

Building evidence for conservation globally

Journal of Threatened Taxa

10.11609/jott.2023.15.3.22771-22926

www.threatenedtaxa.org

26 March 2023 (Online & Print)

15(3): 22771-22926

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

43/2 Varadarajulu Nagar, 5th Street West, Ganapathy, Coimbatore, Tamil Nadu 641006, India
Registered Office: 3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore, Tamil Nadu 641006, India
Ph: +91 9385339863 | www.threatenedtaxa.org
Email: sanjay@threatenedtaxa.org

EDITORS

Founder & Chief Editor

Dr. Sanjay Molur

Wildlife Information Liaison Development (WILD) Society & Zoo Outreach Organization (ZOO),
43/2 Varadarajulu Nagar, 5th Street West, Ganapathy, Coimbatore, Tamil Nadu 641006, 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 641006, India

Dr. B.A. Daniel, ZOO/WILD, Coimbatore, Tamil Nadu 641006, 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

Ms. Sindhura Stothra Bhashyam, Hyderabad, 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, 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. 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: Green Bee-eater with colour pencils and watercolor wash by Elakshi Mahika Molur.



OPEN
ACCESS



A note on the occurrence of *Cremnochonchus conicus* (Blanford, 1870) in Mumbai, India

Naman Kaji¹ & Shubham Yadav²

¹Department of Zoology, Mithibai College, Vile Parle West, Mumbai, Maharashtra 400056, India.

²Bombay Natural History Society, Hornbill House, Shahid Bhagat Singh Rd, Lion Gate, Fort, Mumbai, Maharashtra 400001, India.

¹namanpxy31@gmail.com (corresponding author), ²shubhamy10@gmail.com

Members of the genus *Cremnoconchus* are known to be restricted to montane streams on the western escarpment of the Western Ghats, at altitudes between 300 m and 1,400 m (Rao 1989; Reid et al. 2013; Tripathy & Sajan 2020).

Four species and several varieties were described in the 19th century (Blanford 1869). In 2013, only three described species—*C. syhadrensis*, *C. conicus*, *C. canaliculatus*, were considered valid and recognized from the northern Western Ghats in Maharashtra state, where all can occasionally be found sympatrically out of the nine recognized species from the genus *Cremnoconchus* (Reid et al. 2013; Tripathy & Sajan 2020).

The gastropod genus *Cremnochonchus* is endemic to the Western Ghats. The species being habitat specialist are exclusive to spray zones of waterfalls. *C. carinatus* was first recorded by Layard in the spray zones of waterfalls in Mahabaleshwar and is the only known range for the species. The species has since been known to be extirpated from that locality (Molur et al. 2011). In 2013, *C. carinatus* was no longer considered a valid species and has been clubbed with *C. conicus*, which were considered sister species (Reid et al. 2013).

C. conicus has been observed along the streams

and cascades of Conservation Education Centre (CEC), Goregaon in good populations. Apart from CEC, *C. conicus* have been observed in the localities of Mulund, Airoli, Thane, Maharashtra (19.1763°N, 73.0122°E), Anushaktinagar, Mumbai, Maharashtra (19.0358°N, 72.92333°E), Manpada, Thane, Maharashtra (19.2407°N, 72.9639°E), and Karnala Bird Sanctuary, Raigad, Maharashtra (18.8860°N, 73.1125°E).

The specimens were identified on the field and by shell specimens using the identification key by Reid et al. (2013) - turbinate shell shape; one shell rib at the shoulder (2 ribs observed in a specimen); wide columella; absence of pseudumbilicus; satin sheen shell surface with microstriae; weakly calcified operculum with no internal ridge.

The current known habitat preference of *C. conicus* is the spray zones of waterfalls and shallow pools of freshwater (Aravind et al. 2011). Our observations in CEC add on to this known habitat preference. *C. conicus* have been observed along the flowing, freshwater streams of CEC. They are found on the moist rocks present in between or along the flowing streams. They also lay eggs in clutches of 10–25 on these boulders. The egg-laying starts in June and lasts up to late July.

Editor: Basudev Tripathy, Zoological Survey of India, Pune, India.

Date of publication: 26 March 2023 (online & print)

Citation: Kaji, N. & S. Yadav (2023). A note on the occurrence of *Cremnochonchus conicus* (Blanford, 1870) in Mumbai, India. *Journal of Threatened Taxa* 15(3): 22908–22910. <https://doi.org/10.11609/jott.7734.15.3.22908-22910>

Copyright: © Kaji & Yadav 2023. 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.

Acknowledgements: The authors would like to thank Dr. Amrut Bhosale for his expertise. We would also like to thank and acknowledge Ms. Mrinmayi Dalvi for the lovely illustrations. We also thank Ms. Sakshi Save for her efforts and valuable inputs.



Image 1. *Cremanochochus conicus* laying eggs in a flowing stream at C.E.C., Mumbai. © Naman Kaji.

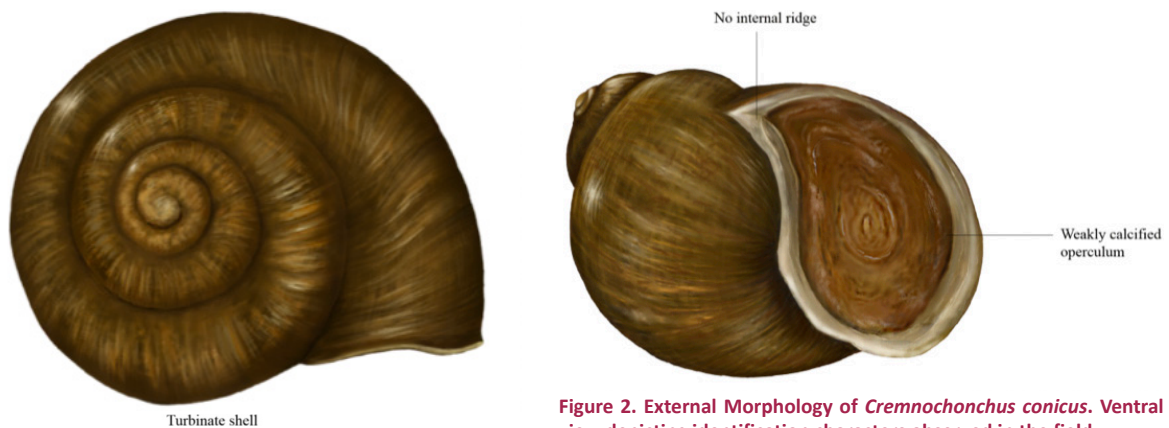


Figure 1. External Morphology of *Cremanochochus conicus*. Dorsal view showing turbanate shell structure. © Mrinmayi Dalvi

Figure 2. External Morphology of *Cremanochochus conicus*. Ventral view depicting identification characters observed in the field. © Mrinmayi Dalvi

Discussion: *C. conicus* is a habitat specialist gastropod found in the spray zones of waterfalls of Mahabaleshwar Hills (Molur et al. 2011). In the light of this new record, *C. conicus* not only inhabits the waterfalls but also the freshwater streams originating from it. It even lays eggs on the rocks present on these streams just above the flowing water surface. The ecology of eggs needs to be studied further as the fate of the eggs in this new scenario is unknown. There may be two possibilities – either the eggs hatch underwater once the stream overflows due to heavy rains in the month of July or due

to change in the habitat conditions, it has to alter its ecology and spawn in such streams that may overflow and destroy the eggs.

The current conservation status of *C. conicus* is Vulnerable (VU) (Aravind et al. 2011; Reid et al. 2013), but may require a re-evaluation as this specialist species, in a rapidly vanishing freshwater habitat, currently faces anthropogenic pressures (Shubham Yadav, pers. comm. August 2021). *C. conicus* as well as other snail species are harvested by the locals for consumption. Apart from that, the freshwater streams are quickly

being polluted due to waste disposal, effluent and organic discharge along and directly in these streams. The streams in Mahabaleshwar, from where Blanford collected his specimens, have since been polluted and hence, no species of *Cremnoconchus* were found during a survey in 2010 (Aravind et al. 2011). Southern Coucal and Starling sp. predation has been observed on *C. conicus*. Furthermore, its range considering its niche can be estimated to be abundant in the pristine streams of northern Western Ghats. The species needs to be studied further to understand its ecology and importance as an indicator of freshwater habitat.

References

- Molur, S., K. Smith, B.A. Daniel & W.R.T Darwall (Comp.) (2011). The Status and Distribution of Freshwater Biodiversity in the Western Ghats, India. Cambridge, UK and Gland, Switzerland: IUCN, and Coimbatore, India: Zoo Outreach Organisation, viii + 116 pp.
- Aravind, N.A. & R. Sarma & N.A. Madhyastha (2016). Conservation of *Cremnoconchus* Blanford 1869, an iconic freshwater gastropod genus from the Western Ghats, India. *Current Science* 111(6): 1097–1103. <https://doi.org/10.18520/cs/v111/i6/1097-1103>
- Aravind, N.A., N.A. Madhyastha, G.M. Rajendra & A. Dey (2011). Chaert 4: The status and distribution of freshwater molluscs of the Western Ghats, pp. 49–62. In: Molur, S., K. Smith, B.A. Daniel & W.R.T Darwall (Comp.). *The Status and Distribution of Freshwater Biodiversity in the Western Ghats, India*. Cambridge, UK and Gland, Switzerland: IUCN, and Coimbatore, India: Zoo Outreach Organisation, viii + 116 pp.
- Blanford, W.T. (1869). Gastropoda: Littorinidae. *Zoological Journal of the Linnean Society* 167: 93–135pp. <https://doi.org/10.1111/j.1096-3642.2012.00875.x>
- Rao, N.V.S. (1989). *Handbook: Freshwater Molluscs of India*. Zoological Survey of India, Calcutta, 62-64pp.
- Tripathy, B., & Sajan, S. (2020). Mollusca: Gastropoda, 613-626pp. In: Director, *Zoological Survey of India*. Faunal Diversity of Biogeographic Zones of India: Western Ghats. Kolkata, India, 744pp.
- Layard, E.L. (1854). "Observations on the Genus *Paludomus* of Swainson, with Descriptions of several New Species, and the Description of a New Species of *Anculotus*". *Proceedings of the Zoological Society of London*, 90 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. 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. 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, 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 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,
43/2 Varadarajulu Nagar, 5th Street West, Ganapathy, Coimbatore,
Tamil Nadu 641006, 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)

March 2023 | Vol. 15 | No. 3 | Pages: 22771–22926

Date of Publication: 26 March 2023 (Online & Print)

DOI: 10.11609/jott.2023.15.3.22771-22926

Article

Documenting butterflies with the help of citizen science in Darjeeling-Sikkim Himalaya, India

– Aditya Pradhan, Rohit George & Sailendra Dewan, Pp. 22771–22790

Communications

Determinants of diet selection by Blackbuck *Antelope cervicapra* at Point Calimere, southern India: quality also matters

– Selvarasu Sathishkumar, Subhasish Arandhara & Nagarajan Baskaran, Pp. 22791–22802

An update on the conservation status of Tibetan Argali *Ovis ammon hodgsoni* (Mammalia: Bovidae) in India

– Munib Khanyari, Rigzen Dorjay, Sherab Lobzang, Karma Sonam & Kulbhushansingh Ramesh Suryawanshi, Pp. 22803–22812

An annotated checklist of the avifauna of Karangadu mangrove forest, Ramanathapuram, Tamil Nadu, with notes on the site's importance for waterbird conservation

– H. Byju, N. Raveendran, S. Ravichandran & R. Kishore, Pp. 22813–22822

Habitats and nesting habits of Streaked Weaver *Ploceus manyar* in select wetlands in the northern districts of Tamil Nadu, India

– M. Pandian, Pp. 22823–22833

Genetic evidence on the occurrence of *Channa harcourtbutleri* (Annandale, 1918) in Eastern Ghats, India: first report from mainland India

– Boni Amin Laskar, Harikumar Adimalla, Shantanu Kundu, Deepa Jaiswal & Kailash Chandra, Pp. 22834–22840

Redefining *Pallisentis ophiocephali* (Thapar, 1930) Baylis, 1933 from two freshwater fishes of Channidae family of Hooghly District, West Bengal, India

– Prabir Banerjee & Biplob Kumar Modak, Pp. 22841–22849

A new termite species of the genus *Bulbitermes* (Blattodea: Isoptera: Termitidae) from Meghalaya, India

– Khired Sankar Das & Sudipta Choudhury, Pp. 22850–22858

First report of the beetle *Henosepilachna nana* (Kapur, 1950) (Coleoptera: Coccinellidae) from Maharashtra with special reference to molecular phylogeny and host plants

– Priyanka B. Patil & Sunil M. Gaikwad, Pp. 22859–22865

Assessment of population, habitat, and threats to *Cycas pectinata* Buch.-Ham. (Cycadaceae), a vulnerable cycad in Bhutan

– Sonam Tobgay, Tenjur Wangdi, Karma Wangchuck, Jamyang Dolkar & Tshering Nidup, Pp. 22866–22873

Ecological niche modeling to find potential habitats of *Vanda thwaitesii*, a notified endangered orchid of Western Ghats, India

– S. William Decruse, Pp. 22874–22882

Occurrence of opportunistic invasive macroalgal genus *Caulerpa* and *Halimeda opuntia* in coral reefs of Gulf of Mannar

– Chatragadda Ramesh, Koushik Sadhukhan, T. Shunmugaraj & M.V. Ramana Murthy, Pp. 22883–22888

Short Communications

Diversity of bees in two crops in an agroforestry ecosystem in Kangsabati South Forest Division, Purulia, West Bengal, India

– Pallabi Das & V.P. Uniyal, Pp. 22889–22893

An extended distribution and rediscovery of *Rhynchosia suaveolens* (L.f.) DC. (Fabaceae) for Maharashtra, India

– Ajay K. Mishra, Vedhika Gupta, Ajay V. Rajurkar, Pankaj A. Dhole & Vijay V. Wagh, Pp. 22894–22899

Notes

New distribution records of two uncommon microhylid frogs, *Melanobatrachus indicus* Beddome, 1878 and *Mysticellus franki* Garg & Biju, 2019 from Nelliampathy, Kerala, India

– Madhura Agashe, Avrajjal Ghosh, K. Dilshad, Maitreya Sil & Aniruddha Datta-Roy, Pp. 22900–22904

First record of Brilliant Flash *Rapala melida nicevillei* (Swinhoe, 1911) (Lepidoptera: Lycaenidae: Theclinae) to Meghalaya, India

– Suman Bhowmik, Atanu Bose, Jayant Ghanshyam Bhoir, Atanu Bora, Suraj Das, Shyamal Kumar Laha & Ngangom Aomoa, Pp. 22905–22907

A note on the occurrence of *Cremnochonchus conicus* (Blanford, 1870) in Mumbai, India

– Naman Kaji & Shubham Yadav, Pp. 22908–22910

***Jasminum angustifolium* (L.) Willd. var. *angustifolium* (Oleaceae): a new distribution record for West Bengal, India**

– Keya Modak & Monoranjan Chowdhury, Pp. 22911–22915

***Cyrtosia falconeri* (Hook.f.) Aver. (Orchidaceae): an addition to the flora of Jammu & Kashmir, India**

– Mushtaq Ahmed & Manjul Dhiman, Pp. 22916–22919

New distribution record of *Roridomyces cf. phyllostachydis* (Agaricales: Mycenaceae), a bioluminescent fungus from Namdapha National Park, Arunachal Pradesh, India

– Arijit Dutta, Sourav Gupta, Jayanta K. Roy & M. Firoz Ahmed, Pp. 22920–22923

Photographic evidence of bioluminescent mushroom *Mycena chlorophos* (Mycenaceae) from Goa, India

– Swanand R. Patil, Mirjoy M. Mathew, Abhijeet V. Patil, Ramesh N. Zarmekar, Pankaj R. Lad & Grenville Dcosta, Pp. 22924–22926

Publisher & Host

