

VIJAY RAMESH

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Career Interests: Conservation Biology, Biodiversity, Avian Ecology, Natural History Collections, Spatial Ecology, Habitat Fragmentation, Species Distribution Modeling, Landscape Genetics, Remote Sensing

EDUCATION

Columbia University, Department of Ecology, Evolution and Environmental Biology
PhD Candidate, Sept 2017 – Present
Advisors: Don J Melnick and Ruth DeFries

Columbia University, Department of Ecology, Evolution and Environmental Biology
Master of Arts in Conservation Biology, May 2016 (GPA: 3.83/4.00)
Advisor: Don J Melnick *Committee Members:* Joel Cracraft, Brian T Smith and Mary E Blair
Thesis: *Estimating range reduction and habitat suitability for the endemic birds of the Western Ghats, India.*

Rashtriya Vidyalaya College of Engineering
Bachelor of Engineering, July 2013 (GPA: 3.74/4.00)
Thesis: *Identifying cryptic diversity within the Indirana genus of frogs in the Western Ghats using molecular phylogenetics*
Advisor: Vijayakumar S P, Kartik Shanker and Nagashree N Rao
Major: Biotechnology Engineering

COURSEWORK

Fundamentals of Ecology and Evolution, Biogeography, Applied Statistics with R, Conservation Genetics, Phylogenomics, Graduate seminar in Conservation Biology, Fundamentals of GIS and Species Distribution Modelling, Global Remote Sensing, Introduction to Landscape Analysis, Landscape Ecology, Environmental Conflict Resolution

GRANTS & AWARDS

Columbia University, Dean's Fellowship (\$82,078) 2017-2022
North American Ornithological Congress Travel Grant (*Rejected*) (\$200) 2016
Masters SynThesis Competition, Columbia University, 2nd Runner-Up (\$200) 2016
Advanced Consortium on Cooperation, Conflict and Complexity Fellowship (\$1000) 2016
Best Speed Talk Award – Student Conference on Conservation Science (New York) 2015
Columbia University Travel Grant (\$450) 2015
IDEA WILD Grant for Equipment (\$430) 2015
Mewaldt-King Student Research Award (\$600) 2015
Society of Systematic Biologists Software School and Symposium Travel Grant (\$500) 2015

Society of Systematic Biologists Standalone Meeting Travel Grant (\$1000) 2015
Columbia University Summer Research Grant (\$1500) 2015
AOU Student Membership Award 2015
Ashirvadam Foundation Grant (\$3500) 2013
Jawaharlal Nehru Centre for Advanced Scientific Research Summer Research Fellow 2012

TEACHING EXPERIENCE

Principles of Ecology, Teaching Assistant, School of International and Public Affairs, Columbia University. Graduate level.

Requires knowledge of basic theories, methods and practices in ecology in the context of a changing global climate. Master of Public Administration program, Dr. Matthew Palmer. Summer 2016 and Summer 2015

Conservation Biology, Teaching Assistant, Dept. of Ecology, Evolution and Environmental Biology, Columbia University, Undergraduate Level.

Requires knowledge of the biological principles of conservation of biodiversity at the genetic, population, community and landscape levels. Dr. Sacha Spector. Spring 2016

Intro to Statistics for Ecology and Evolutionary Biology, Teaching Assistant, Dept. of Ecology, Evolution and Environmental Biology, Columbia University. Graduate Level.

Requires proficiency in R and the theoretical principles and practical knowledge of statistical methods in ecology and evolutionary biology. Dr. David Madigan. Fall 2015

PUBLICATIONS

Peer-Reviewed

– 2017 –

1. **Ramesh, Vijay**, Gopalakrishna, Trisha, Barve, Sahas & Melnick, Don J. 2017. IUCN greatly underestimates threat levels of endemic birds in the Western Ghats. *Biological Conservation*, 210, 205-221.

Commentaries & Popular Science

– 2017 –

1. Melnick, Don J and **Ramesh, Vijay**. When it comes to the IUCN Red List, accuracy is the order of the day (commentary). 2017. *Mongabay*

PRESENTATIONS AND WORKSHOPS

Conflict Assessment: Oil Extraction in the Ecuadorian Amazon – Poster presentation at the 29th International Association for Conflict Management Conference (June 2016)

Where the Wild Birds are: Spatial mismatch and range contractions of the Western Ghats avifauna – Talk at the Department Seminar, Columbia University (Mar 2016); Speed Talk at the Master's Synthesis Competition, Columbia University (May 2016); Ecological Society of America Annual Meeting (101st Meeting at Florida)

Identifying cryptic lineages within the *Indirana* genus of frogs – Speed Talk at the 2015 Student Conference on Conservation Science, New York

Detecting ‘crypticity’ within the *Indirana* genus of frogs – Presented findings at the Society of Systematic Biologists Standalone Meeting 2015 (Held at the University of Michigan, Ann Arbor, USA)

Disjunct distributions in the Indian Subcontinent – A case study of the Gray-Headed Canary Flycatcher (*Culicicapa ceylonensis*) – Columbia University Department Seminar (Feb 2015)

Hunting for herpetofauna in the Western Ghats – A Wallacean approach to discovering diversity (*Speaker:* Dr. Kartik Shanker, Centre for Ecological Sciences) Presented findings at the 2nd International Conference on Tropical Biodiversity & Conservation at the Centre for Ecological Sciences, Indian Institute of Science (12th-13th Sep 2013)

RESEARCH AND PROFESSIONAL EXPERIENCE

Spatial and Computational Ecologist

Cary Institute of Ecosystem Studies (June 2016 – June 2017)

As Data Manager for Barbara Han’s lab, I integrated my expertise in Spatial and Computational Ecology to work on projects related to public health, zoonoses and emerging trends in disease ecology

Estimating forest loss in the Gorongosa Mountain Region, Mozambique

Columbia University & Earth Institute (Oct 2015 – Mar 2017)

Using remote sensing and geographic information systems (GIS), I was involved in a project looking at forest loss in a recently affected anthropogenic landscape in Mozambique (*Advisor:* Joshua Fisher)

Mapping Connectivity for Tigers in Central India

Columbia University (Sept 2015 – Feb 2016)

Digitized thermal power plants and coal mines using Google Earth to help understand factors that are impeding connectivity for tigers (*Advisors:* Ruth DeFries & Trishna Dutta)

Range estimation and habitat suitability predictions for the endemic birds of the Western Ghats, India

Columbia University & American Museum of Natural History, New York (Sept 2014 – May 2016)

Utilized ecological niche models to predict habitats that are most suitable for the endangered endemic birds of the Western Ghats, India (*Advisor:* Don Melnick)

Altitudinal Distribution of Western Himalayan birds – Field Assistant

Cornell University, Lab of Ornithology (Jan 2014 to Apr 2014)

Assisted a doctoral student, Sahas Barve (*Advisor:* Dr. Andre Dhondt) in understanding if physiology or competition affected altitudinal distribution of West Himalayan tits (Family: *Paridae*)

Identifying cryptic lineages within the *Indirana* genus of frogs - Research Assistant

Centre for Ecological Sciences, Indian Institute of Science (Jan 2013 to Jan 2014)

Research assistant under Dr. Vijayakumar SP and Dr. Kartik Shanker at the Centre for Ecological Sciences, Indian Institute of Science where I started an independent project focusing on interspecific and intraspecific variation in an endemic genus of frogs (*Indirana* genus)

Foraging behaviour of the Common Indian Myna (*Acridotheres tristis*) – Summer Research Fellow

Jawaharlal Nehru Centre for Advanced Scientific Research (Oct 2012 – Dec 2012)

Here, I worked on the functionality of Pre-roosting aggregations and foraging behaviour of the Common Indian Myna.

Assessing status of tigers, co-predators & prey – Intern

Wildlife Institute of India – (July 2011 to Sept 2011)

Field intern with the National Tiger Conservation Authority & the Wildlife Institute of India to assess the status of tigers, their co-predators and prey at the Corbett Tiger Reserve, Uttarakhand (*Advisor: Dr. Bivash Pandav*)

PROFESSIONAL ACTIVITIES

Professional memberships

Society for Conservation Biology

American Ornithologists' Union

Explorers Club Student Member

Ecological Society of America

Society for Systematic Biologists

RV QuizCorp – Quizzing Society of RVCE (President for 2012 - 2014)

New York Quiz Club – Co-Founder

Roles, Responsibilities and Service

RV College of Engineering

Volunteered with the World Wildlife Fund's Nature Club of India initiative (June 2013 – June 2014), where I taught high school kids about the importance of conserving nature.

SKILLS

Laboratory Skills

Molecular and Genetic techniques including DNA and RNA extraction, Purification, PCR, Agarose Gel Electrophoresis, General wet-lab maintenance and management.

Computational Skills

Proficient in nucleotide sequence assembly, alignment and editing, phylogenetic tree reconstruction, editing and comparative methods.

Tools and Languages: R, Python, HTML, ArcGIS, ENVI, QGIS, Google Earth Engine, MEGA, MrBayes, PAUP*, RaxML, Inkscape, Microsoft Office

Field Skills

Proficient in mist-netting, camera trapping, line transects, Garmin GPS

REFERENCES

Prof. Don J Melnick
Thomas Hunt Morgan Professor of Conservation Biology,
Department of Ecology, Evolution, and Environmental Biology (E3B),
Director, Center for Environment, Economy, and Society (CEES),
Columbia University
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Dr. Joshua Adam Drew
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Dr. Brian Tilston Smith
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