

Building evidence for conservation globally

Journal of Threatened TAXA

10.11609/jott.2025.17.3.26571-26762

www.threatenedtaxa.org

26 March 2025 (Online & Print)

17(3): 26571-26762

ISSN 0974-7907 (Online)

ISSN 0974-7893 (Print)



Open Access





Publisher

Wildlife Information Liaison Development Societywww.wild.zooreach.org

Host

Zoo Outreach Organizationwww.zooreach.org

Srivari Illam, No. 61, Karthik Nagar, 10th Street, Saravanampatti, Coimbatore, Tamil Nadu 641035, India
Registered Office: 3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore, Tamil Nadu 641006, India

Ph: +91 9385339863 | www.threatenedtaxa.org

Email: sanjay@threatenedtaxa.org

EDITORS

Founder & Chief Editor

Dr. Sanjay Molur

Wildlife Information Liaison Development (WILD) Society & Zoo Outreach Organization (ZOO), Coimbatore, Tamil Nadu 641006, India

Assistant Editor

Dr. Chaithra Shree J., WILD/ZOO, Coimbatore, Tamil Nadu 641006, India

Managing Editor

Mr. B. Ravichandran, WILD/ZOO, Coimbatore, Tamil Nadu 641006, India

Associate Editors

Dr. Mandar Paingankar, Government Science College Gadchiroli, Maharashtra 442605, India**Dr. Ulrike Streicher**, Wildlife Veterinarian, Eugene, Oregon, USA**Ms. Priyanka Iyer**, ZOO/WILD, Coimbatore, Tamil Nadu 641006, India

Board of Editors

Dr. Russel Mittermeier

Executive Vice Chair, Conservation International, Arlington, Virginia 22202, USA

Prof. Mewa Singh Ph.D., FASc, FNA, FNAsc, FNAPsy

Ramanna Fellow and Life-Long Distinguished Professor, Biopsychology Laboratory, and Institute of Excellence, University of Mysore, Mysuru, Karnataka 570006, India; Honorary Professor, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore; and Adjunct Professor, National Institute of Advanced Studies, Bangalore

Stephen D. Nash

Scientific Illustrator, Conservation International, Dept. of Anatomical Sciences, Health Sciences Center, T-8, Room 045, Stony Brook University, Stony Brook, NY 11794-8081, USA

Dr. Fred Pluthero

Toronto, Canada

Dr. Priya Davidar

Sigur Nature Trust, Chadapatti, Mavinhalla PO, Nilgiris, Tamil Nadu 643223, India

Dr. John Fellowes

Honorary Assistant Professor, The Kadoorie Institute, 8/F, T.T. Tsui Building, The University of Hong Kong, Pokfulam Road, Hong Kong

Prof. Dr. Mirco Solé

Universidade Estadual de Santa Cruz, Departamento de Ciências Biológicas, Vice-coordenador do Programa de Pós-Graduação em Zoologia, Rodovia Ilhéus/Itabuna, Km 16 (45662-000) Salobrinho, Ilhéus - Bahia - Brasil

Dr. Rajeev Raghavan

Professor of Taxonomy, Kerala University of Fisheries & Ocean Studies, Kochi, Kerala, India

English Editors

Mrs. Mira Bhojwani, Pune, India**Dr. Fred Pluthero**, Toronto, Canada

Copy Editors

Ms. Usha Madgunki, Zooreach, Coimbatore, India**Ms. Trisa Bhattacharjee**, Zooreach. Coimbatore, India**Ms. Paloma Noronha**, Daman & Diu, India

Web Development

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

Typesetting

Mrs. Radhika, Zooreach, Coimbatore, India**Mrs. Geetha**, Zooreach, Coimbatore India

Fundraising/Communications

Mrs. Payal B. Molur, Coimbatore, India

Subject Editors 2021–2023

Fungi

Dr. B. Shivaraju, Bengaluru, Karnataka, India

Dr. R.K. Verma, Tropical Forest Research Institute, Jabalpur, India

Dr. Vatsavaya S. Raju, Kakatiya University, Warangal, Andhra Pradesh, India

Dr. M. Krishnappa, Jnana Sahyadri, Kuvenpu University, Shimoga, Karnataka, India

Dr. K.R. Sridhar, Mangalore University, Mangalagangotri, Mangalore, Karnataka, India

Dr. Gunjan Biswas, Vidyasagar University, Midnapore, West Bengal, India

Dr. Kiran Ramchandra Ranadive, Annaheb Magar Mahavidyalaya, Maharashtra, India

Plants

Dr. G.P. Sinha, Botanical Survey of India, Allahabad, India

Dr. N.P. Balakrishnan, Ret. Joint Director, BSI, Coimbatore, India

Dr. Shonil Bhagwat, Open University and University of Oxford, UK

Prof. D.J. Bhat, Retd. Professor, Goa University, Goa, India

Dr. Ferdinand 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, Anantapur, 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 Ranjan Housing Society, Pune, Maharashtra, India

Prof. A.J. Solomon Raju, Andhra University, Visakhapatnam, India

Dr. Manda 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. Lakshminarasiham, 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. Siru, Central University of Kerala, Kasaragod, Kerala, India

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

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

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

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

Dr. A.G. Pandurangan, Thiruvananthapuram, Kerala, India

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

Dr. Kannan C.S. Warrier, 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

For Focus, Scope, Aims, and Policies, visit https://threatenedtaxa.org/index.php/JoTT/aims_scopeFor 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: A bag worm with its beautiful heap of junk. Acrylics on 300 GSM paper by Dupati Poojitha based on a picture by Sanjay Molur.



Population status, threats, and conservation of *Trachycarpus takil*: an endemic and threatened plant species in western Himalaya, India

Himani Tiwari¹ , Dhani Arya²  & K. Chandra Sekar³ 

¹ G.B. Pant National Institute of Himalayan Environment, Kosi-Katarmal, Almora, Uttarakhand 263643, India.

^{1,2} Department of Botany, Sobar Singh Jeena University, Almora, Uttarakhand 263601, India.

³ Garhwal Regional Centre, G.B. Pant National Institute of Himalayan Environment (NIHE), Srinagar, Garhwal, Uttarakhand 246174, India.

¹himanitiwari@botany@gmail.com, ²dhaniarya@gmail.com, ³kcskar1312@rediffmail.com (corresponding author)

Abstract: Population status and endemism are important concepts in biogeography and conservation biology. Given the dataset's importance and limited availability, we studied the population status and distribution pattern as per the IUCN Red List categories and criteria for *Trachycarpus takil* in Uttarakhand. The study aimed to identify the targeted species' location-specific population status, distribution, area of occupancy (AOO), extent of occurrence (EOO), and resource use patterns. An intensive field visit was conducted in remote areas of Pithoragarh District, Uttarakhand, to identify location-specific information on *T. takil* in the wild. The AOO was recorded at 28 km² and the EOO was 2,078.80 km². *T. takil* is used by locals to prepare ropes, brooms, and seeds from the wild, which are collected for trade. The study suggests that, as per the IUCN Red List categories and criteria, the species can be included under the 'Endangered' category [B1ab(iii,v) and B2ab(iii,v)] and requires immediate conservation actions to save the wild population.

Keywords: Area of occupancy, conservation, distribution, diversity, extent of occurrence, Indian Himalayan region, native, thakil palm, threatened palm, Uttarakhand.

Editor: Aparna Watve, Biome Conservation Foundation, Pune, India.

Date of publication: 26 March 2025 (online & print)

Citation: Tiwari, H., D. Arya & K.C. Sekar (2025). Population status, threats, and conservation of *Trachycarpus takil*: an endemic and threatened plant species in western Himalaya, India. *Journal of Threatened Taxa* 17(3): 26648-26654. <https://doi.org/10.11609/jott.9463.17.3.26648-26654>

Copyright: © Tiwari et al. 2025. 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: Financial assistance received from in-house (04) project of NIHE 'Mainstreaming Himalayan Biodiversity for Sustainable Development'.

Competing interests: The authors declare no competing interests.

Author details: Ms. HIMANI TIWARI is a senior research fellow, Centre for Biodiversity Conservation and Management, G.B. Pant National Institute of Himalayan Environment, Almora and she specializes in endemic plant diversity, ecology and conservation of higher plants of Indian Himalayan region. DR. DHANI ARYA is an associate professor & head, Department of Botany, Sobar Singh Jeena University, Almora, Uttarakhand, with specialization of ecology and plant diversity in Western Himalaya. DR. K. CHANDRA SEKAR is scientist F & head, Garhwal Regional Centre, G.B. Pant National Institute of Himalayan Environment, Srinagar Garhwal, with specialization of plant taxonomy, ecology and conservation of high-altitude vascular plants of Himalaya.

Author contributions: HT—conceptualization, data collection and preparation of initial draft, DA and KCS—data validation, editing and preparing the final version of the manuscript.

Acknowledgements: The authors are thankful to Prof. Sunil Nautiyal, director and Dr. I.D. Bhatt, centre head - CBCM, G.B. Pant National Institute of Himalayan Environment (NIHE), Kosi-Katarmal, Almora for providing the necessary facilities and encouragement.



INTRODUCTION

Diversity of endemic plants is one of the prime criteria for determining the global biodiversity hotspot. The Himalaya, one of the 36 global biodiversity hotspots, is well known for its unique repository of biodiversity and unique & rich endemic plants (MAPs) (Singh et al. 2021; Tiwari et al. 2024). Indian Himalayan Region (IHR) covers the major part of Himalaya Biodiversity Hotspot and is represented by 11,743 native plant species including 11,695 angiosperms, 48 gymnosperms (Wani et al. 2024). Among these, 1,466 trees (Bhatt et al. 2021), 1,748 medicinal (Samant et al. 1998; Mehta et al. 2023), 456 threatened (Mehta et al. 2020), and 1,076 endemic plants (Tiwari et al. 2024) have been reported from IHR. Himalayan endemic plants are confined to highly fragile ecosystems and will almost certainly be the first to be hit by extinction processes. Hence, they require proper assessment and effective conservation plan for restoration. Among the reported endemic plants of IHR, the conservation related studies conducted only around 7% of total endemic plants and highlights the requirement for more conservation efforts (Tiwari et al. 2024).

Trachycarpus takil is one of the threatened and endemic palm species of IHR belonging to the family Arecaceae. The species has been reported from only three locations in Kumaun Himalaya at 2,000–2,500 m altitude growing as undergrowth in the mixed forest of *Quercus* spp. (Khan 2016; Kholia 2009; Husain & Garg 2004). Earlier reports revealed that two small populations with less than 500 individuals are found in the Pithoragarh District (Thal Kedar Hills, Kalamuni Ridge) and third population is found in the Almora District of Kumaon Hills and is nearly on the verge of extinction due to forest fire (Lorek 2007; Gibbons & Spanner 2009; Khan 2016). As per the literature (Kholia 2009; POWO 2024), the species also recorded from Nepal, although we could not find the valid specimen records. So, the distribution of *T. takil* in Nepal is doubtful. As per the IUCN, the population trend is also unknown (www.iucnredlist.org/species/236274959/236274961). Efforts have been made to study the species' flowering phenology, pollination, and breeding behaviour (Kholia 2009). However very little information on the ecology, and population status is available for threat assessment of the species. Therefore, the present study aimed to assess the population, location-specific diversity, distribution, area of occupancy (AOO), extent of occurrence (EOO), resource use patterns, and threats in the wild habitat of *T. takil* in Uttarakhand.

MATERIAL AND METHOD

Species Description

Trachycarpus takil is a medium-sized, evergreen, rare, and endemic palm species of Indian Himalayan Region, commonly known as 'Thakil'. The species grows as undergrowth in mixed forests of *Quercus* spp., up to an elevation of 2,500 m (Gibbons & Spanner 2009; Kholia 2009). It is a solitary palm of about 9–12 m height and flowering starts from April–May and fruits from September–October (Kholia 2009). Flowers are yellow, small trimerous cyclic, stalked or subsessile, and polygamously monoecio-dioecious (Kholia 2009). The leaves are fan shaped, persistent, 1.2 m long, and are arranged as a crown on the top of the trunk. The palm is distinguished by a network of fibres that cover the trunk up to the base and whorl of persistent dry leaves below the crown of fresh ones.

Vegetation sampling

The occurrence data about species presence was obtained from the existing literature (Kulkarni & Mulani 2004; Gibbons et al. 2008; Kholia 2009, 2010; Gibbons & Spanner 2009; Khan 2016), herbarium records and online datasets (GBIF 2024; POWO 2024). All the identified places (i.e., Thal Kedar, Baravey, Kalamuni, Ratapani, Giniband) were surveyed extensively during September 2022–October 2023 for diversity and distribution pattern (Figure 1). Information about indigenous resource utilization, emerging threats were documented by direct field-based observation and questionnaire survey methods (Malik et al. 2014). A handheld GPS (Garmin eTrex 30x) was used to record the geo-coordinates and altitude of each site. As the species is recorded as endemic to Kumaun Himalaya (Gibbons & Spanner 2009; POWO 2024), efforts are made to assess the population as per the IUCN Red List categories and criteria (Keith et al. 2024). The flowering individuals are only considered as mature individuals and recorded accordingly.

Area of Occupancy (AOO) & Extent of Occurrence (EOO)

To calculate the AOO and EOO of species, geo-coordinates were collected during field visits and also supplemented through secondary literatures (Gibbons & Spanner 2009; Kholia 2009, 2010). Further, the extent of occurrence for *T. takil* is measured by delimiting a polygon that encompassed all the known localities of a taxa (known as minimum convex polygon or convex hull) using Geospatial Conservation Assessment Tool (GeoCAT) and QGIS version 3.32 (Tali et al. 2015). Area of

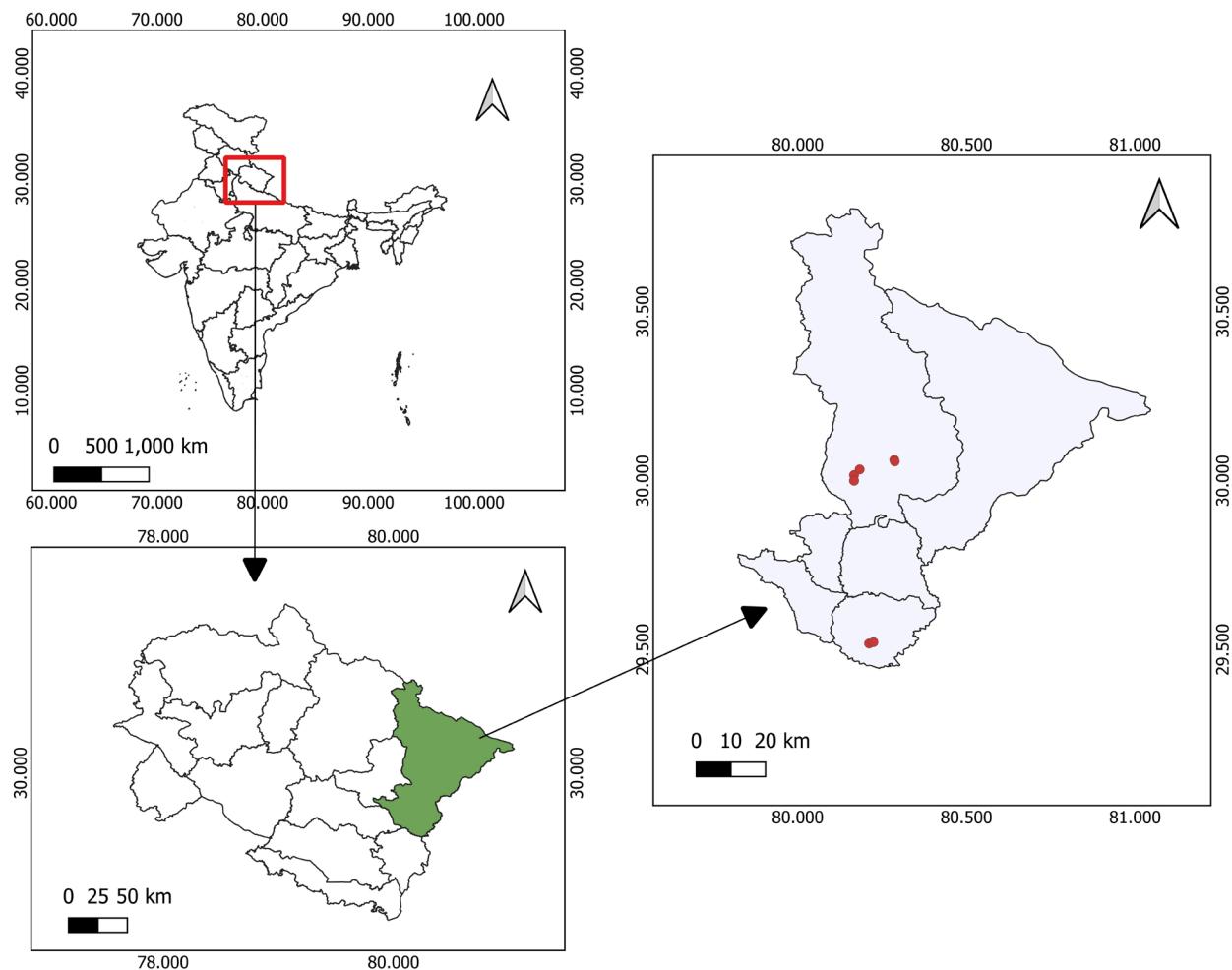


Figure 1. Map of study area for field survey.

occupancy of the species was calculated by overlaying a uniform grid over the entire range of the taxon and then tallying the number of all the grids occupying species' presence. Grid size of 2*2 km² size was used to calculate the AOO of *T. takil* (Tali et al. 2015; IUCN 2024) using the below provided formulae:

Area of occupancy = No. of occupied cells × area of individual cell.

RESULTS

Distribution of the species

The population of *Trachycarpus takil* recorded between 1,900 m and 2,500 m elevation in the rocky and moist, shady habitat as undergrowth of mixed oak forest. Total mature individuals of the species are varying significantly in different location. Presently, the species recorded in Almora (Bhatkot) and Pithoragarh

(Thal Kedar, Baravey, Kalamuni) districts, Uttarakhand, India. Currently, the mature individuals have recorded only in three places, namely, Kalamuni, Thal Kedar, and Baravey, whereas, no mature individuals are found in Bhatkot area. The Kalamuni- Ratapani recorded 243 mature individuals (adult trees in flowering stage), while the Thal Kedar recorded five mature individuals. The Gini band-Samkot recorded 49 mature individuals, and the Baravey had eight mature individuals. *T. takil* is growing in association with *Buxus wallichiana*, *Cupressus torulosa*, *Quercus semecarpifolia*, and *Taxus wallichiana* at Kalamuni, Ratapani, and Gini band-Samkot. At Thal Kedar, the species is mainly associated with *Arundinaria falcata*, *Quercus floribunda*, and *Quercus leucotrichophora* (Table 1).

Resource use pattern and threats

Traditionally, the locals of the nearby villages use the fibres and leaves of *T. takil* to prepare ropes and brooms,

Table 1. Site characteristics and threats on mature individuals of *Trachycarpus takil*.

	Sites	Altitude (m)	Geo-coordinates	Habitat type	Associated species	Threats
1	Thal Kedar	2,430	N 29.518, E 80.211 N 29.526, E 80.196 N 29.521, E 80.203	Mixed Oak Forest	<i>Quercus floribunda</i> , <i>Q. leucotrichophora</i> , <i>Arundinaria falcata</i>	Lopping
2	Baravey	1,910	N 29.522, E 80.224	Along barren grazing land	<i>Quercus leucotrichophora</i>	Lopping
3	Kalamuni-Ratapani	2,220–2,320	N 30.016, E 80.166 N 30.033, E 80.183 N 30.020, E 80.180 N 30.036, E 80.191	Moist rock slopes, under dense canopy of mixed forest	<i>Q. semecarpifolia</i> , <i>Cupressus torulosa</i> , <i>Taxus wallichiana</i>	Lopping, seed collection
4	Gini band-way to Samkot	2,259	N 30.017, E 80.167 N 30.000, E 80.167	Moist rocky slopes, under dense canopy of mixed forest	<i>Q. semecarpifolia</i> , <i>Taxus wallichiana</i> , <i>Buxus wallichiana</i> , <i>Abies pindrow</i>	Lopping, seed collection

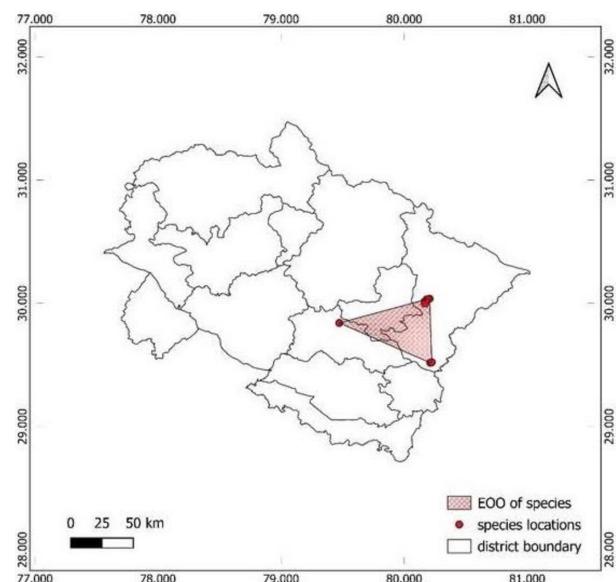
for which they cut down the tree at the base, posing a serious threat to the species in the wild. The paste of flowers with young flowers of *Bombax ceiba* are being used as a medicine to cure gonorrhoea and vaginal infections. *T. takil* is also cultivated for ornamental purposes, therefore, the seeds are collected and sold at the village level (Rs. 500–1000/kg). Ripe seeds are edible and also consumed by the local people. The destructive methods used by locals to collect the leaves, fibres, and seeds of the species and forest fire occurrences are major threats to the wild population.

Extent of occurrence & Area of occupancy

In Uttarakhand State, *T. takil* was found distributed between 30.06611–30.09250° N and 80.38861–80.42805° E along an altitudinal range of 1,900–2,500 m. The total extent of occurrence (EOO) of *T. takil* is 2,078.80 km². The AOO of the species is 28 km². The EOO of *T. takil* encompasses only 3.95% area of Uttarakhand and 29.29% area of Pithoragarh District (Figure 2,3).

Threat Assessment of *Trachycarpus takil*

As per the IUCN Red List categories and criteria, the *Trachycarpus takil* has been assessed. The EOO of the species recorded 2,078.80 km², which is less than the threshold value (<5000 km²) and aligns with criterion 'B1' for 'Endangered category'. The AOO of the species was estimated 28 km², which meets again criterion 'B2'. Data collected from secondary sources and field visits indicates that the species is restricted to only four places (Thal Kedar, Baravey, Kalamuni, Bhatkot) in Uttarakhand, aligning with sub-criterion 'a'. The multiple threats across its distribution range are leading to continuous decline in the habitat of the species. In Bhatkot and Thal Kedar, forest fire causes degradation in its habitat and direct collection of seeds from natural population also affects the regeneration of the species aligning with the sub-criterion 'b(iii)' (continuous decline in area, extent,

**Figure 2.** Extent of occurrence of *Trachycarpus takil*.

and/or quality of habitat). A continuous decline in the number of mature individuals is also recorded from these locations due to forest fire and anthropogenic pressure, qualifying the species for sub-criterion 'b(v)' (decline in number of mature individuals). Keeping the above, the endemic *Trachycarpus takil*, recorded in restricted number of location, limited AOO, EOO, declining in habitat quality and mature individuals justify its IUCN Red List assessment as 'Endangered' under B1ab(iii,v) & B2ab(iii,v) (Table 2).

DISCUSSION

The population assessment is essential to quantifying the threat status, especially for endemic and threatened elements. In absence of quantifiable datasets, we were not able to analyse the population threat and distribution

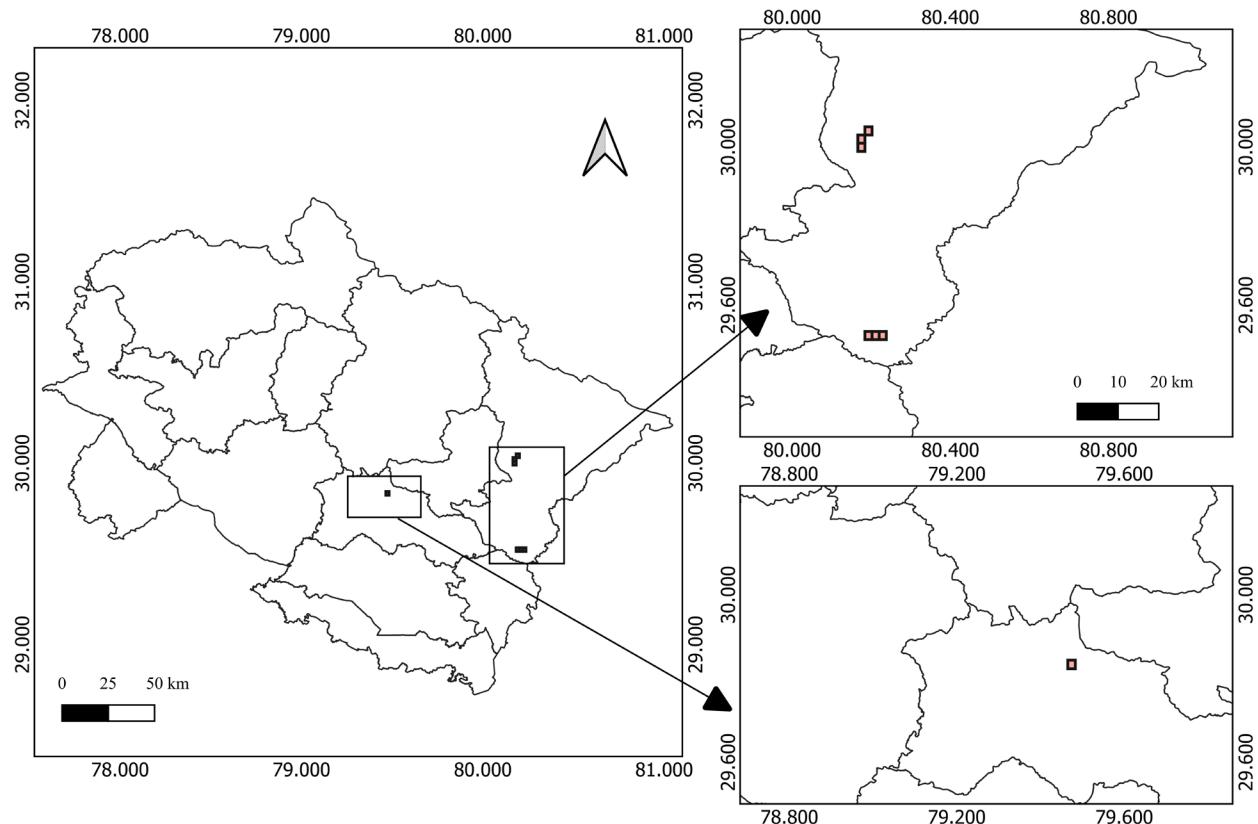


Figure 3. Area of occupancy (2 km^2) of *Trachycarpus takil*.

Table 2. Threat categorization of *Trachycarpus takil*.

Criteria	IUCN categories	<i>T. takil</i> values	Status / reference	IUCN Red List proposed
B. Geographic range	1. Extent of occurrence (<5000 km²)	2,078.80 km ² EOO, recorded in 04 location only, habitat degradation due to forest fire, decline of mature individuals (from approx. 500–305)	Present study; Kholia (2009), Kholia (2010), Gibbons & Spanner (2009)	Endangered (EN) EN B1ab(iii,v)
	a. Known to exist at no more than five locations			
	b. Continuing decline, observed, inferred			
	iii. area, extent and/or quality of habitat			
	v. number of mature individuals			
	2. Area of occupancy (<500 km²)	28 km ² AOO, recorded in 04 locations only, habitat degradation due to forest fire, decline of mature individuals (from approx. 500–305)	Present study; Kholia (2009), Kholia (2010), Gibbons & Spanner (2009)	EN B2ab(iii,v)
	a. Known to exist at no more than five locations			
	b. Continuing decline, observed, inferred			
	iii. area, extent and/or quality of habitat			
	v. number of mature individuals			

pattern. *T. takil* is one among the species having limited/quantitative datasets to conclude the population trend and distribution range (Tali et al. 2015). To strengthen the quantification of the dataset, we surveyed all the places where the species recorded in Uttarakhand State, India. Extensive survey revealed a total of four areas, namely, Kalamuni, Thal Kedar, Baravey, Bhatkot (Almora

and Pithoragarh districts, Uttarakhand, India), we recorded the presence of *T. takil* in natural condition. The Kalamuni region recorded highest number of individuals (243) and the interior population of Samkot (49) is reported first time in the present study. Due to forest fire and presence of few juveniles (<10), the population of Bhatkot is having higher threat (Kholia 2009). Further,



Image 1. *Trachycarpus takil*: a—Habitat | b—Sapling | c—Seedling | d—Lopping of leaves | e—Brooms prepared by locals | f—Fibre used for ropes | g—Ligules.

the present study could not able to consider the *T. takil* recorded in China, due to non-availability of quantitative dataset on population, area of occupancy, distribution range (Ding et al. 2022). Currently, the *T. takil* is very restricted distribution in India (Uttarakhand) and placed

in the 'Rare' category of Red Data Book of India (Nayar & Sastri 1988). The larger population recorded in Kalamuni and Ratapani may be due to lesser accessibility in the hill region. During the survey, a good number of seedlings (>50) were observed in the Thal Kedar forest showing

good regeneration potential. But due to continuous extraction of leaves and seeds, and occurrences of forest fires, the survival of these saplings is questionable (Kharia 2010). Therefore, there is a need to develop effective propagation protocols along with *in situ* conservation efforts. However, present study reported good number of mature individuals at Kalamuni area as compared to the previous studies (Kharia 2009), but due to increasing demand of seeds, continuous leaf extraction and forest fires, this species is under severe threat. *T. takil* is native, endemic to Indian Himalayan Region, and having only four populations, thus requires immediate attention and conservation measures, before vanishing from the natural forest area.

CONCLUSION

Threatened and endemic species are confined to restricted range and certainly be the first to be hit by extinction processes therefore such species require effective conservation strategies. *Trachycarpus takil* is an endemic and threatened palm of western Himalaya, India. The species is reported from four locations of Uttarakhand. The locals use the species as medicine, for making ropes, brooms, and curd churners. Destructive harvesting and forest fires are posing serious threats to the species. The AOO and EOO of the species is calculated and finds 28 km² and 2,078.80 km², respectively. On the basis of restricted distribution, number of locations, individuals and threats, the study recommends inclusion of *T. takil* in IUCN Red List threat categories, under 'Endangered', and inclusion of the identified locations into the protected area network to ensure the effective *in-situ* conservation of the species.

REFERENCES

Bhatt, D., K.C. Sekar & R.S. Rawal (2021). Tree diversity, congruence and endemism: Himalaya 'The land of diversity'. *Biodiversity and Conservation* 30(10): 2633–2654. <https://doi.org/10.1007/s10531-021-02227-2>

Ding, H., S. Zhou, J. Li, J. Shen, X. Ma, J. Huang & Y. Tan (2022). Additions to the seed plant flora in Xizang, China. *Biodiversity Science* 30(8): 1–9. <https://doi.org/10.17520/biods.2022085>

GBIF (2024). *Trachycarpus takil* Becc. in GBIF Secretariat (2023). GBIF Backbone Taxonomy Checklist dataset <https://doi.org/10.15468/39omei>. Accessed via GBIF.org on 15 October 2024.

Gibbons, M., T.W. Spanner & B.S. Kharia (2008). *Trachycarpus takil* Becc. in Kumaon. *Current Science* 94(4): 444–446.

Gibbons, M. & T.W. Spanner (2009). *Trachycarpus takil*-Lost and Found, for Now. *Palms* 53(2): 96.

Husain, T. & A. Garg (2004). *Trachycarpus takil* Becc. is not a 'rare' palm. *Current Science* 86(5): 633–634.

IUCN Standards and Petitions Committee (2024). Guidelines for Using the IUCN Red List Categories and Criteria. Version 16. <https://www.iucnredlist.org/documents/RedListGuidelines.pdf>.

Keith, D., J.R. Ferrer-Paris, S.M.M. Ghoraba, S. Henriksen, M. Monyeki, N. Murray & I. Zager (eds.) (2024). Guidelines for the application of IUCN Red List of Ecosystems Categories and Criteria: version 2.0. Gland, Switzerland. <https://doi.org/10.2305/CJDF91>

Khan, Z.H. (2016). *Trachycarpus takil* Becc.: a current status of the dying palm in Kumaon Himalayas. *Journal of Functional and Environmental Botany* 6(2): 67–69.

Kharia, B.S. (2009). Gender variation in a threatened and endemic palm *Trachycarpus takil* Becc. *Current Science* 96(1): 144–148.

Kharia, B.S. (2010). Kumaun fan palm: *Trachycarpus takil* Becc. (Arecaceae)—In retrospect, pp. 417–426. In: Tewari, L.M., Y.P.S. Pangtey & G. Tewari (eds.). *Biodiversity Potentials of the Himalaya*. Gyanodaya Prakashan, Nainital, 574 pp.

Kulkarni, A.R. & R.M. Mulani (2004). Indigenous palms of India. *Current science* 86(12): 1598–1603.

Lorek, M. (2007). The Indian species *Trachycarpus takil* in the garden of villa beccari, Florence, Italy. *Current Science* 93(3): 295–297.

Malik, Z.A., J.A. Bhat & A.B. Bhatt (2014). Forest resource use pattern in Kedarnath wildlife sanctuary and its fringe areas (a case study from Western Himalaya, India). *Energy Policy* 67: 138–145.

Mehta, P., K.C. Sekar, D. Bhatt, A. Tewari, K. Bisht, S. Upadhyay & B. Soragi (2020). Conservation and prioritization of threatened plants in Indian Himalayan Region. *Biodiversity and Conservation* 29: 1723–1745. <https://doi.org/10.1007/s10531-020-01959-x>

Mehta, P., K. Bisht, K.C. Sekar & A. Tewari (2023). Mapping biodiversity conservation priorities for threatened plants of Indian Himalayan Region. *Biodiversity and Conservation* 32(7): 2263–2299. <https://doi.org/10.1007/s10531-023-02604-z>

Nayar M.P. & A.R.K. Sastry (eds.) (1988). *Red Data Book of Indian Plants* Vol. 2. Botanical Survey of India, Calcutta, India, 282 pp.

POWO (2024). *Trachycarpus takil*. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. <https://pwo.science.kew.org/> Accessed on 15 October 2024.

Samant S.S., U. Dhar & L.M.S. Palni (1998). *Medicinal plants of Indian Himalaya: diversity distribution potential values*. Gyanodaya Prakashan, Nainital, 174 pp.

Singh, L., I.D. Bhatt, V.S. Negi, S.K. Nandi, R.S. Rawal & A.K. Bisht (2021). Population status, threats, and conservation options of the orchid *Dactylorhiza hatagirea* in Indian Western Himalaya. *Regional Environmental Change* 21: 1–16. <https://doi.org/10.1007/s10113-021-01762-6>

Tali, B.A., A.H. Ganie, I.A. Nawchoo, A.A. Wani & Z.A. Reshi (2015). Assessment of threat status of selected endemic medicinal plants using IUCN regional guidelines: a case study from Kashmir Himalaya. *Journal for Nature Conservation* 23: 80–89. <https://doi.org/10.1016/j.jnc.2014.06.004>

Tiwari, H., K.C. Sekar, A. Pandey, A. Tiwari, P. Mehta, K.S. Kanwal & D. Arya (2024). Diversity, distribution and need of urgent conservation of endemic plants in Himalaya. *Biodiversity and Conservation* 33(8): 1–19. <https://doi.org/10.1007/s10531-024-02815-y>

Wani, S.A., A.A. Khuroo, N. Zaffar, S. Rafiqi, I. Farooq, S. Afzal & I. Rashid (2024). Data synthesis for biodiversity science: a database on plant diversity of the Indian Himalayan Region. *Biodiversity and Conservation* 33(12): 1–21. <https://doi.org/10.1007/s10531-024-02784-2>

Mr. Jatishwor Singh Irungbam, Biology Centre CAS, Branišovská, Czech Republic.
Dr. Ian J. Kitching, Natural History Museum, Cromwell Road, UK
Dr. George Mathew, Kerala Forest Research Institute, Peechi, India
Dr. John Noyes, Natural History Museum, London, UK
Dr. Albert G. Orr, Griffith University, Nathan, Australia
Dr. Sameer Padhye, Katholieke Universiteit Leuven, Belgium
Dr. Nancy van der Poorten, Toronto, Canada
Dr. Karen 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 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. Lional 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. Karen 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. Priyadarshan 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. Priyadarshan Dharma Rajan, Ashoka Trust for Research in Ecology and the Environment (ATREE), Royal Enclave, Bangalore, Karnataka, India

Fishes

Dr. Topiltzin Contreras MacBeath, Universidad Autónoma del estado de Morelos, México
Dr. Heok Hee Ng, National University of Singapore, Science Drive, Singapore
Dr. 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 KV, 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. Raja 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. Rironker, Goa University, Taleigao Plateau, Goa, India
Dr. S.R. Ganesh, Chennai Snake Park, Chennai, Tamil Nadu, India
Dr. Himansu Sekhar Das, Terrestrial & Marine Biodiversity, Abu Dhabi, UAE

Journal of Threatened Taxa is indexed/abstracted in Bibliography of Systematic Mycology, Biological Abstracts, BIOSIS Previews, CAB Abstracts, EBSCO, Google Scholar, Index Copernicus, Index Fungorum, JournalSeek, National Academy of Agricultural Sciences, NewJour, OCLC WorldCat, SCOPUS, Stanford University Libraries, Virtual Library of Biology, Zoological Records.

NAAS rating (India) 5.64

Birds

Dr. Hem Sagar Baral, Charles Sturt University, NSW Australia
Mr. H. Biju, 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 Jayopal, 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 Inskip, Bishop Auckland Co., Durham, UK
Dr. Tim Inskip, Bishop Auckland Co., Durham, UK
Dr. V. Gokula, National College, Tiruchirappalli, Tamil Nadu, India
Dr. Arkady Lelej, Russian Academy of Sciences, Vladivostok, Russia
Dr. Simon Dowell, Science Director, Chester Zoo, UK
Dr. Mário Gabriel Santiago dos Santos, Universidade de Trás-os-Montes e Alto Douro, Quinta de Prados, Vila Real, Portugal
Dr. Grant Connette, Smithsonian Institution, Royal, VA, USA
Dr. P.A. Azeez, Coimbatore, Tamil Nadu, India

Mammals

Dr. Giovanni Amori, CNR - Institute of Ecosystem Studies, Rome, Italy
Dr. Anwaruddin Chowdhury, Guwahati, India
Dr. David Mallon, Zoological Society of London, UK
Dr. Shomita Mukherjee, SACON, Coimbatore, Tamil Nadu, India
Dr. Angie Appel, Wild Cat Network, Germany
Dr. P.O. Nameer, Kerala Agricultural University, Thrissur, Kerala, India
Dr. Ian Redmond, UNEP Convention on Migratory Species, Lansdown, UK
Dr. Heidi S. Riddle, Riddle's Elephant and Wildlife Sanctuary, Arkansas, USA
Dr. Karin Schwartz, George Mason University, Fairfax, Virginia.
Dr. Lala A.K. Singh, Bhubaneswar, Orissa, India
Dr. Mewa Singh, Mysore University, Mysore, India
Dr. Paul Racey, University of Exeter, Devon, UK
Dr. Honnavalli N. Kumara, SACON, Anaikatty P.O., Coimbatore, Tamil Nadu, India
Dr. Nishith Dharaiya, HNG University, Patan, Gujarat, India
Dr. Spartaco Gippoliti, Socio Onorario Società Italiana per la Storia della Fauna "Giuseppe Altobello", Rome, Italy
Dr. Justus Joshua, Green Future Foundation, Tiruchirappalli, Tamil Nadu, India
Dr. H. Raghuram, 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, Budhanilkantha Municipality, Kathmandu, Nepal
Dr. Susan Cheyne, Borneo Nature Foundation International, Palangkaraya, 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 Helleni 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. Bharat Baviskar, Wild-CER, Nagpur, Maharashtra 440013, India

Reviewers 2021–2023

Due to paucity of space, the list of reviewers for 2021–2023 is available online.

The opinions expressed by the authors do not reflect the views of the Journal of Threatened Taxa, Wildlife Information Liaison Development Society, Zoo Outreach Organization, or any of the partners. The journal, the publisher, the host, and the partners are not responsible for the accuracy of the political boundaries shown in the maps by the authors.

Print copies of the Journal are available at cost. Write to:
The Managing Editor, JoTT,
c/o Wildlife Information Liaison Development Society,
3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore,
Tamil Nadu 641006, India
ravi@threatenedtaxa.org & ravi@zooreach.org

Articles

***Dasymaschalon leilamericanum* (Annonaceae), a new species with evidence of non-monophyly from Mount Lantoy Key Biodiversity Area, Philippines**

– Raamah Rosales, Edgardo Lillo, Archiebald Baltazar Malaki, Steve Michael Alcazar, Bernardo Redoblado, John Lou Diaz, Inocencio Buot Jr., Richard Parilla & Jessica Rey, Pp. 26571–26586

Association analysis of *Castanopsis tungurut* and the neighboring vegetation community in Cibodas Biosphere Reserve, Indonesia

– Dian Ridwan Nurdiana & Inocencio E. Buot, Jr., Pp. 26587–26598

Riparian flora of Haveri District, Karnataka, India

– Ningaraj S. Makanur & K. Kotresha, Pp. 26599–26615

Conservation strategies for *Vatica lanceifolia* (Roxb.) Blume: habitat distribution modelling and reintroduction in northeastern India

– Puranjoy Mipun, Amritee Bora, Piyush Kumar Mishra, Baby Doley & Rinku Moni Kalita, Pp. 26616–26626

Patterns and economic impact of livestock predation by large carnivores in protected areas of southern Kashmir, India

– Lubna Rashid & Bilal A. Bhat, Pp. 26627–26635

People perception on use patterns and conservation of Chinese Pangolin

in and around Yangouopkpi Lokchao Wildlife Sanctuary, Manipur, India

– Yengkham Roamer Zest, Awadhesh Kumar, Om Prakash Tripathi, Rakesh Basnett & Dipika Parbo, Pp. 26636–26647

Communications

Population status, threats, and conservation of *Trachycarpus takil*: an endemic and threatened plant species in western Himalaya, India

– Himani Tiwari, Dhani Arya & K. Chandra Sekar, Pp. 26648–26654

A checklist of fishes of Haiderpur wetland, western Uttar Pradesh, India

– Rahul Rana, Jeyaraj Antony Johnson & Syed Ainul Hussain, Pp. 26655–26668

An avifaunal checklist of the Zanskar Region, Ladakh Himalaya, India

– Abid Hussain, Zakir Hussain & Mumtaz Ali, Pp. 26669–26679

Breeding tern colonies on the sandbars of Adam's Bridge, India: new records and significance

– H. Byju, H. Maitreyi, N. Raveendran, D.A. Marshal & S. Ravichandran, Pp. 26680–26689

Assessment of nest and nesting activities of White-bellied Heron *Ardea insignis* Hume, 1878 (Aves: Ardeidae) in the broad-leaved forests of northeastern India

– Himadri Sekhar Mondal & Gopinathan Maheswaran, Pp. 26690–26696

Preliminary checklist of avifauna from All India Institute of Medical Sciences, Guwahati, Assam, India

– Nitul Ali, Vivek Chetry, Prem Kishan Singha & Maina Boro, Pp. 26697–26703

Implementation strategy and performance analysis of a novel ground vibration-based elephant deterrent system

– Sanjoy Deb, Ramkumar Ravindran & Saravana Kumar Radhakrishnan, Pp. 26704–26714

Short Communications

***Blackwellomyces pseudomilitaris* (Hywel-Jones & Sivichai) Spatafora & Luangsa-ard, 2017 (Sordariomycetes: Hypocreales: Cordycipitaceae): first report from Western Ghats of India**

– Anjali Rajendra Patil, Snehal Sudhir Biranje, Mahesh Yashwant Borde & Yogesh Sadashiv Patil, Pp. 26715–26720

Calvatia craniiformis (Schwein.) Fr. ex De Toni (Agaricomycetes: Lycoperdaceae): a new puffball mushroom record from eastern India
– Asit Mahato, Pritish Mitra, Sabyasachi Chatterjee & Subrata Raha, Pp. 26721–26726

Rediscovery of the gypsy moth *Lymantria kanara* Collenette, 1951 (Insecta: Lepidoptera: Erebidae) from Kerala, India, after 73 years and its taxonomic redescription
– P.K. Adarsh & Abhilash Peter, Pp. 26727–26730

Nest predation by *Vespa tropica* (Linnaeus, 1758): observational insights into polistine wasp defense and hornet feeding behavior
– Shantan Ojha & Vartika Negi, Pp. 26731–26736

The discovery of a male Malay Crestless Fireback *Lophura erythrophthalma* (Raffles, 1822) (Aves: Galliformes: Phasianidae) at Ulu Sat Forest Reserve, Machang, Kelantan, Peninsular Malaysia
– Ainun Hidayah Wahad, Wan Hafizin Idzni Wan Mohammad Hizam, Muhammad Hamirul Shah Ab Razak, Aainaa Amir, Kamarul Hambali, Hazizi Husain, Mohd Saupi Abdullah, Ehwan Ngadi, Mohamad Arif Iskandar Abdul Wahab & Asrulsani Jambari, Pp. 26737–26740

Notes

New distribution record of *Korthalsia rogersii* Becc, a threatened endemic climbing palm of Andaman archipelago

– Paremmal Sarath, Azhar Ali Ashraf, V.B. Sreekumar, Modhumita Ghosh Dasgupta & Suma Arun Dev, Pp. 26741–26743

Clarifying the nomenclature of Roxburgh's pivotal name *Holigarna racemosa* Roxb. (Anacardiaceae)

– Shruti Kasana, Pp. 26744–26746

First confirmed breeding of Brown Noddy *Anous stolidus* in southeastern India: a new record from Adam's Bridge

– H. Byju, H. Maitreyi, N. Raveendran & D.A. Marshal, Pp. 26747–26749

First record of Painted Stork *Mycteria leucocephala* in Indonesia

– Hasri Abdillah, Iwan Febrianto, Cipto Dwi Handono, Fajar Shiddiq, Febryansah Abdillah Harahap & Muhammad Iqbal, Pp. 26750–26752

New sighting and conservation implications of the endemic Sulu Boobook *Ninox reyi* Oustalet, 1880 at Bolobok Rock Shelter, a key archaeological site in the Sulu Archipelago, southern Philippines

– Fauriza J. Saddari, Yennyrriza T. Abduraup, Adzmer A. Juaini, Roger A. Irlis, Khalid D. Adam, Mary Joyce Z. Guinto-Sali & Richard N. Muallil, Pp. 26753–26756

The occurrence of Glossy Ibis *Plegadis falcinellus* Linnaeus, 1766 (Pelecaniformes: Threskiornithidae) in southern Sumatra, Indonesia

– Muhammad Iqbal, Arum Setiawan, Putri Balqis, Exaudi Beatrice Simanullang, Pormansyah, Selamat Robinsa, Winda Indriati & Indra Yustian, Pp. 26757–26760

Book Review

A whisper of silken wings

– Aparna Sureshchandra Kalawate & Pooja Kumar Misal, Pp. 26761–26762

Publisher & Host



Threatened Taxa