

# RAHUL DE

Email: [Rahul.De@ttu.edu](mailto:Rahul.De@ttu.edu), [rahulde1988@gmail.com](mailto:rahulde1988@gmail.com)

Phone: +18062244582, +919012477099

Address: 2901 Main St., Department of Biological Sciences  
Texas Tech University, Lubbock, USA, ZIP 79409

Nationality: Indian; Date of birth: January 17, 1988

ORCID

[0000-0002-4518-9607](https://orcid.org/0000-0002-4518-9607)

Google Scholar

[bit.ly/De\\_GS](https://bit.ly/De_GS)

Personal website

[rahulde.owlstown.net](http://rahulde.owlstown.net)

## CURRENT POSITION

Post-doctoral Research Associate

Texas Tech University, Lubbock, USA

Role: Integrating bat genetics, molecular dietary analysis, and gut microbiome data from insectivorous bats sampled across a habitat quality gradient in Malaysia

## EDUCATION

- |             |  |
|-------------|--|
| 2013 - 2021 | <p>Doctor of Philosophy in Wildlife Science</p> <p>Wildlife Institute of India, Dehradun, India</p> <p>Thesis title: Habitat occupancy in relation to crop-raiding behaviour and genetic variation in Asian elephants (<i>Elephas maximus</i>) in north-west India using non-invasive genetic sampling</p> |
| 2009 - 2011 | <p>Master of Science in Environment Management</p> <p>Forest Research Institute (Deemed) University, Dehradun, India</p> <p>Thesis title: Food habits and use of molecular tools to determine differential predation by tigers in Ranthambore National Park</p>  |
| 2006 - 2009 | <p>Bachelor of Science in Zoology (Honours)</p> <p>Presidency College, University of Calcutta, Kolkata, India</p>  |

## RESEARCH INTERESTS

**Population and landscape genetics/genomics:** Use of genetic/genomic markers along with geospatial parameters to assess functional genetic connectivity, spatial genetic structure, historical demography and evolutionary response to climatic variables at different spatial scales

**Trophic ecology:** Documenting heterogeneities in dietary patterns of mammals in response to habitat, microclimate and sex/individual-based nutritional requirement variability using faecal DNA metabarcoding

**eDNA for biodiversity assessment:** Using environmental DNA for multi-scale, non-invasive characterization of mammalian species diversity, gut microbial variability and their ecological correlates

## RESEARCH EMPLOYMENT

- |                     |   |
|---------------------|---|
| Jul 2023 - Present  | <p>Post-doctoral Research Associate</p> <p>Texas Tech University, Lubbock, USA</p> <p>Project title: Community processes structuring assembly and disassembly of bat gut-microbial communities across a gradient of habitat degradation</p>   |
| Dec 2020 - Jul 2022 | <p>Project Associate-II (Genetics)</p> <p>Wildlife Institute of India, Dehradun, India</p> <p>Project title: Assessment of spatial and temporal occupancy of tiger and elephant in relation to habitat characteristics and anthropogenic factors for the creation of Eco-Sensitive Areas in Sawantwadi and Dodamarg talukas of Sindhudurg district in Western Ghats of Maharashtra, India</p> |
| Oct 2019 - May 2020 | <p>Project Associate (Genetics)</p> <p>Wildlife Institute of India, Dehradun, India</p> <p>Project title: Preparation of conservation plan for biodiversity likely to be impacted by Greenfield Jewar International Airport, Gautam Buddha Nagar, Uttar Pradesh</p>   |
| Aug 2018 - Mar 2019 | <p>Senior Project Biologist</p>   |

Wildlife Institute of India, Dehradun, India

Project title: Study on blackbuck movements in and around Kaimur Wildlife Sanctuary including reserve forests of Mirzapur and Sonbhadra districts of Uttar Pradesh in respect of proposed coal-based thermal power plant (TPP) of 1320 MW in Mirzapur district, Uttar Pradesh

Oct 2012 - Oct 2017 Junior Research Fellow (UGC-NET)

Wildlife Institute of India, Dehradun, India

Project title: Patterns of spatial and temporal habitat occupancy in relation to crop raiding behaviour and genetic variation of free-ranging Asian elephants (*Elephas maximus*) in north-west India using non-invasive genetic sampling

## LIST OF PUBLICATIONS

**De, R.**, Sharma, R., Singh, S.K., Rasteiro, R., Bhaskar, R., Khan, I., Kanagaraj, R., Kakati, K., Nigam, P., Williams, A.C., Davidar, P., Habib, B., Goyal, S.P. 2024. Conservation implications of high gene flow and lack of pronounced spatial genetic structure in elephants supported by contiguous suitable habitat in north-western India. **Conservation Science and Practice**. [Article Link](#)

**De, R.**, Sharma, R., Nigam, P., Williams, A.C., Habib, B., Goyal, S.P. 2023. Identifying sex and individual from faecal DNA of the Asian elephant using a single multiplex PCR for population monitoring. **Conservation Genetics Resources**. [Article Link](#)

Kanagaraj, R., Joshi, B.D., **De, R.**, Predit, M.A., Singh, S.K., Pandey, P., Kumar, V., Sharma, V., Kumar, M., Matura, R., Pandav, B., Nigam, P., Sharma, R., Habib, B., Gopi, G.V., Trabucco, A., Wiegand, T., Goyal, S.P., 2023. Predicting the impact of climate change on range and genetic diversity patterns of the endangered endemic Nilgiri tahr (*Nilgiritragus hylocrius*) in the western Ghats, India. **Landscape Ecology**. [Article link](#)

Davidar, P., Sharma, R., de Silva, S., Campos-Arceiz, A., Goossens, B., Puyravaud, J-P., Habib, B., **De, R.**, Wong, E.P., Neupane, D., Othman, N.B. 2023. Connect elephant habitats in Asia. **Science**, 379, 765. [Article link](#)

**De, R.**, Nigam, P., Williams, A.C. and Goyal, S.P. 2022. Beyond consensus genotyping: A case study on the Asian elephant *Elephas maximus*. **Conservation Genetics Resources**, 14, 403-411. [Article link](#)

Singh, S.K.\*, **De, R.\***, Sharma, R., Maheshwari, A., Joshi, B.D., Sharma D., Sathyakumar, S., Habib, B., Goyal, S.P. 2022. Conservation importance of the strategic, centrally located snow leopard population in the western Himalayas, India: A genetic perspective. **Mammalian Biology**. [Article link](#)

Joshi, B.D., Kumar, V., **De, R.**, Sharma, R., Bhattacharya, A., Stanzin, D., Pal, R., Kumar, V.P., Sathyakumar, S., Adhikari, B.S., Habib, B., Goyal, S.P. 2022. Mitochondrial Cytochrome *b* indicates the presence of two paraphyletic diverged lineages of the Blue sheep *Pseudois nayaur* across the Indian Himalaya: Conservation implications. **Molecular Biology Reports**, 49, 11177–11186. [Article link](#)

Parida, J., Sharma, R., **De, R.**, Kalam, T., Sedhupathy, A., Digal, D.K., Reddy, P.A., Goyal, S.P., Puyravaud, J-P., Davidar, P. 2022. Genetic characterisation of fragmented Asian elephant populations with one recent extinction in its eastern-central Indian range. **Ecological Genetics and Genomics**, 24, 100132. [Article link](#)

Puyravaud, J-P., Cushman, S.A., Reddy, P.A., Boominathan, D., Sharma, S., Arumugam, N., Selvan, K.M., Mohanraj, N., Sedupathy, A., Rahim, P.P.A., Kalam, T., **De, R.**, Udayraj, S., Luis, A., Najjar, M.U.I., Raman, K., Krishnakumar, B.M., Goyal, S.P., Davidar, P. 2022. Fencing can alter gene flow of Asian elephant populations within protected areas. **Conservation**, 2, 709-725. [Article link](#)

**De, R.**, Sharma, R., Davidar, P., Arumugam, N., Sedhupathy, A. Puyravaud, J-P., Selvan, K.M., Rahim, P.P.A., Udayraj, S., Parida, J., Digal, D.K., Kanagaraj, R., Kakati, K., Nigam, P., Williams, A.C., Habib, B., Goyal, S.P. 2021. Pan-India population genetics signifies the importance of habitat connectivity for wild Asian elephant conservation. **Global Ecology and Conservation**, 32, e01888. [Article link](#)

**De, R.**, Kumar, V., Ankit, K., Khan, K.A., Kumar, H., Kumar, N., Habib, B. and Goyal, S.P. 2021. Cross-amplification of ungulate microsatellite markers in the endemic Indian Antelope or blackbuck (*Antelope*

*cervicapra*) for population monitoring and conservation genetics studies in south Asia. **Molecular Biology Reports**. 48, 5151-5160. [Article link](#)

Noor, A., Bushra, A., Sharma, R.K., Sultan, **De, R.**, Goyal, S.P. and Habib, B. 2021. Jungle cat activity in a human-dominated agricultural landscape, India. **Cat News**. 73, 12-13. [Article link](#)

**De, R.**, Nigam, P., Williams, A.C. and Goyal, S.P. 2020. Multi-Gene mtDNA primers for use with non-invasive sampling of Asian elephants. **Gajah**. 52, 24-29. [Article link](#)

**De, R.**, Joshi, B.D., Shukla, M., Pandey, P., Singh, R. Goyal, S.P. 2019. Understanding predation behaviour of the tiger (*Panthera tigris tigris*) in Ranthambore Tiger Reserve, Rajasthan, India: use of low-cost gel based molecular sexing of prey hairs from scats. **Conservation Genetics Resources**. 11 (1), 97-104. [Article link](#)

Joshi, B.D., **De, R.**, Goyal S.P. 2019. Utility and applicability of universal set of primers in identifying sex of South and Southeast Asian mammals. **Zoological Studies**. 58(19), 1-8. [Article link](#)

Kanagaraj R., Araujo M.B., Barman R., Davidar, P., **De, R.**, Digal, D.K., Gopi, G.V., Johnsingh, A.J.T., Kakati, K., Kramer-Schadt, S., Lamichhane, B.R., Lyngdoh, S., Madhusudan, M.D., Najar, M.U.I., Parida, J., Pradhan, N.M.B., Puyravaud, J-P., Rahunath, R., Rahim, P.P.A., Selvan, K.M., Subedi, N., Trabucco, A., Udayraj, S., Thorsten, W., Williams, A.C., Goyal, S.P. 2019. Predicting range shifts of Asian elephants under global change. **Diversity and Distributions**. 25(5), 822-838. [Article link](#)

Joshi, B.D., Matura, R., Predit, M.A., **De, R.**, Pandav, B., Nigam, P., Goyal, S.P. 2018. Palghat gap reveals presence of two diverged populations of Nilgiri tahr (*Nilgiritragus hylocrius*) in Western Ghats, India. **Mitochondrial DNA Part B**. 3(1), 245-249. [Article link](#)

Negi, R.K., Joshi, B.D., Johnson, J.A., **De, R.**, Goyal, S.P. 2017. Phylogeography of freshwater fish *Puntius sophore* in India. **Mitochondrial DNA Part A**. 29 (2), 256-265. [Article link](#)

#### **INTERNATIONAL CONFERENCE PRESENTATIONS**

**De, R.**, Nigam, P., Qureshi, Q., Williams, A.C. and Goyal, S.P. 2019. Human-elephant interaction in north-west India – drivers, patterns and conservation implications of crop-raiding behaviour in a human-dominated landscape. Poster presentation at Wildlife Research and Conservation, Berlin, Germany, September 30, 2019

**De, R.**, Nigam, P., Qureshi, Q., Williams, A.C. and Goyal, S.P. 2019. Patterns, drivers and conservation implications of crop-raiding by Asian elephants - Human-elephant conflict in the north-west India. Oral presentation at International Congress for Conservation Biology, Kuala Lumpur, Malaysia, July 24, 2019

**De, R.**, Joshi, B.D., Shukla, M., Pandey, P. Singh, R. and Goyal, S.P. 2017. Insight into predation behaviour of tiger in Ranthambore Tiger Reserve, Rajasthan, India: Use of low cost gel based molecular sexing of prey hairs from scats. Oral presentation at International Conference on Behaviour, Physiology and Genetics of Wildlife. Berlin, Germany, October 6, 2017

**De, R.**, Nigam, P., Qureshi, Q., Williams, A.C. and Goyal, S.P. 2015. Crop Raiding Patterns of Wild Elephants around Rajaji Tiger Reserve, Uttarakhand, India. Oral presentation at International Symposium on Ecology and Health Management of Asiatic elephant (*Elephas maximus*). New Delhi, India, November 20, 2015

**De, R.**, Nigam, P., Singh, S., Bhaskar, R., Qureshi, Q., Williams, A.C. and Goyal, S.P. 2015. Gene Flow in Elephants across Shivalik Elephant Reserve, Uttarakhand. Oral presentation at International Symposium on Ecology and Health Management of Asiatic elephant (*Elephas maximus*). New Delhi, India, November 20, 2015

#### **COURSES/WORKSHOPS ATTENDED**

ConGen 2019, a conservation genomics data analysis course held at Flathead Lake Biological Station, University of Montana, USA, September 02-07, 2019

International Workshop on Metabarcoding and Metagenome Analysis, an online hands-on course held jointly by Institute of Bioinformatics and Applied Biotechnology, India and University of Padova, Italy, December 15-17, 2020

Peek into Biodiversity and Beyond: A hands-on training workshop on NGS, held at Kolkata, India by Indian Institutes of Science Education and Research, Kolkata, India, March 04-06, 2022

### **AWARDS/SCHOLARSHIPS RECEIVED**

Junior Research Fellowship in Life Science through joint CSIR-UGC National Eligibility Test (June 2012); national rank – 66

Academic Scholarship - Forest Research Institute, Dehradun, India

### **GRANTS RECEIVED**

Travel grant provided by the British Ecological Society, London to support participation in Wildlife Research and Conservation, 2019, Berlin, Germany (US \$618)

Partial travel grant provided by the Science and Engineering Research Board, Department of Science and Technology, Government of India to support participation in ConGen 2019 – Population Genomics and Conservation Genetics course, 2019, Flathead Lake Biological Station, University of Montana, United States of America (US \$3600)

Partial travel grant provided by the University of Montana to support participation in ConGen 2019 – Population Genomics and Conservation Genetics course, 2019, Flathead Lake Biological Station, University of Montana, United States of America (US \$600)

Travel grant provided by the Society for Conservation Biology, Asia Section to support participation in the International Congress for Conservation Biology, 2019, Kuala Lumpur, Malaysia (US \$640)

Partial travel grant provided by Centre for Cooperation in Science & Technology among Developing Societies, India to support participation in the International Urban Wildlife Conference, 2019, Portland, United States of America (US \$360)

Partial travel grant provided by Council of Scientific & Industrial Research, India to support participation in the International Urban Wildlife Conference, 2019, Portland, United States of America (US \$1344)

Partial travel grant provided by The Wildlife Society, United States of America to support participation in the International Urban Wildlife Conference, 2019, Portland, United States of America (US \$750)

Travel grant provided by Leibniz institut für zoo und wildtierforschung to support participation in the 11th International Conference on Behaviour, Physiology and Genetics of Wildlife 2017, Berlin, Germany (US \$560)

Partial support for Ph.D. study from World Wildlife Fund, Inc. vide agreement number WU04 (US \$6242)

### **SCIENTIFIC SERVICES**

Reviewer: Ecology and Evolution

Biodiversitas-Journal of Biological Diversity

### **REFEREES**

Dr. Caleb Phillips  
Associate Professor  
Texas Tech University, Lubbock  
Texas, USA, ZIP - 79401  
Phone: +17654135951; Email: Caleb.Phillips@ttu.edu

Dr. S.P. Goyal  
Emeritus Scientist  
Wildlife Institute of India, Dehradun  
Uttarakhand, India, PIN - 248001  
Phone: +918057697057; Email: goyalsp@wii.gov.in

Dr. Tigga Kingston  
Professor  
Texas Tech University, Lubbock  
Texas, USA, ZIP - 79401  
Phone: +18063190304; Email: Tigga.Kingston@ttu.edu

Dr. Priya Davidar  
Former Professor, Pondicherry University  
Sigur Nature Trust, Masinagudi  
Tamil Nadu, India, PIN - 643223  
Phone: +919442066819; Email: pdavidar@gmail.com

Dr. Sabuj Bhattacharyya  
Scientist in Research Ethics  
Institute for Stem Cell Science and Regenerative Medicine (inStem), Bengaluru  
Karnataka, India, PIN - 560065  
Phone: +918861260183; Email: bhattacharyyasabuj@gmail.com