1. Personal Information

Name: **Dr. Desh Deepak Chaudhary, PhD**
Designation: Assistant Professor
Department: Zoology
Institution: Indira Gandhi National Tribal University
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2. Educational Qualifications

Degree	Institution	Year	Specialization
PhD	University of Lucknow	2017	Zoology (Behavioural and Molecular Ecology of Insects and Biocontrol)
M.Sc. (Gold Medalist)	University of Lucknow	2012	Zoology
Fellowship and Awards: **Zoological Society of India K. N. Bhal Gold Medal, Dr. Vineeta Saxena Memorial Gold Medal, INSPIRE JRF and SRF, CSIR-UGC JRF, GATE**			

3. Professional Experience

Total Teaching Experience: **9 Years** (B.Sc. & M.Sc.)
Total Research Experience: **13 Years** (5 years as PhD and 8 Years as an Independent Researcher)

4. Area of Specialization/Research Interests

Sexual selection: Lab focuses on sexual selection in insects, with particular interest in the evolution of mating systems, mate choice, sexual signaling, and reproductive strategies. I study how sexual selection shapes trait evolution and individual fitness, and how ecological and genetic factors influence the dynamics of sexual competition and preference. Using a combination of behavioral experiments, field studies, and molecular tools, I aim to understand the mechanisms and evolutionary consequences of sexual selection across diverse ecological contexts.

Functional Ecology: My research lies at the intersection of behavioral, molecular, and functional ecology, with a focus on how insect traits influence ecological interactions and evolutionary outcomes. I am particularly interested in how behavior and molecular mechanisms (such as gene expression, microbiomes, and epigenetics) mediate responses to environmental challenges. My work investigates trait variation both behavioral and physiological in relation to ecosystem functions, species interactions (e.g., host-parasite, plant-insect), and adaptive strategies. Also worked on Resource partitioning, fluctuation, exploitation etc.

Biocontrol: Research centers on the ecology and behavior of insects in the context of biological control. I am particularly interested in the use of natural enemies such as predators and phytophagous insects for the sustainable management of agricultural pests. My work investigates the ecological interactions, host specificity, and behavioral traits that influence the effectiveness of biocontrol agents. By integrating field studies with laboratory assays and, where relevant, molecular tools, I aim to improve the reliability, efficiency, and ecological safety of biological control strategies in diverse agroecosystems.

Insect Microbiome: Focuses on the diversity, function, and ecological significance of insect-associated microbiota. I am particularly interested in how microbial communities influence host behavior, physiology, and adaptation to environmental challenges. My work explores host microbe interactions across different ecological contexts, including their roles in nutrition, immunity, reproduction, and potential applications in biological control. By combining field sampling, microbiome profiling, and experimental manipulation, I aim to understand the mechanisms by which microbiota shape insect ecology and evolution.

Total PhD Supervision

Awarded (01)

1. Dr. Lankesh Y. Bhaisare (BAN-JRF, BARTI Govt. of Maharashtra) Thesis Title: "Sexual selection in *Zygogramma bicolorata* Pallister (Coleoptera: Chrysomelidae) and its impact on biocontrol" (Notification Ref No. IGNTU/Exam/48/2024, Dated: 18.03.2024)

Ongoing (02)

1. Mr. Khomesh H. Lanjewar (INSPIRE Fellow, IF200198)
2. Mrs. Ruchita S. Tiwari (CSIR-UGC JRF)
3. Mr. Yuvraj Kumar (CSIR-JRF)

Total PG Supervision: 22

5. Publications

Total No. of Papers: 25 Research Papers & 03 Book Chapters
Total No. Conferences: 20 Conferences

Best Publications (05)

- **Chaudhary, D.D.**, Kumar, B., Mishra, G. & Omkar (2015). Resource partitioning in a ladybird, *Menochilus sexmaculatus*: Function of body size and prey density. ***Bulletin of Entomological Research***, 105 (1), 121–128.
- **Chaudhary, D.D.**, Mishra, G. & Omkar (2016). Last male wins egg fertilization fight: a case study in ladybird, *Menochilus sexmaculatus.* ***Behavioral Processes,*** 131C:1-8.
- Bhaisare, L.Y., Tiwari, R.S. & **Chaudhary D.D.** (2024). Density-dependent mate-guarding behaviour and reproductive attributes in the Parthenium beetle, *Zygogramma bicolorata.* ***Animal Behaviour***.210: 179-187.
- Tiwari, R.S., Bhaisare, L.Y., Pathak, S., Kumar, B. & **Chaudhary D.D.** (2024). Biotic factors as key determinants for ovarian and oothecal developmental plasticity of a tortoise beetle. ***Zoology***, 167: 126225.
- **Chaudhary, D.D.**, Kumar, B., & Omkar (2025). Sperm Strategies: Partner's Mating Status as a Driver of Last Male Success in Ladybirds. ***Ethology***, 131(4): e13549, 1-10.

Last Five Years Publications

- **Chaudhary, D.D.**, Kumar, B., Mishra, G**.** & Omkar (2022). Functional response in coccinellid beetles is modified by prey density experience. *The Canadian Entomologist*. **Cambridge University Press.** 154 (e11), 1-14.
- Kumar, B., Bhosal, D.R., Chimire, K.C., **Chaudhary, D.D**., Kumar, A. & Kumar, D. (2021). Temperature and altitude modulate energy reserves of *Zygogramma bicolorata* Pallister

(Coleoptera: Chrysomelidae) on *Parthenium hysterophorus*. *Biochemical and Cellular Archives.* 21(2):2975-2978.

- Bhaisare, Y.L., Paraste, S., Kaushik, S., **Chaudhary, D.D.,** Al-Misned, M., Mahboob, S., Al-Ghanim, K., Ansari, M.J. (2021). Reproductive success in Zygogramma bicolorata: a role of post-insemination association of male and female. *Saudi Journal of Biological Science*, 28(3):1539-1543.
- Bhaisare, Y. L., Zade, B. S., Nagwanshi, M. A., Netam, A., **Chaudhary, D.D.** (2022). Impacts of Benzyl Butyl Phthalate on Histo-Architecture of Gonads of African Catfish *Clarias gariepinus* (Burchell, 1822). *Polish Journal of Environmental Studies*.31(2):1049-1059.
- Lanjewar, K. H., Zade, B. S., Bhaisare, Y. L., Nagwanshi, M. A., and **Chaudhary, D.D.** (2022). Histo-Architecture of the male reproductive system of freshwater African catfish *Clarias Gariepinus* (Burchell, 1822): An impact of Hexaconazole. *Biochemical and Cellular Archives.* 22(2): 3975-3980.
- Bhaisare, Y. L. and **Chaudhary, D.D.** (2022). Seven spots fusion patterns of elytra as a marker of melanization in ladybird, *Coccinella septempunctata* Linnaeus (Coleoptera: Coccinellidae). *Current Science,* Current Science Association 123(12):1421.
- Lanjewar, K.H., Zade, S.B., Bhaisare, L.Y. and **Chaudhary, D.D**. (2023). Impact of Hexaconazole on Histo-architecture of Liver and Intestine of freshwater African catfish *Clarias gariepinus* (Burchell, 1822). *Biochemical and cellular archives*, 23(1):639-646.
- Bhaisare, L.Y. & **Chaudhary, D. D.** (2023). Mate guarding behaviour in response to temperature in Parthenium beetle *Zygogramma Bicolorata* Pallister. *Indian Journal of Entomology,* 1-6.
- Tiwari, R.S., Chakradhari J., Bhaisare, L.Y. & **Chaudhary, D.D.** (2023). Interspecific interactions modulate the consumption rate of ladybird beetle. *Ecology, Environment and Conservation***,** 29: S239-S242.
- Bhaisare, L.Y., Tiwari, R.S. & **Chaudhary D.D.** (2024). Density-dependent mate-guarding behaviour and reproductive attributes in the Parthenium beetle, *Zygogramma bicolorata. Animal Behaviour,* 210: 179-187.
- Bhaisare, L.Y. & **Chaudhary D.D.** (2024). Rearing thermal condition modulates the feeding attributes of *Zygogramma bicolorata* Pallister (Coleoptera: Chrysomelidae). *Entomon*, 49 (2): 169-176.
- Tiwari, R.S. & **Chaudhary, D.D**. (2024). Feeding patterns of two sympatric species of Tortoise beetles. *Entomologist's Monthly Magazine*, 160 (3): 215-218.
- Tiwari, R.S., Bhaisare, L.Y., Pathak, S., Kumar, B. & **Chaudhary D.D.** (2024). Biotic factors as key determinants for ovarian and oothecal developmental plasticity of a tortoise beetle. *Zoology*, 167: 126225.
- Bhaisare, L.Y. & **Chaudhary D.D.** (2024). Living with PCOS: Understanding the challenges and finding solutions. e-Magazine, Vigyan Setu Foundation (Bridging Science and Society), Issue 4, 25-27.
- **Chaudhary, D.D.**, Kumar, B., & Omkar (2025). Sperm Strategies: Partner's Mating Status as a Driver of Last Male Success in Ladybirds. *Ethology*, 131(4): e13549, 1-10.
- Yadav, P., Patel, A.K., **Chaudhary, D.D.** & Kumar, B. (2025). Morphology of mouthparts and distribution of sensilla in Immature stages and adults of Parthenium beetles. *Microscopy and Microanalysis,* 31(3), ozaf035.
- Tiwari, R.S., Yadav, B., Singh, S. & **Chaudhary, D. D.** (2025). Interactive effects of body size, food abundance and mating status on reproductive attributes in tortoise beetle. *Journal of Zoology*, (**Online View**).

6. Research Projects

S.N.	Title	Funding Agency	Amount	Duration	Role
1.	Polymorphism and sexual selection in Indian ladybird beetles and their role in environmental assessment and pest management	UGC-BSR Start-up Research grant	10, 00,000/-	2 Years	PI
2.	Elucidating the multipartite biotic interactions associated with the Indian Lac Insect [*Kerria lacca* (Kerr.)]	DST SERB-CRG	37, 92,100/-.	3 Years	Co-PI
3.	Turning idle days into ideal days-Training the untrained lac-cultivation: a step towards socio-economic upliftment in Tribal areas of District Anuppur	MP-CST	2,40,000/-	6 Months	Co-PI

7. Awards and Recognitions

- **Zoological Society of India K. N. Bhal Gold Medal** for the year 2012 for obtaining the highest percentage of marks in M.Sc. I & II Year examinations in Zoology
- **Dr. Vineeta Saxena Memorial Gold Medal** for the year 2012 for securing the highest percentage of marks and standing first in order of merit

8. Membership in Professional Bodies

- Life Member, The Entomological Society of India, New Delhi (Membership No. NM-273)
- Life member, Zoological Society of Kolkata, Kolkata (Membership No. L/C-96)
- Life Member, Association of Entomologists, Patiala (Membership No. 139)
- Life member, The Indian Science Congress Association, Kolkata, India (Membership No. L32049)
- Life Member, The international Society of Zoological Science, Institute of Zoology, CAS. (Membership No. 1404-I).

9. Workshops/FDPs Attended or Conducted

S.N.	Title	Organization	Duration	Years
1.	25th orientation programme	UGC-HRDC Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)	08.07.2019 -27.07. 2019	2019
2.	FDP on Outcome Based Education: Curriculum Design, Teaching, Learning and Assessment Strategies	UGC-HRDC, Jawaharlal Nehru Technological Universities, Hyderabad	21.07.2020 -27.07.2020	2020

3.	MOOC (Massive Online Open Course)	Indira Gandhi National Tribal University, Amarkantak	12.03.2018- 18.03.2018	2018
4.	8th refresher course in Environmental Science (Interdisciplinary Course)	UGC-HRDC Deen Dayal Upadhyay Gorakhpur University	10.10.2020 - 03.10.2020	2020
5.	Refresher course in Environmental Science (Interdisciplinary Course	UGC-HRDC Jawaharlal Nehru University	22.08.2022 - 03.09.2022	2022

10. Other Contributions

- Guest House Officer, IGNTU
- GeM Nodal Officer (Engineering &Development Cell), IGNTU
- Member of BOS, Department of Zoology, IGNTU
- Member of DRC, Department of Zoology, IGNTU
- RAC Member, Department of Zoology, IGNTU
- Assistant Proctor (3 Times), IGUTU
- NSS Programme Officer, IGNTU
- IQAC Member, IGNTU
- IQAC Departmental Coordinator
- Peer reviewer of journals: **16**
- Invited talks/Session Chair: **08**
- Gene Bank Accession Numbers: **09**