

Building evidence for conservation globally

Journal of Threatened Taxa



10.11609/jott.2022.14.9.21751-21902
www.threatenedtaxa.org

26 September 2022 (Online & Print)
14(9): 21751-21902
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

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 Illustration, 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. 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

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 Baños, Laguna, Philippines

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

Dr. Afroz Alam, Banasthali Vidyapeeth (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

Dr. Kannan C.S. Warrior, 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, Ilandudno, 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

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: *Pipistrellus tenuis* recorded during the small mammalian fauna study, Manipur, India. © Uttam Saikia.



First record of the swallowtail moth *Epiplema adamantina* Inoue, 1998 (Lepidoptera: Uraniidae: Epipleminae) from western Himalaya, India

Lekhendra¹  & Arun Pratap Singh² 

^{1,2}Forest Entomology Branch, Forest Protection Division, Forest Research Institute, P.O. New Forest, Dehradun, Uttarakhand 248006, India.

¹lekhendrasahu750@gmail.com (corresponding author), ²ranoteaps@gmail.com

The genus *Epiplema* of Swallowtail moths was described by Herrich-Schäffer in 1855 and 22 species of this genus are so far known from southeastern and eastern Asia (India, Myanmar, China, Java, Sumatra, Sri Lanka, Borneo, and Japan) (Hampson 1895). Recently, *Epiplema adamantina* Inoue, 1998 was described from Nepal (Holotype: male; 08.v.1993; village Bagmati, Mt. Phulchowki; 2,732 m) and three paratypes (2 females; 25.vii.1992 & 19.v.1993; village Godavari and 1 female; 29. x.1986; village Janakpur) from eastern Nepal (Haruta 1998). The habitat around these sites comprises of 'moist temperate forest' mainly with tree species like *Quercus amellose*, *Q. lanata*, *Q. semecarpifolia*, and *Rhododendron arboreum*. After its description there is only one unconfirmed record of the species from Great Himalayan National Park from Himachal Pradesh state, India from a subtropical Himalayan Chir Pine forest(9/c1b) at 1,515 m (Chandra et al. 2019). However, specimen details, site and date of record are not given.

Identification and distinguishing features of *E. adamantina* with congeners: "Hind wing has slender tails at vein 4 and 7. The wings are red-brown above, forewing has dark brown ante and post median lines strongly angled at middle, a dark patch inside of the latter at hind margin, a sub-terminal dotted fascia between apex and the angle. Hind wings have a discal dash or dot, post median line strongly angled at vein 4, its inside

shaped with dark brown and its outside margined with a slender yellowish line, there are one two small yellowish marks between the tails. Length of forewing varied from 12 mm (male) to 15 mm (female) (Image 1).

The species can be confused with *E. morataria* Leech, 1897 found in western China, as both are superficially similar, but upper side of *E. morataria* the wings are less dark, sub-terminal blackish mark from apex to angle is much slender and is spotted in cellules while the underside is much paler with stronger post-median lines and hindwings are yellowish (Haruta 1998). The species can also be confused with *Epiplema arcuata* Warren, 1896 that also occurs in Eastern Nepal [village Jiri (Janakpur); 1 female collected by T. Haruta on 24–27. vii.1993 (Haruta 1998); *E. arcuata* was also recorded by authors in Kedarnath Wildlife Sanctuary, Uttarakhand [village Mandal; 1,740 m; 30.466 N & 79.262 E; 23.xi.2021; Temp. 10°C; RH 60%; 12/C1a Ban oak forest]. In comparison to *E. adamantina*, this species has a significantly darker striae near the apex on the forewing; ante and post medial lines are less dark; discal area of hind wing is pale expanding up to the tails; and the discal dash or dot on the hindwing is absent (Image 2).

Present record: One individual *E. adamantina* (Image 1; female) was recorded on a moth screen being attracted at night by a CFL lamp at Bataghat near Mussoorie (2,113 m; Temp.: 19.9 °C & Relative humidity:

Editor: Anonymity requested.

Date of publication: 26 September 2022 (online & print)

Citation: Lekhendra & A.P. Singh (2022). First record of the swallowtail moth *Epiplema adamantina* Inoue, 1998 (Lepidoptera: Uraniidae: Epipleminae) from western Himalaya, India. *Journal of Threatened Taxa* 14(9): 21898–21899. https://doi.org/10.11609/jott.8064.14.9.21898-21899

Copyright: © Lekhendra & Singh 2022. 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: None.

Competing interests: The authors declare no competing interests.





Image 1. *Epiplema adamantina* Inoue, 1998 photographed on 15.ix.2020 at Bataghat (2,113m), Mussoorie Forest Division, Dehradun, Uttarakhand, India.



Image 2. *Epiplema arcuata* Warren, 1896 photographed on 23.xi.2021 at Mandal (1,740m), Chamoli Forest Division, Uttarakhand, India.

84%; 30.455 N & 78.776 E, Mussoorie Forest Division) in Dehradun district of Uttarakhand, India during the late monsoon season (15.ix.2020). The forest type in the area is mainly '12/C1a Ban oak forest' (Champion & Seth 1968) being dominated by tree species like *Quercus leucotrichophora*, along with associates *Cedrus deodara*, *Pinus roxburghii*, *Rhododendron arboreum*, *Myrica esculenta* and *Cornus capitata*.

This record from Mussoorie is the first confirmed record of this species from the western Himalaya outside Nepal, which is ~800 km west from village Bagmati, Mt. Phoolchauki in eastern Nepal, the nearest known site record of this species. The species prefers to fly during the monsoon season in moist temperate oak forest zone of western and central Himalaya.

References

- Champion, H.G. & S.K. Seth (1968). *A Revised Survey of the Forest Types of India*. Government of India, Delhi, 404 pp.
- Chandra, K., V. Kumar, N. Singh, A. Raha & A.K. Sanyal (2019). *Assemblages of Lepidoptera in Indian Himalaya through Long Term Monitoring Plots*. Zoological Survey of India, Kolkata, 457 pp.
- Hampson, G.F. (1895). *The Fauna of British India including Ceylon and Burma. Moths, Noctuidae (cont.) to Geometridae, Vol. 3*. Taylor & Francis, London, 582 pp.
- Haruta, T. (ed.) (1998). *Moths of Nepal, part 5*. Tinea 15, (Suppl. 1). The Japan Heterocerists Society Tokyo, 311pp.
- Inoue, H. (1998). Uraniidae from Nepal, pp. 81–83. In: Haruta, T. (ed.). *Moths of Nepal Part 5*. Tinea 15 (Supplement 1). The Japan Heterocerists Society Tokyo, 311 pp.

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
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. Moonsoon 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. Niyal, 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
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, Chennai Snake Park, Chennai, Tamil Nadu, 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, 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. 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, Anaikatti 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 Challenger, 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 paucity 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.

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

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



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. 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)

September 2022 | Vol. 14 | No. 9 | Pages: 21751–21902

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

DOI: 10.11609/jott.2022.14.9.21751-21902

Article

Diversity, distribution, and abundance status of small mammalian fauna (Chiroptera: Rodentia: Eulipotyphla) of Manipur, India

– Uttam Saikia & A.B. Meetei, Pp. 21751–21768

Review

Conservation of Tiger *Panthera tigris* in Nepal: a review of current efforts and challenges

– Pramod Ghimire, Pp. 21769–21775

Communications

Effects of visitor disturbance on tetrapod vertebrates in the Horton Plains National Park, Sri Lanka

– D.M.T. Dhananjani & W.A.D. Mahaulpatha, Pp. 21776–21785

Population density and nesting behaviour of Indian Giant Squirrel *Ratufa indica* (Erxleben, 1777) in Bhimashankar Wildlife Sanctuary, Western Ghats of Maharashtra, India

– Ganesh Rathod, Erach Bharucha & Kranti Yardi, Pp. 21786–21796

First camera-trap confirmation of Tibetan Brown Bear *Ursus arctos pruinosus* Blyth, 1854 (Mammalia: Carnivora: Ursidae) with a review of its distribution and status in Nepal

– Madhu Chetri, Pp. 21797–21804

Age estimation of Tiger *Panthera tigris* (Linnaeus, 1758) and Lion *Panthera leo* (Linnaeus, 1758) (Mammalia: Carnivora: Felidae): applicability of cementum annuli analysis method

– Vipin, Chandra Prakash Sharma, Vinita Sharma, Surendra Prakash Goyal, Heather Stevens & Sandeep Kumar Gupta, Pp. 21805–21810

Hematological value of captive Asian Elephants *Elephas maximus* around Chitwan National Park, Sauraha, Nepal

– Roshan Ghimire, Sagar Regmi, Rakshya Shrestha, Amir Sadaula & Janardan Dev Joshi, Pp. 21811–21817

Foraging strata and dietary preferences of fifteen species of babblers in Sarawak, Malaysia

– Jayasilan Mohd-Azlan, Attiqqah Fadziliah Sapian, Andrew Alek Tuen & Chong Leong Puan, Pp. 21818–21825

Effects of wind farm on land bird composition at Kachchh District, Gujarat, India

– Selvaraj Ramesh Kumar, P.R. Arun & A. Mohamed Samsoor Ali, Pp. 21826–21835

New records of odonates from Trongsa and Zhemgang, central Bhutan with a checklist of Jigme Singye Wangchuck National Park

– Mer Man Gurung, Cheten Dorji, Abir Man Sinchuri, Sanjit K. Rai, Karma C. Dendup & Vincent J. Kalkman, Pp. 21836–21844

Land snails of Guwahati, Assam, India

– Girindra Kalita, Pp. 21845–21852

Morphology characterization and phytochemical overview of the Moluccan Ironwood *Intsia bijuga* (Colebr.) Kuntze, a living collection of Purwodadi Botanic Garden, Indonesia

– Melisnawati H. Angio, Elga Renjana & Elok Rifqi Firdiana, Pp. 21853–21861

Woody plant wealth of Therikadu Reserve Forest, Tuticorin, India: a checklist

– V. Muneeswaran & M. Udayakumar, Pp. 21862–21869

Invasive alien plant species of Hassan District, Karnataka, India

– G.M. Prashanth Kumar & Shiddamallayya Nagayya, Pp. 21870–21890

Notes

First photographic evidence of the Binturong *Arctictis binturong* (Raffles, 1821) from Nepal

– Madhu Chetri, Purna Bahadur Ale, Tulasi Prasad Dahal & Karan Bahadur Shah, Pp. 21891–21894

First record of *Chlorophorus jucundus* (Perroud, 1855) (Coleoptera: Cerambycidae: Cerambycinae) from Maharashtra, India

– Yogesh K. Mane & Sunil M. Gaikwad, Pp. 21895–21897

First record of the swallowtail moth *Epiplema adamantina* Inoue, 1998 (Lepidoptera: Uraniidae: Epipleminae) from western Himalaya, India

– Lekhendra & Arun Pratap Singh, Pp. 21898–21899

Visceral tetrathyridiosis *Mesocestoides* sp. (Cestoda: Cyclophyllidae) in a wild Barn Owl *Tyto alba* - a first report and new host record

– P.G. Vimalraj & A. Latchumikanthan, Pp. 21900–21902

Publisher & Host

