



UNIVERSITY OF CALCUTTA

FACULTY ACADEMIC PROFILE

Dr. Parthiba Basu

Designation: Professor

Specialisation : Ecology and Conservation Biology



Contact information:

Ecology Research Unit & Centre for Agroecology & Pollination Studies, Department of Zoology, University of Calcutta, 35, B.C. Road, Kolkata 700019

pbzoo@caluniv.ac.in/ bparthib@gmail.com

Any communication related to Ph.D. Research Advisory Committee in Department of Zoology to be sent to zooresadv@gmail.com.

Academic qualifications:

College/ university from which the degree was obtained	Abbreviation of the degree
University of Calcutta	M.Sc. (Zoology)
Pondicherry University	Ph.D. (Ecology)

Post Doctoral Experiences:

- Reserche Attaché (Research Associate), Institut Francais de Pondicherry, Govt. of France (1994 – 1996)
- Post Doctoral BOYSCAST Fellow, Govt. of India at Ecole Normale Superieure, Paris, France (1998)

Positions held/ holding:

Professor, Department of Zoology (Former Head, Department of Zoology);
Director, Centre for Agroecology & Pollination Studies.
Convenor, Ph.D. Research Advisory Committee in Zoology

Research interests:

In the Ecology Research Unit we are trying to understand how various stressors impact biodiversity and ecosystem functions along ecological gradients at different landscape scales. We have looked at a wide range of model organisms and ecosystems to understand this process. Our works has included, but is not limited to: the study of avian frugivores; ant diversity along forest disturbance gradients; soil faunal communities along fire affected forest gradients and the birds and butterfly diversity along gradients of urbanization and impact of agricultural intensification on herpetofuna.

Centre for Pollination Studies (now renamed as Centre for Agroecology and Pollination Studies) was founded out of Ecology Research Unit in 2012 as an outcome of a Darwin Initiative Project (DEFRA, Govt. of UK). Research at the Centre focusses specifically on agro-ecosystems and have been looking into the diversity of and ecosystem service delivery by key ecosystem service providers like pollinators and natural predators of crop pests in agroecosystems. An evolving theme in our research group is to assess how stressors like pesticides and pathogens might impact the physiology and genetic mechanisms of the species providing key ecosystem services e.g. bees. Pedagogical action research in Agroecological education has also been an ongoing activity in the Centre for Agroecology and Pollination Studies.

Research guidance :

Number of researchers awarded Ph. D degrees: 10
Number of researchers pursuing Ph. D: 8

Select list of publications: (Last five years)

1. **Parthiba Basu**, Arpan Kumar Parui, Soumik Chatterjee, Aditi Dutta, Pushan Chakraborty, Stuart Roberts and Barbara Smith. 2016. Scale dependent drivers of wild bee diversity in tropical heterogeneous agricultural landscapes. **Ecology & Evolution**. doi: 10.1002/ece3.2360. **IF 2.537**
2. Barbara M Smith, Priyadarshini Chakrabarti Basu, Arnob Chatterjee, Soumik Chatterjee, Uday Kumar Dey, Lynn V Dicks, Bhagirath Giri, Supratim Laha, Rabindra Kumar Majhi and **Parthiba Basu**. 2017. Collating and validating indigenous and local knowledge to apply multiple knowledge systems to an environmental challenge: A case-study of pollinators in India. **Biological Conservation**. 211: 20 – 28. **IF 3.985**
3. Chatterjee, S. and **P. Basu**. 2018. Food preferences determine habitat selection at multiple scales: implication for bird conservation in tropical forests. **Animal Conservation**. doi:10.1111/acv.12397. **IF 2.889**
4. Chakrabarty, Priyadarshini, Sarkar, Sagartirtha and **Parthiba Basu**. 2018. Field Populations of Wild *Apis cerana* Honey Bees Exhibit Increased Genetic Diversity Under Pesticide Stress Along an Agricultural Intensification Gradient in Eastern India. **Journal of Insect Science**, 18: 3; 1–8. **IF 0.921**

5. Smith, Barbara; Hardy, Alfred Gathrone; Chatterjee, Soumik and **Parthiba Basu**. 2018. The Last Mile: Using Local Knowledge to Identify Barriers to Sustainable Grain Legume Production. **Frontiers in Ecology and Evolution**, doi: 10.3389/fevo.2018.00102. **IF 6.2**
6. Chakrabarty, Priyadarshini, Sarkar, Sagartirtha and **Parthiba Basu**. 2019. Pesticide induced visual abnormalities in Asian honey bees (*Apis cerana* L.) in intensive agricultural landscapes. **Chemosphere**, doi: <https://doi.org/10.1016/j.chemosphere.2019.05.050>. **IF 4.427**
7. Chatterjee Arnob; Chatterjee, Soumik; Smith, Barbara; Cresswell, James E. and **Parthiba Basu**. 2019. **Agriculture, Ecosystems and Environment**. DOI: <https://doi.org/10.1016/j.agee.2019.106785>. **IF 4.1**
8. Laha, Supratim; Chatterjee Soumik; Das Amlan; Smith Barbara and **Parthiba Basu**. 2020. Exploring the importance of floral resources and functional trait compatibility for maintaining bee fauna in tropical agricultural landscapes. **Journal of Insect Conservation**. DOI: <https://doi.org/10.1007/s10841-020-00225-3>. **IF. 1.768**.
9. Mukherjee, Swarnali; **Basu, Parthiba**; Saha, Goutam K.; Gautam Aditya. 2020. Food dependent changes in the life history traits of *Catopsilia pyranthe* (Lepidoptera: Pieridae). **Invertebrate Reproduction and Development**. DOI: 10.1080/07924259.2020.1769747. **IF: 0.6**.
10. Ghosh, Deyatima and **Parthiba Basu**. 2020. Factors influencing herpetofauna abundance and diversity in a tropical agricultural landscape mosaic. **Biotropica**. DOI: 10.1111/btp.12799. **IF: 2.989**
11. Nicholls, Elizabeth; Ely, Adrian; Birkin, Linda; **Basu, Parthiba** and Dave Goulson. 2020. The contribution of small-scale food production in urban areas to the sustainable development goals: a review and case study. **Sustainability Science**. DOI: doi.org/10.1007/s11625-020-00792-z. **IF: 3.429**
12. Senapathi, Deepa;..Parthiba Basu... et al. 2021. Wild insect diversity increases inter-annual stability in global crop pollinator communities. **Proceedings of the Royal Society B**. DOI: <https://doi.org/10.1098/rspb.2021.0212>. **IF: 4.637**
13. Lynn V. Dicks; Breeze, Tom; Ngo, Hien; **Basu, Parthiba**;...Potts, Simon G. A global-scale expert assessment of drivers and risks associated with pollinator decline. **Nature Ecology & Evolution**. <https://doi.org/10.1038/s41559-021-01534-9>. **IF: 15.46**.

Projects:

Completed projects:

S.no.	Title	Agency
1	Frugivory and seed dispersal along a habitat gradient in a moist deciduous forest.	UGC (Major research Grant)
2	Developing Communication materials for subsistence farming community on the Importance of Pollinators in agro-ecosystems	Vigyan Prasar
3	Structural and functional resilience of soil faunal community in a fire disturbed forest gradient in Bankura , West Bengal	DST SERC, Govt. of India
4	Enhancing relationship between people and pollinators in Eastern India	Darwin Initiative, DEFRA, Govt. of UK
5	Pollinator friendly farming based livelihood improvement in SC/ST dominated locations of Tripura	DST, SEED, Govt. of India
6	Pilot project to improve productivity in some select vegetable crops through enhanced natural pollinator services	DST, Govt. of West Bengal
7	Phenotypic traits and genetic diversity in natural honey bee	CSIR, Govt. of India

	populations along an agricultural intensification gradient	
8	Action research and education in Agroecology- Cooperation and Comparison. Indo Norway Collaborative Program.	UGC, Govt. of India

Current projects:

S.No.	Title	Agency	Period
1	Pollination in peri-urban agricultural farms: a cross comparison between Brighton, UK and Kolkata, India	Sussex University, UK	February, 2018 – Cont.
2	Educating the next generation of professionals in the agrifood system (NEXTFOOD)	European Commission through Welthungerhilfe	May, 2018 – Cont.
3	Tripura Agroecology Partnership	International Agroecology Fund	October, 2016 – October 2020
4	Status and diversity of the natural predators of vegetable crop pests in an intensively cropped area in West Bengal	West Bengal State Biodiversity Board	December 2019 – Cont.
5	Understanding factors contributing to resilience potential of bee species assemblage in intensive agricultural landscape	SERB, Govt. of India	February, 2020 – Cont.

Membership of Learned Societies/Organizations:

- British Ecological Society
- INTECOL (International Ecological Association)
- Association of Tropical Biologists
- Zoological Society, Kolkata
- Member of the Asian Leadership Group, Wild Bee specialist Group, IUCN
- Founder Member, Indian Pollinator Initiative (InPollin)

Editor: *Proceedings of the Zoological Society*, Kolkata Published by *Springer*

Awards :

- Smithsonian Fellow, Smithsonian Institution
- BOYSCAST Fellow, Govt. of India
- Newsmaker of the year (2012) by Zee News Network
- Darwin Fellow, DEFRA, Govt. of UK

Tie - ups and collaborations:

- a) Dr. Barbara Smith, Centre for Agroecology, Water and Resilience, Coventry University
- b) Dr. Lynn Dicks, University of Cambridge
- c) Prof. Dave Goulson, University of Sussex, UK
- d) Anshuman Das, Welthungerhilfe, Germany
- e) K. Rajmohana, Zoological Survey of India

Research group:

Dr. Ritam Bhattacharya, Post Doctoral Student
Mr. Debaditya Kumar, Research Student (CSIR fellow)
Ms. Aditi Dutta, University Research Fellow
Mr. Manobrata Das, (UGC fellow)
Mr. Indranil Samajpati (UGC Fellow)
Mr. Anirban Chakraborty (CSIR Fellow)
Mr. Amir Khan (CSIR Fellow)
Ms. Sanchari Mukhopadhyay, Research Fellow
Ms. Dona Roy, (UGC Fellow)