

Building evidence for conservation globally

Journal of Threatened Taxa



10.11609/jott.2022.14.6.21127-21330

www.threatenedtaxa.org

26 June 2022 (Online & Print)

14 (6): 21127–21330

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 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. Karthikeyan, Botanical Survey of India, India

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

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

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

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

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

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

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

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

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

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

Dr. 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: *Euphaea pseudodispar* shot at Kalindi River, Thirunelly, Wayanad district, Kerala. © Muneer P.K.



Attitudes and perceptions of people about the Capped Langur *Trachypithecus pileatus* (Mammalia: Primates: Cercopithecidae): a preliminary study in Barail Wildlife Sanctuary, India

Rofik Ahmed Barbhuiya¹ , Amir Sohail Choudhury² , Nazimur Rahman Talukdar³ &
Parthankar Choudhury⁴

¹⁻⁴ Wildlife Conservation Research Laboratory, Department of Ecology and Environmental Sciences, Assam University, Silchar, Assam 788011, India.

^{1,3} Centre for Biodiversity and Climate Change Research, Udhayan, Assam 788155, India.

¹ rofik.ab91@gmail.com, ² amirsohailhk@gmail.com, ³ talukdar.nr89@gmail.com ⁴ parthankar@rediffmail.com (corresponding author)

Abstract: Conservation of any species needs the support and cooperation of local people. In order to understand the attitudes and perceptions of the locals about the Capped Langur, the present study was carried out around Barail Wildlife Sanctuary in Assam. The study was carried out through a questionnaire, semi-structured interviews, and interaction with forest staff & local experts to assess the perception of present threats and conservation problems. A total of 400 respondents were interviewed during the study periods. The results reveal that a majority of respondents supported Capped Langur conservation. Habitat loss and fragmentation was considered a major threat (47%), followed by human exploitation (22%), developmental activities (17%), agricultural extension (8%), and hunting & teasing (6%). Knowledge concerning Capped Langurs and perceptions of threats varied considerably among respondents. Increased awareness among local people is suggested to motivate them towards conservation. Benefit sharing and promotion of value-added services through skill development could also be highly rewarding.

Keywords: Assam, conservation, northeastern India, threats.

Bengali: উদ্ভিদ হোক, কিম্বা প্রাণী, যে কোনো প্রজাতির সংরক্ষণের জন্য স্থানীয় লোকদের সহযোগিতা অত্যন্ত প্রয়োজন। টুপিওয়ালা বানর (কেপড ল্যাঙ্গুর) সম্পর্কে স্থানীয়দের ধারণা এবং মনোভাব বোঝার জন্য এই গবেষণাটি আসামের বড়াইল বন্যপ্রাণী অভয়ারণ্যে করা হয়েছিল। এদের সংরক্ষণের প্রয়োজনীয়তা কি এবং বড়াইল পাহাড় অঞ্চলে বানরগুলোর টিকে থাকতে গিয়ে কি কি সমস্যার মুখোমুখি হচ্ছে, এসব নিরীক্ষণ করার জন্য একটি প্রশ্নমালা তৈরি করে বন কর্মী এবং স্থানীয় লোকদের সাক্ষাৎকারের মধ্য দিয়ে এই গবেষণার ভিত্তি তৈরি করা হয়েছিল। মোট ৪০০ লোকের সাক্ষাৎকার নেওয়া হয়েছিল। দেখা গেলো যে বেশিরভাগ উত্তরদাতাই টুপিওয়ালা বানরের সংরক্ষণকে সমর্থন করছেন। প্রায় ৪৭% উত্তরদাতা মনে করেন বাসস্থানের অবক্ষয় বানর প্রজাতিটির সংরক্ষণের প্রধান অন্তরায়, ২২% এর মতে বানরের প্রতি মানুষের বৈরী আচরণ, ১৭% এর মতে তাদের বাসস্থানের আশপাশ অঞ্চলে বিভিন্ন উন্নয়নমূলক কর্মসূচি, ৪৭% এর মতে এলাকাতে কৃষি সম্প্রসারণ, এবং ৬% এর মতে নির্বিচার বানর নিধন, এ সবই হচ্ছে প্রজাতিটির সংরক্ষণের অন্তরায়। স্থানীয়দের ভাষা মতে, সাধারণ জনগণের মধ্যে টুপিওয়ালা তথা অন্যান্য সব বানর প্রজাতির সংরক্ষণের প্রয়োজনীয়তার উপর সচেতনতা বৃদ্ধির যথেষ্ট প্রয়োজন রয়েছে, যাতে করে সবাই বানর সংরক্ষণের প্রতি উদ্বুদ্ধ হন।

Editor: Mewa Singh, University of Mysore, Mysuru, India.

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

Citation: Barbhuiya, R.A., A.S. Choudhury, N.R. Talukdar & P. Choudhury (2022). Attitudes and perceptions of people about the Capped Langur *Trachypithecus pileatus* (Mammalia: Primates: Cercopithecidae): a preliminary study in Barail Wildlife Sanctuary, India. *Journal of Threatened Taxa* 14(6): 21155–21160. <https://doi.org/10.11609/jott.7490.14.6.21155-21160>

Copyright: © Barbhuiya et al. 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: Our research is not funded by any agency or organization.

Competing interests: The authors declare no competing interests.

Author details: MR. ROFIK AHMED BARBHUIYA is a PhD student. His research focuses on behavioral aspects of primates. MR. AMIR SOHAIL CHOUDHURY is a PhD student. His research focuses on mammalian ecology and distribution. DR. NAZIMUR RAHMAN TALUKDAR did his PhD on habitat ecology of Asiatic Elephant. His current research focuses on diverse aspects of mammalian biology to climate change. DR. PARTHANKAR CHOUDHURY is the professor and former head. His research focuses on different aspects of mammalian and avian biology. He has more than 100 scientific publications.

Author contributions: RAB & PC designed the study; RAB, ASC, & NRT collected the data while RAB analyzed the data, RAB wrote the first manuscript and all authors revised the manuscript.

Acknowledgements: We are thankful to the staff in Cachar forest division of Assam for allowing access to the Barail Wildlife Sanctuary. We thank all the participants for sharing their views and perceptions during our study. We are also thankful to the Department of Ecology and Environmental Sciences, Assam University, Silchar for providing adequate facilities to carry out the research.



INTRODUCTION

Primates play an fundamental role in the forest ecosystem as seed dispersers and predators, and they are dependent on primary forest habitats (Chapman & Onderdonk 1998; Kays & Allison 2001). Habitat fragmentation, quality of habitat, and anthropogenic factors affect primate diversity and abundance across their distribution (Rylands 1987; Chapman & Peres 2001; Pyritz et al. 2010). It has been recorded that some primates respond to these challenges by emigration, crowding, and altered sex ratios, while others continue to thrive in the same area by adjusting to anthropogenic threats (Baranga 2004; Martins 2005; Rode et al. 2006; Schwitzer et al. 2011). In disturbed, degraded or fragmented habitats, animals also face loss of roosting sites, reduced food resources, diminished escape cover, altered and migratory routes (Kumar & Solanki 2004; Malhi et al. 2008). They are likely to become more prone to natural disasters such as hurricanes, floods, and seasonal droughts (Malhi et al. 2008; Alho & Silva 2012).

Capped Langur *Trachypithecus pileatus* (Image 1) is a folivorous primate occurring in the northeastern states of India, Bangladesh, northwestern Myanmar, Bhutan, and southern China (Das et al. 2020). They live in multi-female groups, rarely with more than one male (Stanford 1991; Mukherjee et al. 1995). The species occurs in different habitats including bamboo stands, plantations, and tea gardens (Choudhury 1989, 1996; Raman et al. 1995). Their population is on the decline mainly due to habitat loss and forest degradation (Srivastava et al. 2001; Das et al. 2020). Human population explosion, forest degradation by logging, tea garden extension, fuel wood collection, and other construction activities affect the healthy survival of Capped Langurs in Assam.

The present study was carried out in Barail Wildlife Sanctuary (BWS), which is the only protected area in southern Assam, northeastern India. It is situated in the Barail Hill range on the transitional zone between the Indo-Burmese and Indo-Chinese subregions and surrounded by tea gardens from the southern side. Although some scattered studies have been carried out on wildlife of this sanctuary, to date no study was taken up on Capped Langurs. The wildlife sanctuary is a safe home for many primates, including an 'Endangered' species, the Western Hoolock Gibbon *Hoolock hoolock*; four 'Vulnerable' species including Bengal Slow Loris *Nycticebus bengalensis*, Capped Langur, Stump-tailed Macaque *Macaca arctoides*, and Northern Pig-tailed Macaque *Macaca leonina* (Choudhury 2013; Talukdar et al. 2018). Besides, Assamese Macaque *Macaca*



Image 1. Capped Langur *Trachypithecus pileatus* in Barail Wildlife Sanctuary. © Rofik Ahmed Barbhuiya

assamensis, a 'Near Threatened' species, and Rhesus Macaque *Macaca mulatta*, a 'Least Concern' species also occur in the sanctuary. The present study was done to develop a clear understanding of conflict of the Capped Langur with the people of the fringe villages and threats that affect the survival of the species. Here, we document the results of a questionnaire survey on the Capped Langur in BWS. This work presents ongoing problems for the species and suggests some effective measures for conservation in the region.

METHODS

Study area

The Barail Wildlife Sanctuary is located in the Barak Valley area of southern Assam districts. The area comprises of fourteen reserve forests, out of which Barail Reserve forest and North Cachar Reserve forests have been converted into BWS. It is a newly declared sanctuary formed in 2004 through a gazette notification of the Government of Assam (vide no. FRW-12/2001/pt/4, dated 19 June 2004).

It is a major catchment area and watershed zone for Barak valley. It covers a total area of 326.24 km² and is located at the 92.766–92.866 °E & 24.966–25.966 °N. The North Cachar part of the sanctuary is located at 92.27–92.78 °E & 25.12–25.18 °N (Figure 1). The forests occupy the outlying ranges of hills that project out from the main ranges of the Jaintia Hills and North Cachar Hills and undulate at the base. The highest point in the

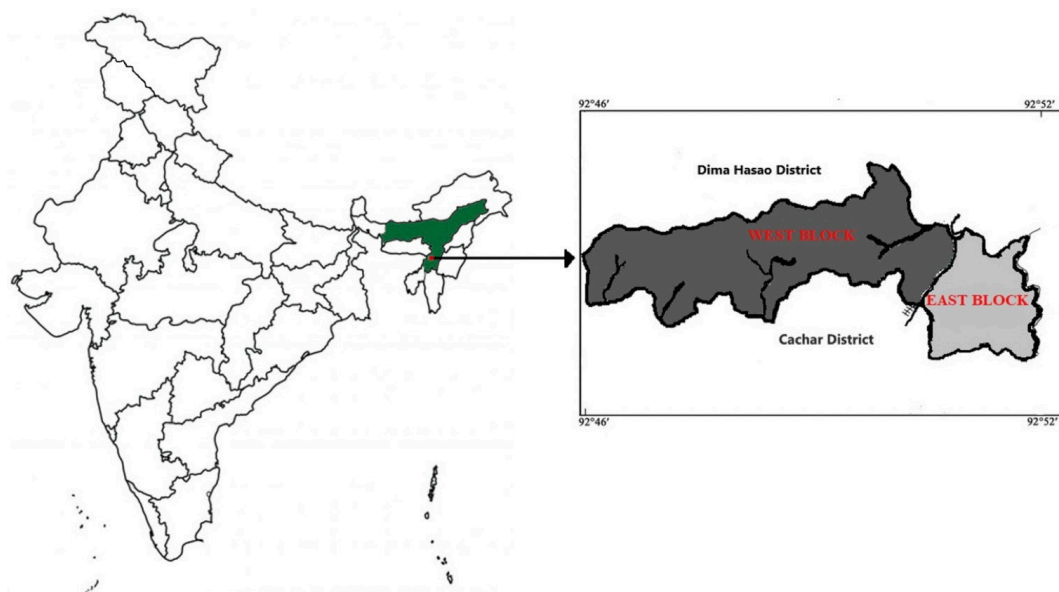


Figure 1. Map of India highlighting the state Assam and the study area.

BWS is Nemotha Peak with an altitude of 1,105 m. The southern slopes are steeper than the northern slopes. The elevation ranges from 55 to more than 1,800 m and annual rainfall ranges 2,500–4,000 mm. The temperature is a minimum of 9 °C in winter and highest 37 °C in summer, and humidity varies from 62% to 83%. The administrative control of the BWS is under the Southern Assam Forest Circle, Silchar, Assam.

The sanctuary includes several rivulets—Jatinga, Daloo, Kayong, Gumra, and Boleswar—all of which drain into Barak, the main river basin of the valley. Vegetation of the sanctuary is a mix of tropical moist evergreen, semi-evergreen, and deciduous forests which supports a wide diversity of wildlife. The Sanctuary harbors 19 species of mammals including seven species of primates, 250 species of avifauna, 23 species of amphibians, and 43 species of reptiles which are globally threatened (Choudhury 2013; Talukdar et al. 2021). The plant diversity of BWS comprises of 81 tree species, eight species of bamboo, and several species of herbs & shrubs.

Data collection

A preliminary survey was conducted from November 2016 to December 2018. The survey was carried out by a set of close ended questionnaire. The questions were designed as per Mutanga (2015), Mir et al. (2015), Choudhury et al. (2019), and Talukdar & Choudhury (2020) with slight modifications. The samples were taken within the range of two kilometers from the sanctuary, considering that the Capped Langurs do not usually come out to the fringe villages. A pilot survey

was carried out on a sample of 50 people, giving special preference to the forest staff, village headman, hunters, and local experts. Before interviewing the respondents, a pre-test was conducted among a few respondents to assess their level of understanding of the questionnaire. A total of 400 respondents were selected from all the villages irrespective of their community. The sample size was realistic as the pilot survey suggested homogeneous responses.

The study was done in two phases. In the first phase, the photograph of the species was shown to the respondents to identify if they have seen it. Only those respondents who knew the species were selected for the next phase, i.e., feedback collection. For obtaining feedback, preference was given to the senior-most family member, who was expected to have an idea about the past as well as the present status of the species, and all their perceptions were recorded based on the questionnaire set for this. After this, the respondents were asked about the threats faced by the Capped Langur in BWS, community responses for them, and the problems caused by the species. The ideal reason for assessing the trends of species over time and threats were noted in the field record book as short forms, for example, Habitat loss and fragmentation 'HF', Developmental activities 'DA', and Hunting & Teasing 'HT'. Collected data were combined as per the objectives of study and perceptions of people were used for population trend analysis. Data were analyzed through SPSS version 20 and the chi-square test was applied to understand the significance level.

RESULTS

Perceptions

Results reveal that the local people are aware of the species. Most respondents think that the population of Capped Langur was decreasing (46.7%), while 30.3% respondents believe that the population was increasing, whereas 23% people did not know whether it was increasing or decreasing, and these varied significantly (Table 1). All the respondents are regular visitors of the sanctuary (as they harvest firewood and practice 'jhum' (slash and burn cultivation). The majority of the respondents (59%) expressed that agricultural crops (like jhum cultivation) in fringe areas and inside the sanctuary are not damaged by the langur, whereas 26.3% of respondents were neutral, and 14.7% said that they do cause damage to the crops. There was a significant difference in people's perception. ($\chi^2 = 126.52$, $df = 2$, $P < 0.001$). Large numbers of respondents (58.2%) feel that the species should be conserved, 36% were neutral, and a small segment (5.8%) did not speak in favor of conservation ($\chi^2 = 166.65$, $df = 2$, $P < 0.001$). Most respondents (68.3%) are not well aware of the species conservation status. Only 23.5% of respondents knew that it is a legally protected animal and 8.2% thought it is not legally protected and the difference was significant ($\chi^2 = 233.41$, $df = 2$, $P < 0.001$).

A total of 49.5% respondents reported that the species is good for the sanctuary, whereas 41.2% of respondents were not interested, and only 9.3% clearly expressed it was not good to have the langur ($\chi^2 = 108.49$, $df = 2$, $P < 0.001$). A good number of respondents (53.8%) shared that they enjoy to watch the species, but 43% respondents were silent and only 3.2% said no ($\chi^2 = 169.84$, $df = 2$, $P < 0.001$).

When the respondents were interviewed to know the species relation with regards to human health,

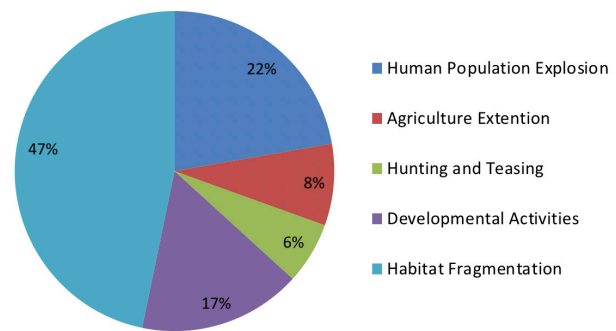


Figure 2. Perceptions of people about threats faced by the species.

the maximum response (70.2%) was 'do not know', whereas the remaining 10.3% and 19.5% said 'Yes' and 'No' respectively ($\chi^2 = 250.45$, $df = 2$, $P < 0.001$). Most of the respondents (57.2%) said that the species is important for balancing the ecosystem whereas 35.8% of respondents did not know about it and only 7% of people said that they had no role ($\chi^2 = 152.56$, $df = 2$, $P < 0.001$).

Threats to the Capped Langur in Barail Wildlife Sanctuary

It was found that most people were well aware of the threats to the Capped Langur (Figure 2). The majority of respondents (47%) informed that habitat loss and fragmentation are significant threats to the species and its population decline. Another section of the respondents stated that human exploitation (22%) was the second most important factor due to wood collection for fuel and house construction by the people in the fringe villages. Developmental activities (17%) like road constructions and sand & stone collection from the rivers of the sanctuary were affecting their habitats. A few of the respondents thought that agriculture extensions (8%) through the practice of jhum inside the

Table 1. Perception of people about various questions and its calculated value.

	Question	Category			χ^2	p
		Yes	No	Neutral		
1	Do you think the number of Capped Langur has been increasing in BWS?	121 (30.3%)	187 (46.7)	92 (23%)	35.56	0.001
2	Do you think Capped Langurs are harmful for Agricultural crops?	59 (14.7%)	236 (59%)	105 (26.3)	126.52	0.001
3	Is it important to conserve Capped Langur in BWS?	233 (58.2%)	23 (5.8%)	144 (36%)	166.65	0.001
4	Are Capped Langurs legally protected animal?	94 (23.5%)	33 (8.2%)	273 (68.3%)	233.41	0.001
5	Do you think Capped Langur is good for BWS and local people?	198 (49.5%)	37 (9.3%)	165 (41.2%)	108.49	0.001
6	Do you think Capped Langur has the recreational value?	215 (53.8%)	13 (3.2%)	172 (43%)	169.84	0.001
7	Is it good for human health?	41 (10.3%)	78 (19.5%)	281 (70.2%)	250.45	0.001
8	Do you think Capped Langur balance the ecosystem?	229 (57.2%)	28 (7%)	143 (35.8%)	152.56	0.001



Image 2. Threats in the Barail Wildlife Sanctuary: A—Rice cultivation in fringe area | B—Betel Nut plantation by local inhabitants | C—After interaction with the local people | D—Tea plantation in fringe areas of the BWS.

sanctuary was also a reason for habitat destruction. The remaining respondents indicated that hunting & teasing (6%) affected the survival of the species in the sanctuary.

DISCUSSION

Most people believed that the population of the Capped Langur was declining. Many of them opined that these langurs were now not as frequently seen as in the past decades. Villagers regularly roam in the buffer areas of the sanctuary, where they had witnessed a deterioration of forest cover due to increase in timber logging, firewood collection, and jhum practices. Thus, the langurs might have shifted to their traditional forage areas in the core of BWS to good quality forests, and hence their reported perceptions. The Capped Langurs sometimes come to the fringe areas, especially in the morning hours to forage on crops and hence a few of the respondents reported loss of crops to langurs, while the majority of the respondents did not experience similar incidents. Respondents opined that they drove away the animals during the onset of jhum cultivation so as to minimize crop loss and show a strong ability to adapt to living close to human settlements. Large core areas of the sanctuary are sufficient to fulfill the needs of the Capped Langur. From most of the respondents, positive attitudes were documented on the conservation of the langur. A few of the respondents experienced conflict and thus had negative attitude towards conservation of the species thinking that it would cause loss to their shifting cultivation practices. The percentage of respondents (36%) who kept silent on conservation of the species is

not negligible and they need to be sensitized to increase cooperation for conservation.

Although most of the respondents have a low educational background, they believe that the species was important for the forest. Only a small fraction of the respondents knew that these langurs were legally protected, but the majority of the respondents had no knowledge about the conservation status of the species. This reflects the need for awareness for the species. None of the respondents reported that the death of langurs happens because of conflict or demand for their meat.

Habitat loss and fragmentation are the main threats for the Capped Langur in the sanctuary (Image 2). Jhum cultivation and large-scale harvesting of forest resources in the form of firewood collection from the sanctuary are also major reasons for the reduction the habitat. Although tea and rubber plantations within reserve forests are the major factors for the destruction of natural habitats in southern Assam (Talukdar et al. 2018), the local people in BWS have destroyed the habitat by jhum and fuelwood collection. Jhum cultivation is one of the biggest threats for wildlife including primates in northeastern states (Johnsingh 1985; Katti 1992; Choudhury 1996). It is done by tribal communities for planting several crops, fruits, and betel nut. Jhum cultivation leads to soil erosion and landslides ultimately damaging large forest covers through the creation of canopy gaps and depletion of food (Choudhury 2013). Increasing land for monoculture activities especially betel nut plantation in human settlement fringe areas of the sanctuary is another major threat. It was found that local people collect timber yielding plants for house and furniture construction and also for selling them to support their livelihood. Commercial mining of stone creates landslide in Jatingah River and other small riverbanks within the sanctuary. These are the major factors that affect survival of wildlife including primates (Fahrig 1997; Srivastava 2006). Habitat loss causes reduction in population size in particular forest areas and ultimately increases the chances for some species to become locally extinct (Burkey 1995).

Road construction and a railway line inside the sanctuary are also threats for the Capped Langur. There is regular railway line repairing due to damages of its track especially in monsoon season after introducing the new broad-gauge line in 2015. Also, National Highway 27 is under construction inside the sanctuary and NH 54 also traverses through the western boundary of the sanctuary. A considerable number of landslide incidences take place in these tracts every year between

April and September. Once the construction of NH 27 is over, it will cause hindrance for the free movement of animals, especially Capped Langurs as they prefer to use tree canopy for travel. This aspect deserves the sincere attention of conservationists.

The increasing human population is another major threat to wild animals in the BWS. A rising population entails increasing consumption of food, water, and fuel (Ehrlich & Anne 1970; Cincotta & Engelman 2000). This leads to reducing the habitat of wildlife inside the sanctuary (Figure 3). Extension of agricultural land, especially monoculture activities, consumes the natural forests in human settlement areas near or fringe villages of the sanctuary. People residing inside the sanctuary especially tribal people have started practicing Betel Nut *Areca catechu* and Pan *Piper betel* plantation (Figure 3). Both have good market value as these are consumed by the locals as a mouth freshener and psycho stimulant i.e., creates a sense of well-being and decreases depression.

REFERENCES

- Alho, C.J.R. & J.S.V. Silva (2012). Effects of severe floods and droughts on wildlife of the Pantanal wetland (Brazil)- a review. *Animals* 2: 591–610. <https://doi.org/10.3390/ani2040591>
- Baranga, D. (2004). Red tail monkey groups in forest patches outside the protected area systems in Kampla Area. *African Journal of Ecology* 42: 78–83. <https://doi.org/10.1111/j.1365-2028.2004.00465.x>
- Burkey, T.V. (1995). Extinction rates in archipelagoes: implications for populations in fragmented habitats. *Conservation Biology* 9: 527–541.
- Chapman, C.A. & C.A. Peres (2001). Primate conservation in the new millennium: role of scientists. *Evolutionary Anthropology* 10: 16–33. [https://doi.org/10.1002/1520-6505\(2001\)10:1<16::AID-EVAN1010>3.0.CO;2-O](https://doi.org/10.1002/1520-6505(2001)10:1<16::AID-EVAN1010>3.0.CO;2-O)
- Chapman, C.A. & D.A. Onderdonk (1998). Forests without primates: Primate/Plant codependency. *American Journal of Primatology* 45: 127–141. [https://doi.org/10.1002/\(SICI\)1098-2345\(1998\)45:1<127::AID-AJP9>3.0.CO;2-Y](https://doi.org/10.1002/(SICI)1098-2345(1998)45:1<127::AID-AJP9>3.0.CO;2-Y)
- Choudhury, A. (1989). Ecology of the Capped Langur in Assam, India. *Folia Primatologica* 52: 88–92. <https://doi.org/10.1159/000156385>
- Choudhury, A. (1996). Primates in Assam - status and conservation. *Tigerpaper* 23: 14–17.
- Choudhury, A. (2013). The Mammals of North-East India, 1st ed. Gibbon Books, Rhino Foundation, Guwahati, India, 432 pp.
- Choudhury, A.S., R.A. Barbhuiya & P. Choudhury (2019). Understanding people's perception and attitudes towards mammalian fauna using qualitative data: a case study in Barail Wildlife Sanctuary, India. *Journal of Threatened Taxa* 11(15): 14979–14988. <https://doi.org/10.11609/jott.5283.11.15.14979-14988>
- Cincotta, R.P. & R. Engelman (2000). *Nature's Place; Human Population and the Future of Biological Diversity*. Population Action International, Washington DC, 80 pp.
- Das, J., D. Chetry, A. Choudhury & W. Bleisch (2020). *Trachypithecus pileatus* (errata version published in 2021). The IUCN Red List of Threatened Species 2020: e.T22041A196580469. Accessed on 04 June 2022. <https://doi.org/10.2305/IUCN.UK.2020-3.RLTS.T22041A196580469.en>
- Ehrlich, P.R. & H. Anne (1970). *Population, Resources, Environment - Issues in Human Ecology*. W.H. Freeman and Company, 383 pp.
- Fahrig, L. (1997). Relative effects of habitat loss and fragmentation on population extinction. *The Journal of Wildlife Management* 61(3): 603–610. <https://doi.org/10.2307/3802168>
- Johnsingh, A.J.T. (1985). Understand, assist, protect and conserve. *India Magazine* 5: 64–71.
- Katti, M. (1992). Nightmare in Dreamland. *Hornbill* 4: 4–9.
- Kays, R.W. & A. Allison (2001). Arboreal tropical forest vertebrates: current knowledge and research trends. *Plant Ecology* 153: 109–120. https://doi.org/10.1007/978-94-017-3606-0_9
- Kumar, A. & G.S. Solanki (2004). A rare feeding observation on water lilies (*Nymphaea alba*) by capped langur (*Trachypithecus pileatus*). *Folia Primatologica* 75: 157–159. <https://doi.org/10.1159/000078306>
- Malhi, Y., J.T. Roberts, R.A. Betts, T.J. Killeen, W. Li & C.A. Nobre (2008). Climate change, deforestation and the fate of the Amazon. *Science* 319: 169–172. <https://doi.org/10.1126/science.1146961>
- Martins, M.M. (2005). Density of primates in four semi-deciduous forest fragments of Sao Paulo, Brazil. *Biodiversity Conservation* 14: 2321–2329.
- Mir, R.A., S.K. Jain, A.K. Saraf & A. Goswami (2015). Accuracy assessment and trend analysis of MODIS-s derived data on snow-covered areas in the Sutlej basin, Western Himalayas. *International Journal of Remote Sensing* 36(15): 3837–3858. <https://doi.org/10.1080/01431161.2015.1070320>
- Mukherjee, R.P., S. Chaudhuri & A. Murmu (1995). Population survey of South-Asian non-human primates in and around Darjeeling. *Primate Report* 41: 23–32.
- Mutanga, C.N., S. Vengesayi, E. Gandiwa & N. Muboko (2015). Community perceptions of wildlife conservation and tourism: A case study of communities adjacent to four protected areas in Zimbabwe. *Tropical Conservation Science* 8(2): 564–582. <https://doi.org/10.1177/194008291500800218>
- Pyriz, L.W., A.B.S. Buntge, K.H. Sebastian & M. Kessler (2010). Effects of habitat structure and fragmentation on diversity and abundance of primates in tropical deciduous forests in Bolivia. *International Journal of Primatology* 31: 796–812. <https://doi.org/10.1007/s10764-010-9429-z>
- Raman, T.R.S., C. Mishra & A.J.T. Johnsingh (1995). Survey of primates in Mizoram, north-east, India. *Primate Conservation* 16: 59–62.
- Rode, K.D., C.A. Chapman, L.R. McDowell & C. Stickler (2006). Nutritional correlates of population density across habitats and logging intensities in Red tail monkeys (*Cercopithecus ascanius*). *Biotropica* 38: 625–634. <https://doi.org/10.1111/j.1744-7429.2006.00183.x>
- Rylands, A.B. (1987). Primate Communities in Amazonian forests: their habitats and food resources. *Experientia* 43: 265–279.
- Schwitzer, C., L. Glatt, K.A.I. Nekaris & J.U. Ganzhorn (2011). Responses of animals to habitat alteration: on overview focusing on primates. *Endangered Species Research* 14: 31–38. <https://doi.org/10.3354/esr00334>
- Srivastava, A. (2006). Conservation of threatened primates of north-east India. *Primate Conservation* 20: 107–113. <https://doi.org/10.1896/0898-6207.20.1.107>
- Srivastava, A., J. Das, J. Biswas, P. Bujarbarua, P. Sarkar, I.S. Bernstein & S.M. Mohnot (2001). Primate population decline in response to habitat loss: Borajan Reserve Forest of Assam, India. *Primates* 42(4): 401–406. <https://doi.org/10.1007/BF02629631>
- Stanford, C.B. (1991). The capped langur in Bangladesh: Behavioural ecology and reproductive tactics. *Contributions to Primatology* 26: 1–179.
- Talukdar, N.R. & P. Choudhury (2020). Attitudes and Perceptions of the Local People on Human–Elephant Conflict in the Patharia Hills Reserve Forest of Assam, India. *Proceedings of the Zoological Society* 73: 380–391. <https://doi.org/10.1007/s12595-020-00343-5>
- Talukdar, N.R., B. Singh & P. Choudhury (2018) Conservation status of some endangered mammals in Barak Valley, Northeast India. *Journal of Asia-Pacific Biodiversity* 11: 167–172. <https://doi.org/10.1016/j.japb.2018.01.011>
- Talukdar, N.R., P. Choudhury, R.A. Barbhuiya, F. Ahmad, D. Daolagupu & J.B. Baishya (2021). Mammals of northeastern India: an updated checklist. *Journal of Threatened Taxa* 13(4): 18059–18098. <https://doi.org/10.11609/jott.6010.13.4.18059-18098>

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

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 Dharaia, 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.

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



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)

June 2022 | Vol. 14 | No. 6 | Pages: 21127–21330

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

DOI: 10.11609/jott.2022.14.6.21127-21330

www.threatenedtaxa.org

Article

Identification of confiscated pangolin for conservation purposes through molecular approach

– Wirdateti, R. Taufiq P. Nugraha, Yulianto & Gono Semiadi, Pp. 21127–21139

Communications

The trade of Saiga Antelope horn for traditional medicine in Thailand

– Lalita Gomez, Penthai Siriawat & Chris R. Shepherd, Pp. 21140–21148

The occurrence of Indochinese Serow *Capricornis sumatraensis* in Virachey National Park, northeastern Cambodia

– Gregory McCann, Keith Pawlowski & Thon Soukhon, Pp. 21149–21154

Attitudes and perceptions of people about the Capped Langur *Trachypithecus pileatus* (Mammalia: Primates: Cercopithecidae): a preliminary study in Barail Wildlife Sanctuary, India

– Rofik Ahmed Barbhuiya, Amir Sohail Choudhury, Nazimur Rahman Talukdar & Parthankar Choudhury, Pp. 21155–21160

Feather characteristics of Common Myna *Acridotheres tristis* (Passeriformes: Sturnidae) from India

– Swapna Devi Ray, Goldin Quadros, Prateek Dey, Padmanabhan Pramod & Ram Pratap Singh, Pp. 21161–21169

Population and distribution of Wattled Crane *Bugeranus carunculatus*, Gmelin, 1989 at lake Tana area, Ethiopia

– Shimelis Aynalem Zelelew & George William Archibald, Pp. 21170–21178

Waterbird assemblage along Punatsangchhu River, Punakha and Wangdue Phodrang, Bhutan

– Nima & Ugyen Dorji, Pp. 21179–21189

Freshwater fishes of the Chimmony Wildlife Sanctuary, Western Ghats, India

– P.S. Eldho & M.K. Sajeevan, Pp. 21190–21198

Butterflies of Eravikulam National Park and its environs in the Western Ghats of Kerala, India

– Kalesh Sadasivan, Toms Augustine, Edayillam Kunhikrishnan & Baiju Kochunarayanan, Pp. 21199–21212

The dragonflies and damselflies (Insecta: Odonata) of Shendurney Wildlife Sanctuary, southern Western Ghats, India

– Kalesh Sadasivan, Vinayan P. Nair & K. Abraham Samuel, Pp. 21213–21226

A pioneering study on the spider fauna (Arachnida: Araneae) of Sagar District, Madhya Pradesh, India

– Tanmaya Rani Sethy & Janak Ahi, Pp. 21227–21238

Taxonomy and threat assessment of *Lagotis kunawurens* Rupr (Plantaginaceae), an endemic medicinal plant species of the Himalaya, India

– Aijaz Hassan Ganie, Tariq Ahmad Butt, Anzar Ahmad Khuroo, Nazima Rasool, Rameez Ahmad, Syed Basharat & Zafar A. Reshi, Pp. 21239–21245

The study of algal diversity from fresh water bodies of Chimmony Wildlife Sanctuary, Kerala, India

– Joel Jose & Jobi Xavier, Pp. 21246–21265

Review

A checklist of herpetofauna of Telangana state, India

– Chelmala Srinivasulu & Gandla Chethan Kumar, Pp. 21266–21281

Viewpoint

Comments on “The Dragonflies and Damselflies (Odonata) of Kerala – Status and Distribution”

– A. Vivek Chandran & K. Muhamed Sherif, Pp. 21282–21284

Short Communications

Landings of IUCN Red Listed finfishes at Chetlat Island of Lakshadweep, southeastern Arabian Sea

– Davood Nihal, N.M. Naseem, N. Abhirami & M.P. Prabhakaran, Pp. 21285–21289

First report of the termite *Glyptotermes ceylonicus* (Blattodea: Isoptera: Kalotermitidae) from India: an example of discontinuous distribution

– Edwin Joseph, Chinnu Ipe, Nisha P. Aravind, Sherin Antony & Jobin Mathew, Pp. 21290–21295

Authentic report of the emesine bug *Gardena melinarthrum* Dohrn, 1860 (Hemiptera: Heteroptera: Reduviidae) from India

– Sangamesh R. Hiremath, Santana Saikia & Hemant V. Ghatge, Pp. 21296–21301

Reappearance of stomatopod *Gonodactylus platysoma* (Wood-Mason, 1895) after an era from the intertidal region of Chota Balu, South Andaman, India

– N. Muthu Mohammed Naha, Limaangnen Pongener & G. Padmavati, Pp. 21302–21306

Range extension of earthworm *Drawida impertusa* Stephenson, 1920 (Clitellata: Moniligastridae) in Karnataka, India

– Vivek Hasyagar, S. Prasanth Narayanan & K.S. Sreepada, Pp. 21307–21310

***Pelatantheria insectifera* (Rchb.f.) Ridl. (Orchidaceae): a new generic record for Eastern Ghats of Andhra Pradesh, India**

– V. Ashok Kumar, P. Janaki Rao, J. Prakasa Rao, S.B. Padal & C. Sudhakar Reddy, Pp. 21311–21314

Notes

New breeding site record of Oriental White Ibis *Threskiornis melanocephalus* (Aves: Threskiornithidae) at Thirunavaya wetlands, Kerala, India

– Binu Chullakattil, Pp. 21315–21317

Rediscovery of *Gardena melinarthrum* Dohrn from Sri Lanka

– Tharindu Ranasinghe & Hemant V. Ghatge, Pp. 21318–21320

A report on the occurrence of the cicada *Callogaeana festiva* (Fabricius, 1803) (Insecta: Cicadidae) from Mizoram, India

– Khawhling Marova, Fanai Malsawmdawngliana, Lal Muansanga & Hmar Tlawmte Lalremsanga, Pp. 21321–21323

New distribution records of two species of metallic ground beetles of the genus *Chlaenius* (Coleoptera: Carabidae: Chlaeniini) from the Western Ghats, India

– Duraikannu Vasanthakumar & Erich Kirschenhofer, Pp. 21324–21326

Report of *Euphaea pseudodispar* Sadasivan & Bhakare, 2021 (Insecta: Odonata) from Kerala, India

– P.K. Muneer, M. Madhavan & A. Vivek Chandran, Pp. 21327–21330

Publisher & Host

