



VIDYASAGAR COLLEGE

Dr. Mousumi Das

1	Name	Dr. Mousumi Das		
2	Designation	Assistant Professor		
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4	Contact No	8016425778		
5	Date of Joining	30/12/2016		
Academic qualifications				
6	Degree	Subject	University	Year
	Ph.D	Zoology	Visva Bharati	2013
	M.Phil			
	MA/M.sc	Zoology	Visva Bharati	2004
	BA/B.Sc	Zoology	Visva Bharati	2002
PH.D. DETAILS				
7	Title of the Thesis	Acridid resource management for poultry development		
	Field of specialization under subject/ discipline	Entomology and Fish Biology		
8	PREVIOUS POSITIONS/Engagement			
9	Google scholar page:	https://scholar.google.co.in/citations?hl=en&user=076FamcAAAA&view_op=list_works&gmla=AL3_zivmPYST75ReokH0qQCMNUNbLtpWcKNOG_k4KQnQANuwsMZnPV2zY064Wavmzab11qSralte214uQ		
10	ORCID ID	https://orcid.org/0000-0002-5579-4739		
11	HONOURS AND AWARDS			
12	CURRENT RESEARCH PROJECT/Field of Research	1. Nutritional ecology of acridids. 2. Biomass estimation of acridids. 3. Estimation of nutritional value of acridids. 4. Acridids as an alternative protein source for poultry feed and aqua feed. 5. Exploration of nonconventional, cost-effective, protein-rich animal protein source and evaluation of their nutritional profile. 6. Effect of incorporation of novel animal protein source in formulated fish diet on growth performance and nutritional ecology of consumable fishes as well as ornamental fishes. 7. Effect of natural carotenoid sources on skin and muscle pigmentation of ornamental fishes by estimating carotenoid concentration. 8. Diversity and abundance of butterfly in urban areas and in forests. 9. Activity budgeting of captive animals by studying their behaviours. 10. Impact of urbanization on birds.		

13	TECHNICAL UNDERSTANDING AND EXPERIENCE	Expertise in the study of animal biology, behaviour, and ecosystems. My focus spans conducting field research, analyzing insect diversity and abundance. Specialization on software for data collection and analysis like <i>graphpad</i> prism software, Principal component analysis, SPSS, etc. My technical background also includes expertise in laboratory techniques like Kjeldahl technique, soxhlet extraction, spectrophotometer, carotenoid estimation, environmental chamber, microtomy, bomb calorimeter, etc.
14	SUMMARY OF RESEARCH EXPERIENCE	My PhD thesis focuses on exploration of alternative, nonconventional, cost-effective animal protein sources as a fishmeal replacement in poultry feed. The entire work had six objectives. In first objective, method of mass culture of two selected acridids with three different food plants, where growth indices, nymphal mortality, nymphal and adult life span were studied. The 2nd objective dealt with annual biomass production of <i>Oxya hyla hyla</i> and <i>Spathosternum prasiniferum prasiniferum</i> under laboratory conditions. For this fecundity, fertility, sex ratio, adult emergence, energy content was investigated. In 3rd objective nutritional value of the selected acridid species was studied. For these, proximate composition that is crude protein, crude fat, carbohydrate total ash, crude fibre and nitrogen free extract was analysed and then minerals, vitamins fatty acids, amino-acids and anti-nutritional factors were estimated. In 4th objective, formulation of iso-nitrogenous and iso-energetic feed was skilled. The 5th objective focused on feed quality assessment and acceptability by the selected poultry bird, Japanese quail. In 6th objective experience of feeding trial with quail birds fed with fishmeal replaced grasshopper -meal was gained and the effect of experimental diets on growth, vital organs, meat composition, blood composition, egg laying performance, chemical composition of edible part of egg and on reproductive performance were studied. Overall, the study revealed that <i>Oxya hyla hyla</i> has the ability to produce huge biomass and it is a nutritionally rich animal protein source with negligible amount of anti-nutrients. The investigation recommended 10% grasshopper meal-based diet for the rearing Japanese quail as optimum growth performance and laying performance was obtained without any deleterious effect. Possible outcome of this study is the establishment of acridid farm where <i>Oxya hyla hyla</i> could be mass reared using <i>Brachiaria mutica</i> as their food plant. Grasshopper meal could be a cost effective one. If the concept of acridids as alternative food source is popularized it could lower the rate of overexploitation of fishmeal. In this research field, I have seven publications in reputed UGC care listed journals. I have studied the diversity and abundance of butterfly in urban areas as well as in forests. Butterflies are not only an enchanting insect species, but also an indicator species as their diversity and

		abundance reflect the habitat feature and human disturbance of an area. Hence, estimation of the diversity and abundance of butterfly fauna, have been treated as a way to study ecology and conservation. In this field I have seven publications in reputed UGC care listed journals. I have studied animal behaviour and activity budget of captive wild animal. The success of wildlife conservation, management and captive breeding of a wildlife species depends on a better understanding of their characteristics, behavioural pattern and also the time budgeting of the activity catalogue. These are considered as the most crucial ones which play the key role for developing their conservation strategies and also provide more informed decision for their management and well-being. In this research area I have seven publications in reputed UGC care listed journals. My studies investigate the potential of non-conventional insect-based protein sources, as replacements for traditional fishmeal in the diets of food fishes as well as ornamental fishes to improve growth and sustainability in aquaculture. Here detailed fish nutrition was studied by optimizing the inclusion level of novel animal protein source in their diet. The Researchers are evaluating the digestibility, nutrient absorption, and overall performance of fish fed with these alternative protein sources, while also assessing the impact on fish immune function. Additionally, the project explores the role of alternative protein sources in enhancing fish coloration under different environmental conditions. The goal is to develop more sustainable and cost-effective feeding strategies that reduce the environmental footprint of aquaculture while maintaining fish health and productivity. In this research area I have eight publications in reputed UGC care listed journals.
15	EXPERIENCE OF PROJECT MANAGEMENT	WB DST Project (major).
16	COMPLETE LIST OF PUBLICATIONS (Maintain Harvard Format)	1. Das, M., Sen, M. and Gan, S., 2024. A report on butterfly diversity and abundance of Alipore zoological garden, Kolkata, West Bengal, India. <i>International Journal of Entomology Research</i>, 9(9), pp.52-61. 2. Das, M., Jha, B. and Gan, S., 2024. Study of diurnal activity pattern and time budget of captive royal bengal tiger (<i>Panthera tigris tigris</i>) in Alipore zoological garden, Kolkata. <i>Journal of Biodiversity and Environmental Sciences</i>, 25(3), pp.38-55. 3. Das, M., Mukherjee, M. and Gan, S., 2024. A study on diurnal activity pattern and time budget analysis of captive Indian peafowl (<i>Pavo cristatus</i>) in monsoon, winter and summer seasons at Alipore zoological garden, Kolkata, India. <i>Journal of Biodiversity and Environmental Sciences</i>, 25(3), pp.80-93 4. Das, M., 2024. A Preliminary Checklist of Butterflies (Insecta: Lepidoptera) Recorded from Paiengaon Forest Area around

		the Sillery Gaon Road, West Bengal, India. <i>Bulletin of Pure and Applied Sciences-Zoology</i>, pp.13-28. 5. Das, M., Gan, S., Jha, B., and Sen, M., 2024. A report on diversity and abundance of butterfly (Lepidoptera: Rhopalocera) fauna at the surrounding vegetation of Rabindra Sarobar, Kolkata, West Bengal, India. <i>Journal of Biodiversity and Environmental Sciences</i>, 24(6), pp.30-45. 6. Das, M., 2024. Effect of Fishmeal Replacement with Mealworm (<i>Tenebrio molitor</i>) Meal on Growth Performance and Survival of the Black Molly (<i>Poecilia sphenops</i>). <i>Environment and Ecology</i>, 42(2B), pp.902-909. 7. Das, M., Sen, M., Gan, S. and Jha, B., 2024. An insight into the abundance and diversity of butterfly (Insecta: Lepidoptera) fauna in surrounding vegetation of Subhas Sarobar, Kolkata, India. <i>Journal of Biodiversity and Environmental Sciences</i>, 24(5), pp.31-44. 8. Das, M., Gan, S., Sen, M., Mukherjee, M. and Jha, B., 2024. Observation on diversity and species richness of butterfly (Insecta: Lepidoptera) fauna in Kaziranga National Orchid and Biodiversity Park, Assam, India. <i>International Journal of Entomology Research</i>, 9(3), pp.13-22. 9. Rana, M., Das, M., Parvin, S. and Kabita, Sk., 2024. The Effects of Dietary Supplement of <i>Arthrospira platensis</i> (Spirulina) as a Fishmeal Replacer on Growth Performance and Carotenoid Concentration in Buenos Aires Tetra (<i>Aphyocharax anisitsi</i>). <i>Agricultural Science Digest - A Research Journal</i>, D-5815(1-5), pp.1-5. 10. Das, M., and Ari, R., 2024. Analyses of Diurnal Behaviour of Captive Giraffe (<i>Giraffa camelopardalis</i>) in Alipore Zoological Garden, Kolkata, India. <i>International Journal of Zoological Investigations</i>, 10(1), pp.168-184. 11. Das, M., Basu, A. and Ambiya, G., 2024. A study on the diversity of butterfly (Insecta: Lepidoptera) fauna in Buxa Tiger Reserve, West Bengal, India. <i>International Journal of Entomology Research</i>, 9(2), pp.40-50. 12. Das, M., and Haque, R., 2024. Effect of Dietary Supplementation of Annatto (<i>Bixa orellana</i>) Seed Meal on Growth, Survival, Whole-Body Composition and Total Carotenoid Content of Rosy Barb, <i>Puntius conchonius</i>. <i>Bulletin of Pure and Applied Sciences Zoology (Animal Science)</i>, 43A(1), pp.152-164. 13. Das, M., Gan, S., Sen, M., Jha, S. and Mukherjee, M., 2023. A Preliminary report on the Diversity and Abundance of Butterfly (Insecta: Lepidoptera) fauna in Rock Garden, Ranchi, Jharkhand, India. <i>International Journal of Entomology Research</i>, 8(12), pp.81-89. 14. Das, M. and Ahmed, R., 2023. Diurnal Activity Patterns of Burchelli Zebra (<i>Equus burchelli</i>) in Captivity at Zoological Garden, Alipore, Kolkata, India. <i>Bulletin of Pure & Applied Sciences-Zoology</i>, 42(2), pp.262-279. 15. Das, M. and Basu, M., 2023. A Study on Diurnal Activity Pattern of Captive Sloth Bear (<i>Melursus ursinus</i>) in Alipore Zoological Garden, Kolkata, India. <i>International Journal of Biosciences</i>, 23(5), pp.10-23.
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		of <i>Oxya hyla hyla</i> (Serville). <i>Turkish Journal of zoology</i>, 36(3), pp.329-339. 28. Das, M., Ganguly, A. and Haldar, P., 2012. Effect of food plants on nutritional ecology of two acridids (Orthoptera: Acrididae) to provide alternative protein supplement for poultry. <i>Turkish Journal of Zoology</i>, 36(5), pp.699-718. 29. Das, M., Ganguly, A. and Haldar, P., 2010. Nutrient analysis of grasshopper manure for soil fertility enhancement. <i>Am. J. Agric. Environ. Sci</i>, 7, pp.671-675. 30. Das, M., Ganguly, A. and Haldar, P., 2009. Space requirement for mass rearing of two common Indian acridid adults (Orthoptera: Acrididae) in laboratory condition. <i>Am. Euras. J. Agric. Environ. Sci</i>, 6, pp.313-316.
17	Extracurricular Activities	
18	Link to personal website (if any)	