

# PANKAJ KOPARDE

Ph.D. in Life Sciences

Manipal Academy of Higher Education (MAHE), India

Sálím Ali Centre for Ornithology & Natural History (SACON), India

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## Profile

Organized molecular and macro-ecologist interested in science-driven conservation research and outreach, and action towards sustainability

## Education

- **Ph.D. in Life Sciences** (January 2015 – May 2019)  
Manipal Academy of Higher Education (MAHE), India  
Sálím Ali Centre for Ornithology & Natural History (SACON), India
- **M.Sc. Biotechnology** (five years integrated) (August 2005 – May 2010)  
Savitribai Phule Pune University, India | GPA = 7.1/10, Class: A
- **Higher Secondary School Certificate** (April 2005)  
Maharashtra State Board | (81.17%)
- **CSIR-NET** 2012 Lectureship (Life Science): All India Rank - 34
- **GATE Biotechnology** (December 2010): All India Rank – 200

## Experience

**Assistant Professor (2019 - Present)**  
• Faculty of Social Innovation, Partnership & Co-creation

**Visiting Faculty (2018 - 2019)**  
• MIT World Peace University  
• Abasaheb Garware College

**Senior Research Biologist (2017 –2018)**  
Sálím Ali Centre for Ornithology & Natural History

**Ph.D. Researcher (2013 –2018)**  
• Sálím Ali Centre for Ornithology & Natural History  
• Manipal Academy of Higher Education  
• National Centre for Biological Sciences  
• Indian Institute of Science Education & Research Tirupati

**Research Assistant (2011 – 2013)**  
Department of Biodiversity, Abasaheb Garware College

**Junior Research Fellow (2010 – 2011)**  
Sálím Ali Centre for Ornithology & Natural History

## Achievements

2019: **Prakriti Fellow**

2019: **TEDx Speaker**

2017: **SAEVUS Rising Star of Conservation**

2017: **Contributor**

2014: **DragonflySouthAsia Coordinator**

## Research Interests

- Biodiversity | Ecology
- Conservation | Sustainability
- GIS & Remote Sensing
- Geoinformatics | Climate Change
- Evolution | Biostatistics | Bioinformatics
- Outreach & Environmental Education

## Doctoral Research

Dealt with understanding processes underlying nested geographical distribution pattern in sympatric endemic owls by applying molecular and niche evolution approach

## Teaching Interests

- Ecology | Evolution
- Conservation | Sustainability
- Geoinformatics | Bioinformatics
- Zoology | Biostatistics
- Science Communication

## Key Skills

- Interactive Teaching in Science
- Field Ecology | Spatial Analysis (RS-GIS)
- Statistical Analysis (R Programming)
- Urban Ecology | Conservation Outreach
- Biodiversity Informatics | Citizen Science
- Experimental Design | Research Methods
- Molecular Biology Lab | Phylogenetics

## Essentials

- Born on 30 November 1987
- Lives at Pune, India
- Married
- Gender: Male

## Languages Known

English | Hindi | Marathi

## Extra-curricular

- Published Marathi Writer
- Badminton-er
- Traveller & Explorer

### Research Experience (apart from PhD work)

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- **Senior Research Biologist** (2017 - 2018) with Sálím Ali Center for Ornithology & Natural History, Coimbatore, Tamil Nadu  
Project - Developing a conservation action plan for Forest Owlet, an Endangered species endemic to Central India  
Role - Managing a team of field and lab researchers, field surveys, laboratory work (NGS), training students, correspondence with collaborators and stakeholders including forest officials, data analysis, and publishing reports and papers
- **Project Assistant** (2017) with Indian Institute of Science Education & Research, Tirupati, Andhra Pradesh  
Project - Biogeography and landscape genetics of endangered species of Satpuda Hills and Western Ghats  
Role - Ecological niche modeling analysis, DNA barcoding, population genetics, working independently in harsh field conditions.
- **Project Assistant** (2011 - 2013) with Department of Biodiversity, Abasaheb Garware College, Pune, Maharashtra  
Project - Identification of critical areas of conservation concern using RS-GIS techniques from Northern Western Ghats of India  
Role - Bird and Odonata surveys, data analysis, managing research team on field, correspondence with forest officials, publishing reports and papers, working in a team of researchers.
- **Junior Research Fellow** (2010 - 2011) with Sálím Ali Center for Ornithology & Natural History, Coimbatore, Tamil Nadu  
Project - Saving Critically Endangered species and habitats – Edible-nest Swiftlets of Andaman and Nicobar Islands, India  
Role - Bird nest monitoring surveys, managing a team of field assistants and two protection camps, data analysis, report writing.

### Honors & Awards

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- **Young Scientist Award by Maharashtra Vriksha Samvardhini**
- **Towards an Ecological Landscape (TEL) Speaker**  
September 2019 | Invited talk on conservation of dragonflies in urban landscapes
- **Science on Tap Speaker**  
July 2019 | Invited talk on dragonfly biology and how citizen scientists are changing the research and outreach-scape in Indian Odonatology
- **Prakriti Research Fellow**  
June 2019 | The research grant supported the project titled 'Conservation of City Wetlands through Crowd Studying Odonates (Dragonflies & Damselflies) in Marathwada Region'
- **TEDx Speaker**  
February 2019 | Presented work on how citizen science is shaping the ecology research and why does it matter.
- **IUCN Contributor**  
December 2017 | Worked as a reviewer for two bird species - 1. Andaman Serpent Eagle, 2. Nilgiri Wood-Pigeon
- **Rising Star of Conservation**  
December 2016 | SAEVUS Wildlife Magazine featured my profile as one of ten rising stars of conservation based on the work on owls and dragonflies that I have been conducting.

## Publications

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- Koparde, P., P. Mehta, S. Mukherjee and V.V. Robin. 2019. Quaternary Climatic Fluctuations and Resulting Climatically Suitable Areas for Eurasian Owlets. *Ecology & Evolution* 9(8): 4864-4874.
- Koparde, P., P. Dawn, & A. Darshetkar. 2019. Odonates across a tropical urbanization gradient. *International Dragonfly Fund - Report* 128: 1-13.
- Koparde, P., P. Mehta, S. Reddy, U. Ramakrishnan, S. Mukherjee and V.V. Robin. 2018. The Critically Endangered Forest Owlet *Heteroglaux blewitti* is nested within the currently recognized *Athene* clade: A century-old debate addressed. *PLoS ONE* e0192359.
- Koparde, P., P. Dawn and A. Sumanapala. 2018. Islands are calling: Short expedition to the Andaman Islands reveal five new spatial records and research gaps. *Agrion* 22(1): 37-41.
- Mujumdar, N., D. Thakuria, D. Halali and P. Koparde. 2018. Observations on underwater oviposition in *Pseudagrion indicum* Fraser (Odonata: Coenagrionidae): an endemic species from the Western Ghats. *Halters* 9: 39-44.
- Koparde, P. and P. Yesou. 2017. Probable hybrids Little Egret X Indian Reef Heron in India and Sri Lanka. *Dutch Birding* 39: 238-246.
- Koparde, P. and N. Raote. 2016. Bird Species-rich Areas thriving across an Urban-Rural Gradient: A Case Study of selected Water-bodies from Pune, Maharashtra, India. *Indian BIRDS* 12(2 & 3): 50-55.
- Koparde, P. 2016. Damsels in distress – Seasons, habitat and pollution changes damselfly diversity and assemblages in urban wetlands of Pune City, India. *Animal Biology* 66(3-4): 305-319.
- Tiple, A. and P. Koparde. 2015. Odonata of Maharashtra with notes on species distribution. *Journal of Insect Science* 15(1): 47-57.
- Koparde, P., M. Mhaske, P. Mhaske and A. Patwardhan. 2015. Spatial distribution and habitat correlates of Nilgiri Wood-Pigeon (*Columba elphinstonii*) in North Western Ghats, India. *Taprobanica* 7(1):20-28.
- Koparde, P., P. Mhaske and A. Patwardhan. 2015. Habitat correlates of Odonata species diversity in north Western Ghats, India. *Odonatologica* 44(1/2):21-43.
- Mukherjee, A. and P. Koparde. 2014. Sighting of Rusty-spotted Cat in Anaikatty Reserve Forest, Tamil Nadu, India. *CAT NEWS* 60: 32.
- Koparde, P., M. Mhaske and A. Patwardhan. 2014. New records of dragonflies & damselflies (Insecta: Odonata) from the Western Ghats of Maharashtra, India. *Journal of Threatened Taxa* 6(5): 5744-5754.
- Koparde, P. and S. Manchi. 2013. Avifaunal Records from *Chalis Ek* area, North Andaman Island: Insights into distribution of some Andaman Island birds. *Journal of Checklist* 9(1):34-41.
- Ahiwale, S., Koparde, P., Deore, P., Gunale, V., & Kapadnis, B. P. 2012. Bacteriophage Based Technology for Disinfection of Different Water Systems. In: *Microorganisms in Environmental Management* (pp. 289-313). Springer, Netherlands. [Book Chapter].
- Koparde, P. and S. Singh. 2011. Avian Influenza and microRNAs: Role of bioinformatics. *Journal of Bioinformatics & Sequence Analysis* 3(2):11-22.
- Koparde, P. and S. Singh. 2010. Prediction of micro RNAs against H5N1 and H1N1 NS1 protein: a window to sequence specific therapeutic development. *Journal of Data Mining in Genomics & Proteomics* 1(2): 1-8.

## Select Popular Science Articles

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- Koparde, P. 2019. Say no to firefly festivals, period. *India's Endangered*. Blog.
- Koparde, P. 2017. Forest Jewels: The abundant, uncommon and rare. *Planet Untamed* March: 50-60.
- Koparde, P. and P. Choudhary. 2016. A road to kill. *SACON NEWS* 13(2): 4-6.
- Koparde, P. 2015. Sharing and conserving – species and spaces. *Sarovar Saurabh* 11(1): 1-2.
- Koparde, P. 2015. Let the owlet hoot. *SACON NEWS* 12(1):3-4.
- Koparde, P., P. Bangal and H. Grouw. 2014. Brown Kites and White Crows: Understanding color aberrations in birds. *HORNBILL* (July-September):10-13.

## Grants Received

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### Project Grants

- 2019: Prakriti research fellowship. INR 2,00,000.
- 2019: Panelist on a MoEFCC project titled 'Ecological assessment and biodiversity survey of Mahabaleshwar-Panchgani eco-sensitive region'. INR 10,00,000.
- 2018: Full bursary for organizing a workshop in Students Conference in Conservation Science, Bangalore, India
- 2017: Assisted Dr Shomita Mukherjee in writing Ministry of Environment, Forest and Climate Change (MoEFCC), Govt. of India grant for a project titled 'Developing a conservation action plan for Forest Owlet, an Endangered species endemic to Central India'. INR 3,00,00,000.
- 2016: International Dragonfly Fund, Germany for a project titled 'Understanding response of odonates across a tropical urbanization gradient'. INR 52,000.
- 2016: Raptor Research & Conservation Foundation Small Grant for a project titled 'Validating Forest Owlet (*Heteroglaux blewitti*) Distribution Model in Chhattisgarh and Initial Outreach'. 2016. INR 2,50,000. (awarded but not accepted)

### Travel Grants

- 2017: Travel bursary to attend International Biogeography Society Meeting held at Bangalore, Karnataka, India.
- 2015: Travel bursary from Centre for International Co-operation in Science for attending 10<sup>th</sup> International Conference on behavior, physiology and genetics of wildlife, Berlin, Germany. USD 300.
- 2015: Travel bursary to for participating in National Conference on Ethology and Evolution, Mohali, India.
- 2013, 2018: Travel bursary to attend Young Ecologists Talk & Interact Conference (Nagaland, India)
- 2013, 2014, 2018: Full bursary to attend Students Conference in Conservation Science, Bangalore, India

## Select Conference Presentations

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### Talks

- 2018: Developing a Conservation Action Plan for the Endangered Forest Owlet – Preliminary Findings. *Annual Research Seminar – SACON*. Coimbatore, India. (**Best talk award**). Co-authored.
- 2017: Damsels in Distress – Seasons, Habitat Structure and Water Pollution Changes Damsel Diversity and Assemblage in Urban Wetlands. *9<sup>th</sup> Symposium of Odonatology*. Goa, India.
- 2016: Phylogenetic affinities and past climate distribution of the Critically Endangered Forest Owlet from India. *Annual Research Seminar – SACON*. Coimbatore, India. (**Best talk award**).
- 2015: Genetic affinities and past climate distribution of a Critically Endangered owl from India. *National Conference on Ethology and Evolution*. Mohali, India.
- 2013: On color aberrations in Indian birds and how Indian birdwatchers understand them. *Young Ecologists Talk & Interact*. Nagaland, India.
- 2013: Distribution and Habitat Correlates of Nilgiri Wood-Pigeon *Columba elphinstonii* Sykes, 1833, a Globally Threatened Species: a Case study from Sahyadri Tiger Reserve, Maharashtra, India. *International Conference on Indian Ornithology*. Coimbatore, India.

### Posters

- 2017: The Critically Endangered Forest Owlet *Heteroglaux blewitti* is nested within *Athene*: a century-old debate addressed. *International Biogeography Society Meeting*. Bangalore, India.
- 2015: Genetic affinities and past climate distribution of a Critically Endangered owl from India. *10<sup>th</sup> International Conference on Behavior, Physiology, and Genetics of Wildlife*. Berlin, Germany.
- 2013: Habitat correlates of diversity and distribution of odonates: a case study from Sahyadri Tiger Reserve, MH, India. *Student Conference on Conservation Science*. Bangalore, India.
- 2012: Birds from ashes: The story of a fly ash pond. *National Conference on Biodiversity Assessment, Conservation and Utilization*. Pune, India. (**Best Poster award**).
- 2010: RNAi as a new therapeutic strategy against Avian Influenza Virus: A bioinformatics approach. *Asia-Pacific Bioinformatics Conference*. Bangalore, India.

### Teaching Experience

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- 2018-Present: Visiting Faculty. Biology for Engineers (F.Y. B.Tech. course). MIT World Peace University, Pune, India.
- 2019-Present: Visiting Faculty. Environmental Biotechnology (S.Y.B.Sc. course). Abasaheb Garware College, Pune, Maharashtra, India.
- 2018: Teaching assistant. Analysis in Evolutionary Biology (BS-MS and PhD course). Indian Institute of Science Education and Research, Tirupati, India. 2018.
- 2018: Conservation Biology (BS-MS and PhD course). Indian Institute of Science Education and Research, Tirupati, India.
- 2018: Working with R (BS-MS course). Indian Institute of Science Education and Research, Tirupati, Andhra Pradesh, India.
- 2017, 2018: Science Communication (B.Sc. course). Fergusson College, Pune, Maharashtra, India.
- 2017, 2018: Conservation Biology, Environmental Education, and Quantitative Techniques in Ecology (MSc course). Abasaheb Garware College, Pune, Maharashtra, India.
- 2017: Teaching assistant. Workshop on Conservation Genetics. Sálím Ali Center for Ornithology & Natural History, Coimbatore, Tamil Nadu, India.
- 2016: Molecular Taxonomy (M.Sc. course). Abasaheb Garware College, Pune, Maharashtra, India.
- 2016: Sampling and Experimental Design (M.Sc. course). Abasaheb Garware College, Pune, Maharashtra, India.
- 2013: Mathematics for Biologists and Biostatistics (B.Sc. course). Mahatma Fule Mahavidyalaya, Pune, Maharashtra, India.
- 2012: Animal Taxonomy (Odonata and Aves) (M.Sc. course). Department of Biodiversity, Abasaheb Garware College, Pune, Maharashtra, India.
- 2012: Introduction to Bioinformatics (M.Sc. course). Department of Biodiversity, Abasaheb Garware College, Pune, Maharashtra, India.
- 2011: Introduction to Computer Sciences (B.Sc. course). Institute of Bioinformatics & Biotechnology, University of Pune, Maharashtra, India.

### Students Supervised

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- 2019-Present: Dolsy David. M.Sc. Dissertation. The impact of railway on wildlife and habitats – a case study from the Western Ghats of India. Department of Biodiversity, Abasaheb Garware College, Pune, India.
- 2016-2018: Apeksha Darshetkar. M.Sc. Dissertation. Odonates across an urbanization gradient. Department of Biodiversity, Abasaheb Garware College, Pune, India. 2016-2017.

### Workshops Conducted / Invited Talks

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- 2018: Coordinator and resource person. Euphaea – Odonatology theory and practice. Students Conference in Conservation Science. Bangalore, India.
- 2018: Coordinator and resource person. Euphaea – understanding odonates. Young Ecologists Talk & Interact. Vadodara, India.
- 2016: Resource person. Workshop on 'Phylogeny' held at Department of Biodiversity, Abasaheb Garware College. Pune, Maharashtra, India.
- 2016: Resource person. Amazing Arthropods course organized by Institute for Natural History Education and Research (INHER), Pune, Maharashtra, India.
- 2016: Resource person. India Biodiversity Portal's community meet 2016, Bangalore, Karnataka, India.
- 2014: Resource person. Workshop titled 'Leveraging citizen science beyond research' held at Student Conference on Conservation Science. Bangalore, Karnataka, India.
- 2014-Present: Coordinator and resource person. National workshop on Odonatology. DragonflyIndia and South Asian Council of Odonatology.

### Select Trainings Attended

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- 2017: Workshop on 'Scientific Writing' organized by Wiley publishers. International Biogeography Society Meeting, Bangalore.
- 2017: Workshop on 'Transforming Classrooms by Collaborative Research and Active Learning' organized by IndiaBioscience, Pune.
- 2016: Workshop on 'Basic and Advanced Statistics' organized by Sálim Ali Centre for Ornithology & Natural History, Coimbatore.
- 2015: Workshop on 'Conservation Genetics' organized by Leibniz Institute for Wildlife Research at 10th International Conference on behavior, physiology and genetics of Wildlife, Berlin.
- 2015: Workshop on 'Molecular Phylogenetics' organized by Praveen Karanth Lab, Centre for Ecological Sciences, Bangalore.
- 2014: Workshop on 'NextGen Genomics and Bioinformatics Technologies' organized by SciGenom, Bangalore.
- 2014: School and Discussion Meeting on Population Genetics and Evolution organized by International Centre for Theoretical Sciences, Bangalore.
- 2013: Workshops on 'An Introduction to Spatial Statistics using R' and 'An Introduction to Landscape Ecology using QGIS/GRASS and R' organized by Foundation for Ecological Research, Advocacy and Learning, Pondicherry.

### Skill Set

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- **Managerial:** Project management, team management, team management tools (G suite, Slacks, PBworks, ERP, Moodle), data management, study design, working with stakeholders and communities
- **Field Work:** Systematic surveys, mist-netting, bird and Odonata handling, GPS navigation, motor driving, EIA
- **Laboratory:** Morphometry, molecular biology lab (DNA extraction, PCR, gel electrophoresis, Sanger sequencing, ancient DNA), library prep for Next Generation Sequencing (Qubit, Bioanalyzer), insect preservation techniques, stereoscopy
- **Analytical:** Multivariate statistics (R, PAST, SPSS, SAM, Estimate S, Biodiversity Pro), call recording and analysis (Raven Pro, Audacity, Kaleidoscope), spatial analysis in RS and GIS (Arc GIS, QGIS, DIVA GIS, Map-info, Google Earth), occupancy analysis (PRESENCE), ecological niche modeling (MaxEnt, SPACES, BioClim, Ensemble), phylogenetic (MEGA, RaxML, PAUP, Geneious, MrBayes, BEAST, RASP, S-DIVA) and population genetics analysis (STRUCTURE, Skyline plot), image editing (Photoshop, Corel Draw), MS-Office

### Memberships

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- **International Biogeography Society**  
Student member | 2016-2018
- **Society for the Study of Evolution (SSE)**  
Student member | 2016-2017

### References

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On request