

Name of Department: Department of Zoology, D.S.B. Campus, Kumaun University, Nainital.

1. Introduction: The Department of Zoology, established in the year 1951, is well known for its research activities in the country. The pioneering research work of Prof. H.S. Chaudhary, Prof. Har Swaroop and Prof. S.S. Khanna during the very early years of the establishment of department had gained fame in the field of Ichthyology and Entomology. At present besides teaching basic, courses in the subject of Zoology, faculty members of the department are engaged in the various research and extension activities dealing with different aspects of Zoology and environment in general and pertaining to Himalayan fauna and its conservation in particular. Department has well established laboratories of Fish biology, Entomology, Limnology, Cyto-genetics, and Vermicology. The Department runs two specializations for the post graduate students, which include: Fish and Fisheries and Entomology. Department has 05 Professors (01 on leave), 01 Associate Professor (on leave), and 03 Assistant Professor. At present research facilities in the department are available on 8 subject's viz. fish biology, entomology, endocrinology, cyto-genetics, limnology, ecology, toxicology and vermicology. The faculty members of the department have published more than 350 research papers in the research journals of high repute and have completed 21 major research projects worth of more than Rs. 200.00 lacs.

2. Course Curriculum:

B. Sc. Ist:

- (i) Animal Diversity I (Non- Chordata) and Parasitology
- (ii) Cell- Biology Molecular Biology and Elementary- Biotechnology
- (iii) Taxonomy Genetics and Evolution

B. Sc. IInd:

- (i) Animal Diversity-II (Chordata) and Paleontology
- (ii) Concepts of Ecology and Environmental Biology
- (iii) Developmental Biology and Applied Zoology

B. Sc. IIIrd:

- (i) Biological Chemistry and Physiology
- (ii) Microbiology, Biological Techniques and Animal Behavior
- (iii) Toxicology, Histology, Bioinformatics and Biostatistics

M. Sc. I:

- (i) Non-Chordata and Microbiology
- (ii) Biological Chemistry and Physiology
- (iii) Cytogenetics, Genetics & Biotechnology
- (iv) Ecology, Evolutionary Biology, Taxonomy and Instrumentation

M. Sc. II:

- (i) Chordata and Developmental Biology
- (ii) Basic Mammalian Endocrinology and Animal Behavior

P.G. Specialization:**Fish and Fisheries (Ichthyology):**

(a) Fish and Fisheries (General Ichthyology)

(b) Fish and Fisheries (Applied Ichthyology)

Entomology:

(a) Entomology (Systematic and Applied Entomology)

(b) Entomology (Insect Morphology, Physiology and Development)

3. Infrastructure developed and Major equipments: Department has separate labs for B.Sc. and M.Sc. students. There is a separate instrumentation room for the M.Sc. and research students. Photo micrographic equipment with image analysis software, refrigerated centrifuge, PCR, water quality monitoring system, laboratory and field DO meter, high magnification microscope with CC TV display system, Spectrophotometry, Electrophoresis and microbial equipments are available for the use of M.Sc. and research students. This department has its own Computer lab with internet facility and a well established library with more than 2000 books and journals for M.Sc. and research students. Besides, faculty has their own research labs with equipments of their own specialization.

4. About the Faculty (Past and Present):

Past Faculty Members: Prof. H.S. Chaudhary, Prof. Har Swaroop, Prof. S.S. Khanna, Prof. S.P. Bhatnagar, Prof. Dr. R.K. Dixit, Dr. S.S. Bora, Dr. T. S. Gill, Dr. M.C. Pant, Dr. J.S. Bisht, Dr. Sarvesh Kumar and Dr. Lata Shah.

Present Faculty Members:

Name of Faculty	Designation	Qualification	Specialization
Prof. Manju Lata Bisht	Professor	M.Sc., Ph.D.	Ichthyology
Prof. B. R. Kaushal	Professor	M.Sc., Ph.D.	Entomology
Prof. M. N. Jayala	Professor	M.Sc., Ph.D.	Entomology
Prof. B. K. Singh	Professor	M.Sc., Ph.D.	Cytogenetics
Prof. P.K. Gupta	Professor	M.Sc., Ph.D.	Limnology
Dr. H. C. S. Bisht	Assistant Professor	M.Sc., Ph.D.	Ichthyology
Dr. Manoj K. Arya	Assistant Professor	M.Sc., Ph.D.	Entomology
Dr. Deepika Goswami	Assistant Professor	M.Sc., Ph.D.	Entomology

5. Research Activities:

(a) Research projects during last twenty five years: 21

(b) Funding of research projects: Rs. 200 Lac

(c) Funding Agencies: UGC, DST, DOEN, SCST, U-Cost, MOE&F, Nainital Lake Conservation Agency and Govt. of India & Uttarakhand.

6. Sponsored Research Projects: Major research project undertaken in the department:

- (i) Effects of biocides on the freshwater fish of lake Nainital. UGC, New Delhi (Rs 2,50,000.00). P.I. Dr. T.S. Gill
- (ii) Impact of Heavy metal pollution on some aquatic and terrestrial animals. UGC, New Delhi (Rs 1,80,000.00). P.I. Dr. T.S. Gill
- (iii) Ecobiology of the commercially exploitable macro crustaceans of Kumaun region. DOEn., MOE&F, Govt. of India, New Delhi (Rs 3,20,000.00). P.I. Dr. S. Kumar
- (iv) Dynamics of arthropods and their nutrient contents in pine, oak and mixed forest. UGC, New Delhi (Rs 1,70,000). P.I. Dr. B.R. Kaushal
- (v) Impact of pesticides on a potamonid crab of the tarai of Kumaun, UGC, New Delhi (Rs 1,90,000.00). P.I. Dr. S. Kumar
- (vi) Studies on entomofauna, their diversity and relationship to the forest and agro ecosystem of Kumau region. CST,U.P. (Rs 2,80,000.00). P.I. Dr. B.R. Kaushal
- (vii) The impact of soil macrofauna on soil fertility and plant growth in the Kumaun region, DST, New Delhi (Rs 8,60,000.00). P. I. Dr. B.R. Kaushal
- (viii) Studies on the systematics and cytogenetics of the *Drosophilids* of Kumaun region, DST, U.P. (Rs 1,68,600.00). P.I. Dr. B.R. Singh
- (ix) Ecology of terrestrial molluscs and their role in plant litter decomposition in Kumaun Himalayan forest. G.B. Pant Institute, Almora, DOE., MOE&F, New Delhi, (Rs 2,87,000.00).P.I. Dr. P.K. Gupta
- (x) Causes, effects and control of eutrophication in lake Nainital. CST, U.P. (Rs 1,90,000.00). P.I. Dr. P.K. Gupta
- (xi) The influence of earthworms on C and N Processes in a grassland and managed ecosystems in Kumaun Himalaya. UGC, New Delhi (Rs 2,40,000.00) P.I. Dr. B.R. Kaushal
- (xii) Limnological investigations on lake Nainital with particular reference to its conservation and management and follow up monitoring regarding the quality control of lake water UP Govt. & Govt. of India, New Delhi (Rs 29,58,000.00). P.I. Dr. P.K. Gupta
- (xiii) Studies on the morphometry, systematics and cytogenetics of the *Drosophilids* of Kumau region. CST, U.P. (Rs 3,21,600.00). P.I. Dr. B.K. Singh
- (xiv) Systematic and cytogenesis studies of the *Drosoplilids* of Kumaon region Sanctioned by V.G.C., Ref. No. 32-524/2007 (SR) Rs. 55,000/- Prof. B. K. Singh
- (xv) Limnological investigations on lake Naukuchiatal (Kumaun Himalaya) with reference to its management. G.B. Pant, Almora, DOE, MOE&F, Govt. of India, New Delhi. (Rs 4,70,000.00).P.I. Dr. P.K. Gupta
- (xvi) Investigations on the toxic strains of Cyanobacteria in lake Nainital. DST, New Delhi (Rs 15,00,000.00). P.I. Dr. P.K. Gupta
- (xvii) Water quality monitoring of lake Nainital for its conservation and management MOE&F, Govt. of India and Govt. Uttaranchal (Rs 32,00,000.00). P.I. Dr. P.K. Gupta
- (xviii) Water quality monitoring of "other lakes" of Nainital district. MOE&F, Govt. of India and Govt. of Uttaranchal (Rs 14,00,000.00). P.I. Dr. P.K. Gupta
- (xix) Ecobiology of a mosquito fish, *Gambusia halbroobi* for its control in Nainital Lake. G.B.P.I.H.E.D., Almora (Rs 7.5 lacs). P.I. Prof.. P.K. Gupta

7. Seminars/ Symposia/ Workshop Organized:

- (a) The department of Zoology, D. S. B. Campus, Nainital had organized First National Seminar on Ichthyology in 1980.
- (b) The department of Zoology organized National Seminar on response of eco-biological Components to the phenomenon of global warming (NSREG-2009) during 26th-27th September, 2009.

8. List of Publications: (During last five years):

1. Joshi, M., Fartyal, R.S. and Singh, B.K.(2005). *Entomon* 30 (1): 74-84
2. Fartyal, R. S., Singh, .B.K. and Toda, M.J. (2005). *Entomological Soc. (Japan)*, No.8: 405-417
3. Upadhyay, K. and Singh, B.K. (2006). *Pro. Zool. Soc.*,59(2):67-70
4. Upadhyay, K. and Singh, B.K. (2006). *D.I.S. (U.S.A.)* Vol. 89, PP.41-45
5. Upadhyay, K. and Singh, B.K. (2006). *D.I.S. (U.S.A.)* Vol. 89, PP.62
6. Fartyal, R. S. and Singh, B.K. (2007). *D.I.S. (U.S.A.)* Vol. 90, PP.58
7. Upadhyay, K. and Singh, B.K. (2007). *D.I.S. (U.S.A.)* Vol. 90, PP.43
8. Upadhyay, K. and Singh, B.K. (2007). *D.I.S. (U.S.A.)* Vol. 90, PP.41
9. Upadhyay, K. and Singh, B.K. (2007). *Proc. Zool. Soc.* Vol. 59(2): 195-2002
10. Upadhyay, K. and Singh, B.K. (2007). *Entomon*, Vol. 32 (3): 177-187
11. Upadhyay, K. and Singh, B.K. (2009). *Jour. Sci.Res.*,Vol.53,PP.27-40
12. Upadhyay, K. and Singh, B.K. (2010). *Jour. Env. and Bisose.* (In press)
13. Kandpal, M. and Singh, B.K. (2010).*D.I.S. (U.S.A.)* In press
14. Bhagat, P. and Gupta, P.K. (2005). *Plant responses to environmental stress.* IBD.Co.
15. Gupta, P.K. Tewari, P. and Gupta, R.(2007). *J. Ecophysiol. And Occupational Helth.* 6: 175-183
16. Singh, N. and Gupta, P.K. (2008). *Inland Fish. Soc. India.*
17. Kaushal, B.R. (2006). *Entomon*, 31(3): 207-216
18. Kaushal, B.R. (2007). *Tropical Ecology*, 47 (1): 71-78 291-294
19. Kaushal, B.R. (2007). *Tropical Ecology*, 48 (1):
20. Chndrasekaran, V.S. and Bisht, H.C.S., Singh, U.P. (2005). *Indian Journal of Fisheries*, 52(1):111-113
21. Bisht, H.C.S., Chandrasekaran, V.S. and Singh U.P. (2005) *Fishery Techology*, 42 (2): 117-182
22. Bisht, H.C.S., Kumar, S. and Bisht, R. (2007). *Him. J. Env. Zool.*, 21(1):21-27.
23. Kaushal, B.R. (2009). *Entomon*, 34(1):11-21
24. Gupta, P.K. (2007). *J. Inl. Fish. Soc. India.* 39(2): 62-64
25. S. Nirmal and Gupta, P.K. (2009). *Asian Fisheries Sciences*, 32(2): In press
26. Joshi, P.C. and Arya, M. K. (2005). *Environmental Biology and Conservation*, Vol. 10: 37-40
27. Joshi, P.C. and Arya, MK. (2007). *Natural History Journal of Chulalongkorn University*, 7(1): 1-9
28. Joshi, P.C., Kumar. K. and Arya, MK. (2008). *Journal of Asia-Pacific Entomology*, 11:5-11
29. Arya, M. K. (2010). *Journal Environment and Biological Science.* In press.

9. Details of the faculty members at DSB Campus Nainital:

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