in hill streams of Saberi River in Eastern Ghats of Odisha, India

– Supriya Surachita & Sharat Kumar Palita, Pp. 20828–20839

Hatching in Coromandel Marsh Dart Damselfly *Ceriagrion coromandelianum* (Fabricius) (Zygoptera: Coenagrionidae): process and influence of the oviposition substrate

– Payal Verma, Nilesh Thaokar & Raymond Andrew, Pp. 20840–20847

Distribution of the genus *Pinguicula* (L., 1753) (Lentibulariaceae) in Gunma Prefecture, Japan with new records

– Hiro Shimai & Takehiro Ohmori, Pp. 20848–20858

Reproductive biology of two threatened and highly traded medicinal plants, *Salacia gambleana* and *Salacia oblonga*, from the Western Ghats of India

– P.S. Krishnasree, P.A. Jose, K. Subin & T.V. Sarath, Pp. 20859–20865

Cytotaxonomy and palynology study of some weed species from the state of Punjab, India

– Rai Singh & M.C. Sidhu, Pp. 20866–20872

Philately of mangroves: local to global reflection

– Mahesh Shindikar, Yogesh Deshpande, Prasad Kulkarni, Anand Billade & Ajit Vartak, Pp. 20873–20889

Amanitaceous fungi of central Western Ghats: taxonomy, phylogeny, and six new reports to Indian mycobiota

– Rangappa Kantharaja & Maddappa Krishnappa, Pp. 20890–20902

Short Communications

Distribution records of Dormer's Bat *Scotozous dormeri* (Dobson, 1875) (Mammalia: Chiroptera: Vespertilionidae) in Nepal

– Dibya Raj Dahal, Sanjan Thapa, Delip Singh Chand & Nanda Bahadur Singh, Pp. 20903–20907

A report on the butterfly (Lepidoptera: Rhopalocera) diversity of the Upper Ganga River Ramsar site in Uttar Pradesh, India

– Kritish De, Keshav Kumar, Amar Paul Singh, Virendra Prasad Uniyal & Syed Ainul Hussain, Pp. 20908–20914

Case report of hook worm *Grammocephalus hybridatus* and stomach bot *Cobboldia elephantis* infections in a free-ranging Asian Elephant *Elephas maximus* in Tamil Nadu, India

– Kaveri Theerthagiri Kavitha, Chirukandoth Sreekumar & Bhaskaran Ravi Latha, Pp. 20915–20920

Management of traumatic ulcerative keratitis in a Red Serow

– Deepjyoti Deka, Panchami Sharma, Arup Das, Kongkon J. Dutta, Syed A. Arif & Tinku Das, Pp. 20921–20925

Notes

Group size pattern and distribution of threatened Sambar *Rusa unicolor* (Artiodactyla: Cervidae) in Moyar River Valley, India

– Vedagiri Thirumurugan, Chandravilasam Sreedharan Nair Vishnu, Nehru Prabakaran & Chinnsamy Ramesh, Pp. 20926–20929

First photographic record of the presence of Smooth-coated Otter *Lutrogale perspicillata* in Ghaghra River, India

– Saurav Gawan, Ashish K. Panda & Aakash Mohan Rawat, Pp. 20930–20934

Back after 40 years: a rare sighting of Eurasian Siskin *Spinus spinus* (Linnaeus, 1758) (Aves: Passeriformes: Fringillidae) in Himachal Pradesh, India

– Paul Pop, Kuldeep Singh Barwal, Puneet Pandey, Harminder Pal Singh & Randeep Singh, Pp. 20935–20938

First record of the jumping spider *Pancorius changricus* Zabka, 1990

from India (Araneae: Salticidae)

– Anushka Gurung, Aita Hang Subba Limboo, Bhoj Kumar Acharya & Dhruv A. Prajapati, Pp. 20939–20942

An abandoned nest of *Vespa affinis* (Hymenoptera: Vespidae)

– Shanjida Sultana & Sharmin Akter, Pp. 20943–20945

Endemic *Primula xanthopa* Balf.f. & R.E. Cooper: rediscovery after 88 years from Bumdeling Wildlife Sanctuary, Bhutan

– Namgay Shacha, Karma Sangay, Tshering Dendup & Tez Bdr Ghalley, Pp. 20946–20950

Publisher & Host

