

Profile



Name : **Prof. I . A . Hamal**
Positions Held :
I). Vice Chancellor, Baba Ghulam Shah Badshah University, Rajouri, Jammu & Kashmir, India (October 16, 2010 till date)
II). Rector, Bhaderwah Campus, University of Jammu (2006 --- October 15, 2010)
II). Dean Academic Affairs, Baba Ghulam Shah Badshah University, Rajouri (2005 -2006)
III). Professor of Botany, University of Jammu (up to 2005)
IV). Associate Professor (1993 – 2002)
V). Assistant Professor (1982 – 1993)

Academic Qualifications :

- M. Sc., Ph. D (University of Jammu)
- B.Sc (Govt Degree College ,Poonch)
- Senior Secondary(Govt Degree College,Bhaderwah)
- Secondary (Higher Sec. School, Kishtwar)
- School Education(Islamia Faridia School ,Kishtwar)

Place and Date of Birth : Kishtwar (J&K), 17th April, 1953

Teaching and Research Experience

: 35 years
1974 – 1982 – as Research fellow
1982 - 19 93 – as Assistant Professor

1993 –2002 - as Associate Professor
2002- till date– as Professor

Administrative experience, Contributions & Accomplishments:

- **As Dean Academic Affairs**

BGSB University, Rajouri:

- **Contributed in the conceptualizing and developing the Academic setup of the university in the first year of its establishment during 2005**
- **Contributed in formulating syllabi for post graduate course viz: MBA, MCA, M.A. Arabic, MBA-Finance, M.Sc. Applied Mathematics, M.Sc. Information technology**
- **Contributed in developing Examination system, paper pattern and model question papers for various courses started in the University**
- **Contributed in starting visiting professor lecture series in different departments of the University**
- **Initiated the concept of students seminars, debates and cultural activities**
- **Conceived the concept of the establishment of the Centre for Biodiversity Studies**
- **Supervised the publication of the annual admission brochure for 2006 and admission process**
- **Supervised the working of boys and girls hostels as Provost**

- **As Rector ,Bhaderwah Campus**

University of Jammu :

- **Established an offsite campus of the University of Jammu, 210 km from Jammu at Bhaderwah in Chenab valley of district Doda**
- **Started three PG courses viz: MBA, MCA and MA English in a rented accommodation in July, 2006**

- Started an e- learning certificate course for women on Basic skills in computer. The course has been well received and eight batches have passed out
- Established a guest house, faculty house, boys hostel and girls hostel for the campus
- Developed and supervised the construction of new campus at Sungli, 2.5 km from Bhaderwah town which was inaugurated by Her Excellency The President of India on May 26th, 2008
- Acted as member of selection committees for teachers and convener for selection committees of non teaching staff
- Formulated and presented xi plan development proposal of Bhaderwah campus to UGC team for financial assistance
- Organised two seminars viz: “Prospects of sustainable development in Education and Tourism sectors in Chenab Basin: vision 2020” and “Development of Mountainous Regions – An agenda for the future”
- Controlled and operated non plan funds of the campus since its establishment
- Contributed in the development and recruitment of Human Resource Capital of the campus
- Contributed in landscaping and establishment of Tulip Garden/ fruit orchard in Bhaderwah Campus
- Developed and produced placement brochures of MBA and MCA for corporate recruitment
- Initiated the establishment of Satellite university campuses at Kishtwar and Doda; the academic programmes of which are likely to start during 2009
- UGC National Syllabus was introduced in the University in the year 1992 and revised in 2002 and since then I have designed and taught a core courses on Morphology of

As Professor, University of Jammu:

Angiosperm flower, Palynology, Plant Resource utilization and Plant Resource Conservation. All these areas were not covered in M.Sc. Syllabus earlier. I was also instrumental in starting teaching of Plant Reproductive Biology, Plant Biosystematics and Pollen Biology as optional courses.

- Acted as co-ordinator Refresher Courses in Botany for College and University teachers, organised under the aegis of Academic Staff College, University of Kashmir during 1994, 1997 and 1998. As resource person, I have delivered lectures and conducted practicals in Refresher courses for college and Higher Secondary Botany teachers.**
- Actively associated as member, Jammu University Campus Cultural Committee from 1994 -2005. In this capacity, I have been Teacher Incharge for organising Display your Talent contest in painting, sketching, cartooning, photography and flower arrangement and as worked as Chairman Campus Cultural Committee from 2004 - 05.**
- Acted as Executive Editor, Jammu University News Bulletin (1994 -96).**
- I was on various committees as member for organising convocation, vice-chancellor's conference, Millennium Economic conference, Indian Botanical Conference, Annual conference of The National academy of sciences, All India Conference of Cytology and Genetics and Brain storming Workshop on Reproductive Biology organised by the University of Jammu from time to time.**
- Acted as teacher Incharge of field trips to nearby and far off places for M.Sc. students of the Department of Botany for acquainting them to the floristic diversity in different regions of India. I have organised painting and photography contests for students of the Department, based on the theme**

of plants and environment. I have actively participated in Environment Awareness programmes in rural areas of Jammu, organised by the Department in collaboration with WWF India -- J&K chapter.

- Acted as Incharge Botanic Garden of the University since 1995, which has more than 400 plant species, many of which are of medicinal value and some are rare and threatened.
- As member of Board of Studies in Botany, I have been actively associated with designing of courses for B.Sc. and M.Sc. classes. Being member of Departmental Research Committee, I have designed courses for M. Phil and Pre-Ph. D students of the Department. At M.Sc. level, I have been instrumental in upgrading the syllabi of Reproductive Biology of flowering plants, Morphology of angiosperm flower, Pollen Biology, Plant Resource utilization and Plant Resource Conservation to the full-fledged courses.
- Acted as Chairman Jammu University House Allotment Committee from 2003 – 05.

International Visits :

- Visited China as a member of Indian delegation derived from Universities and Institutes of technology of India for studying higher Education programmes of China from March, 14–27, 2007. The Universities and institutes visited are:
 - University of International Business(UIBE, Beijing)
 - Gang Hu School of Management, Peking University
 - Beijing School of Electronics Engineering and Computer Science, Beijing
 - North Eastern University, School of Business Administration, School of Information Science and Engineering, Shiang
 - International Business School affiliated to Liaoning University
 - Education department of Liaoning Provincial Government
 - NEUSOFT (Software technology park), Shanghai

- China Europe International Business School, Shanghai
- Pudong Software Technology Park, Shanghai
- Shanghai Institute of Design, Shanghai
- School of Management, Shanghai
- School of Information Technology, Shanghai

Other University and Institutional Interactions:

- Acted as External Examiner for Ph D and M Phil thesis of various Universities
- Acted as examiner for M.Sc. theory and practicals in Botany of various universities
- Acted as selection of teachers and Scientists for universities and Research Institutes
- Acted as Examiner in Botany for Tamil Nadu Public Service Commission
- Acted as University nominee in the Management committee of Islamia College of Education, Kishtwar
- Acted as selection committee member for selection of teachers in Kendrya Vidyala sagatham, Northern Region
- Acted as
- Collaborated with Dept of Botany, University of California, USA for research on Reproductive Biology of Umbellifers
- Acting as Member, Scientific advisory Committee of GBPIHED<Almora(A Ministry of Environment & Forests R & D Institute
- Presently Convenor, Advisory Committee on Educational Reforms in Islamia Faridia Research and Educational Institute, Kishtwar

Research Supervision :

Research thesis Awarded:

1985	S. K. Gupta	M.Phil.	Reproductive Biology of <i>Coriandrum sativum</i> .
1987	A. K. Hakim	M.Phil.	Fruit structure in some Kashmir Himalaya species of Umbelliferae.
1988	Kulvinder Kour	M.Phil.	Chromosome inconstancy in <i>Scaligeria stewartiana</i> .
1989	Mohd. Amin	M.Phil.	Cytomorphology of Kashmir Himalaya species of the genus <i>Bulpeurum</i> .
1990	S. K. Gupta	Ph.D.	Biosystematic analysis of the Himalayan species of the genus <i>Torilis</i> Adans (Apiaceae).
1993	Almas Sharma	M.Phil.	Chemosystematics of the Himalayan species of <i>Torilis</i> Adans.
2000	O P Gadgala	Ph.D.	Evaluation of Mulberry germplasm growing in Jammu and Kashmir region with emphasis on feeding quality of its leaves.
2004	K Kour	Ph.D.	Studies on genetic system of <i>Scaligeria stewartiana</i> (Nasir) Nasir.
2004	Neena Sharma	Ph.D.	Comparative morphoanatomical and development studies on the fruits of some Kashmir Himalaya Umbellifers.
2007	Mahroof Khan	Ph.D.	Studies on structural and compositional analysis of phytodiversity of Sewa river Catchment in Northwest Himalaya.

2008	Satish Kumar	M.Phil.	Studies on diversity and ethnobotany of vascular plants of Kishtwar High Altitude National Park (Jammu and Kashmir).
2010	Jyoti Parihar	Ph. D	Studies on the reproductive biology of <i>Artemisia maritima</i> L. an endangered medicinal plant in Kishtwar Himalaya.

Research thesis in progress:

2010	Mohd Araf	Ph. D	Studies on the reproductive biology of some Medicinal plants from Northwest Himalaya.
2010	Tahira Firdos	Ph. D	Studies on indigenous knowledge vis-à-vis plants in some mountainous areas of district Udhampur (Northwest Himalaya).
2010	Madhvi Prasher	Ph. D	Studies on the resource allocation in relation to breeding system of some Himalayan umblifers.

Research Publications :

(Annexure – I)

Seminars/Workshops organised:

- 2007-- Prospects of Sustainable Development in Education and Tourism sectors in Chenab Basin: vision 2020
- .2007-- Development of Mountainous Regions – An agenda for the future
- 2007-- Conservation of Pollinators for sustainable Agriculture through ecosystem Approach
- 2001 - Integrated Ecodevelopment Research in Jammu & Kashmir state: Project presentation-cum-Evaluation". (Sponsored by GBPIHED, Almora).
- 1997 - Revival of Herbal Medicine and Conservation of Medicinal plants. (Sponsored by Department of Environment, J&K).

Research projects undertaken:

- 2010 – 2013: Global Pollination Project – Conservation and Management of Pollinators for Sustainable Agriculture, through an Ecosystem Approach sponsore by FAO.
- 2003-2005: EIA and EMP studies on Chutak Hydroelectric project (A multidisciplinary project, sponsored by NHPC, New Delhi)

2001-2002: EIA and EMP studies on Sewa Hydroelectric project stage-II (A multidisciplinary project, sponsored by NHPC, New Delhi)

1994-1997: Himalayan Umbellifers-Evaluation and Protection, sponsored by G.B Pant Institute of Himalayan Environment and Development, Almora, Ministry of Environment and Forests. G.O. India.

1993-1995: Ecology and Economy of some Pasturelands of Jammu. (Collaborators, Dept. of Geography and Dept. of Zoology, University of Jammu) sponsored by J&K Govt.

1984-1987: Exploration, Utilisation and Conservation of some Himalayan-umbellifers, sponsored by UGC, New Delhi.

Major Research Contributions/ Accomplishments:

- Critical Cytotaxonomic evaluation of the Kashmir Himalayan Umbellifers -- a group of flowering plants known for spices and condiments and mostly neglected by the earlier workers, has enabled me to unravel phylogenetic relationships of the taxa at different levels of taxonomic hierarchy. A new base number ($x = 7$) for the genus *Bunium* has been discovered. B - chromosomes have been recorded in *Ligusticum thomsonii* and *L. elatum*. Chromosome counts of three genera (*Eriocycla*, *Psammogeton* and *Platytaenia*) and 8 species (*Torilis stocksiana*, *Scaligeria stewartiana*, *Bupleurum longicaule*, *B. marginatum*, *Ligusticum thomsonii*, *Peucedanum thomsonii*, *Heracleum pinnatum* and *Chaerophyllum capniodes*) have been recorded for the first time.
- Studies on nucleolar organisation in the Umbelliferae has revealed that all taxa of the family portray only two nucleolar chromosomes per complement. However, with respect to their position, the sub-family Hydrocotyloideae reveals NOR at the distal end of long - arm whereas, in sub- families Saniculoideae and Apioideae, this region is present at the distal end of short - arm.
- Ninety Umbellifers have been collected from the Jammu and Kashmir State of which four species were new records for India (*Torilis arvensis*, *T. stocksiana*, *Trachyspermum baluchistanicum*, and *Scaligeria stewartiana*).
- Four species of flowering plants (*Eremurus persicus*, *Argemone ochroleuca*, *Apium leptophyllum* and *Hydrocotyle sibthorpiodes*) have been reported for the first time from the Jammu and Kashmir State.
- *Peucedanum thomsonii* -- a rare Indian Umbellifer has been rediscovered from Kishtwar (J & K State) after a gap of more than 100 years.
- Contributed in understanding breeding and pollination system of some threatened and/or economically important Umbellifers -- *Coriandrum sativum*, *Daucus carota*, *Torilis species*, *Scandix pecten -- veneris*, *Scaligeria stewartiana*, *Bunium persicum* and *Heracleum candicans*.
- Contributed in assessing taxonomic potential of pollen morphology of Kashmir Himalayan Umbellifers through Scanning Electron Microscopic. The data

generated has also helped in understanding phylogenetic relationships among different taxa.

- Studies on fruit structure of Himalayan umbellifers through light and scanning Electron Microscopic has help in solving some taxonomic disputes and understanding evolutionary trends in various characters of the fruit.
- Recorded edible use of about 300 plant species by the aboriginals of Doda and Poonch Districts of Jammu and Kashmir State of which the use of 20 species was recorded for the first time. Three species namely *Polygonum amplexicaule*, *Balanophora involucrata* and *Platanus orientalis* were discovered as a tea substitutes in hilly areas of Jammu and Kashmir State.
- Contributed in assessing mulberry germplasm growing in Jammu region of the state. About ten varieties have been identified for boosting sericulture industry.
- Contributed in assessing impact of Panthal Magnesite Mining project on environment and flora of the Panthal area in district Udhampur of Jammu and Kashmir State.
- Cotributed in assessing Environmental impact assessment of Sewa and Chutak Hydroelectric Projects, NHPC, New Delhi.
- Contributed in assessing Biodiversity of the Kishtwar High Altitude National Park

Symposia/Seminars/Conferences/Workshops attended:

- 2010, July 19; The Global Pollination Project - Inception and National Project Coordination Workshop, GBPHIED, Kullu Unit (HP).
- 2009, May 22 – 23; Brainstorming Meet on Invasive Alien Plants in India, Dept of Botany, Punjab University, Chandigarh.
- 2009, March 26 -28; National Conference on Biodiversity: Present Status and Future Challenges, Dept. of Botany, Univ. of Kashmir, Srinagar.
- 2008, Feb. 26 – 28; IIIrd J &K Science congress held in University of Jammu.
- 2007, October 27 – 29; Biodiversity Conservation - Concerns and issues, BGSB University, Rajouri.
- 2006 July 25 – 27; IInd J&K Science congress held in University of Kashmir, Srinagar.
- 2005, Feb.7-9; 1st J &K Science congress held in University of Jammu.
- 2004, Nov.29 – Dec.1, International workshop on “Conservation of pollinators for the development of sustainable agriculture through ecological approach”, New Delhi. (Sponsored by FAO,Rome) .

- 2001, October; Training programme on “Ecological Economics for Practicing Scientists and Ecologists” Oct, 16-20, 2001, G.B. Pant Institute of Himalayan Environment & Development. Kosi-Katarmal, Almora.
- 2001. Feb.,14-15; National Symposium "Plant Biodiversity and its conservation" Dept. of Botany, Punjabi University, Patiala.
- 1998. Dec. 11th – 13th. National Conference cum Workshop on Biodiversity Evaluation, Conservation and need for Establishment of Data Bank. Dept. of Botany, University of Jammu.
- 1998. April 11th; Seminar on "Intellectual Property Rights (IPR) Awareness" J&K chapter National Academy of Sciences, India, Jammu.
- 1998. March, 20-22nd ;National Seminar on "Biodiversity-Status, Management and Monitoring Dept. of Biosciences, University of Jammu.
- 1998. Feb, 16th – 19th; International conference on Medicinal Plants, Federation for Revitalisation of Herbal Medicine, Bangalore.
- 1998. June 15-16; Workshop on Setting Research Priorities on J & State, J & K State Forest Research Institute, Jammu.
- 1997. April, 6-7; National Workshop on Drug Industry and Academic Pharmacology, Govt. Medical College, Jammu
- 1995. Sept 16 – 17th; National Symposium on "Water for Life". Dept. of Biosciences, University of Jammu.
- 1995. March, 23-25th; National Symposium on "Environmental issues-Strategies for Sustainable Development" Dept. of Biosciences, University of Jammu.
- 1988. Oct, 1988; Annual conference of the National Academy of Sciences, Dept. of Biosciences, University of Jammu

- 1987. Oct; Sixth All India Conference of Cytology and Genetics. Dept. of Biosciences, University of Jammu.
- 1985. Sept; National Seminar on "Plant and Animal Interaction", Botanical Survey of India, Poona.
- 1982. March 8-12th; Regional Conference on "Conservation of Tropical Plant Resources". Botanical Survey of India, Vigyan Bhavan, New Delhi.
- 1981. Sept, National Seminar on "Threatened Plants of India" Botanical Survey of India, Dehradun.
- 1981. March, 1961; National Symposium "Normal and Pathological structure of economic Plants. Sardar Patel University, Vidyanagar Gujrat.
- 1979. Seminar on "The Vegetational Wealth of Himalayas. Garhwal University, Srinagar (U.P.).
- 1978. Oct.; All India Congress of Cytology and Genetics. Hissar Agricultural University, Hissar.
- 1978. March, International Conference on Cytogenetics and Plant Breeding, Banaras Hindu University, Varanasi.

Membership of the University bodies/Research organizations:

- Member Board of studies in Botany, Univ. of Jammu.
- Member Board of studies in Botany, Univ. of Kashmir.
- Member Board of Research studies, Faculty of Life Sciences, Univ of Jammu.
- Chairman Campus Cultural Committee, Univ of Jammu.
- Chairman House Allotment Committee, Univ of Jammu.
- Member B.Ed Colleges Monitoring Committee
- Member Project Evaluation Committee-Eco Development Research, G. B. Pant Institute of Himalayan Environment and Development (A Govt. of India Organization) Almora.
- Member Advisory Committee, G B Pant Institute of Himalayan Inst. Of Environment and Development (A Govt. of India Organization) Almora.

Membership of the Scientific Societies:

- Indian Botanical Society.
- Indian Society of Cytologists and Geneticists
- National Academy of Sciences, India.
- World Wide Fund for Nature, India.
- Jammu and Kashmir Academy of Sciences.

(Annexure -- I)

Research Publications

- Ant pollination of an invasive non native weed *Euphorbia geniculata* Ortega. in North west Himalaya (India) *Bioscan* 5(8) :81 – 83. 2010.
- Pollination Mechanism and indirect pollen presentation in *Artemisia maritima* L. *Inter. Jour. Plant Reproductive Biology* 1(2): 191 -193, 2009.
- Dual pollen germination in *Artemisia maritima* L. *Current Science* 97(1) 24 – 25(With Jyoti Parihar and Namrata Sharma) 2009.
- Wild Edibles of Kishtwar High Altitude National Park in Northwest Himalaya, Jammu and Kashmir (India) *Ethnobotanical Leaflets* 13: 195-202. (With Satish Kumar).2009
- Wild edible plants of Sewa river Catchment area in Northwest Himalaya. *Journal of Plant Development Sciences*.(1-2): 1-7 (With Mahroof Khan, Satish Kumar and Sanjeev Kaul) 2009.
- Indigenous Medicinal Plants of Kishtwar High Altitude National Park (Northwest Himalaya) Jammu and Kashmir, India- Diversity, Uses and Conservation concerns. *The Ecoscan*, 4(1): In Press.(With Satish Kumar, Mahroof Khan, Mohd Araf). 2009.
- Diversity of Vascular Plants in Kishtwar High Altitude National Park, Jammu and Kashmir (Northwest Himalaya). *The Ecoscan*, 4(1): In Press (With Satish Kumar, Mahroof Khan, Mohd Araf) . 2009.
- Seed Biology of an Invasive Weed – *Euphorbia geniculata* Ortega from North West Himalaya (India). *Indian Journal of Weed Science*, . In Press. (With Mohd. Araf, Satish Kumar, Jyoti Parihar). 2009.
- Diversity and ethnobotany of Pteridophytes of Sewa river Catchment area in Northwest Himalaya. *Indian Journal of Life Sciences* . In Press. (With Mahroof Khan, Satish Kumar). 2009 .
- Herbal remedies used against arthritis in Kishtwar High Altitude National Park (Northwest Himalaya). Communicated in *Indian Journal of Traditional Knowledge* .2009.
- Altitudinal distribution, lifeform spectrum and flowering phenology of vascular plants of Kishtwar High Altitude National Park (Northwest Himalaya). Communicated in *Himalayan Journal of Sciences* .(Satish Kumar, Mahroof Khan, Mohd Araf) . 2009.
- Medicinal plants of Sewa river catchment area in the Northwest Himalaya and its implication for conservation. Communicated in *Ethnobotanical leaflets* . (With Mahroof Khan, Satish Kumar) . 2009.
- Diversity of weeds associated with Rabi and Kharif crops of Sewa river catchment area in Northwest Himalaya. Communicated in *The Bioscan* (Mahroof Khan, Satish Kumar. 2009.
- Reproductive biology and life cycle pattern of *Scaligeria stewartiana* (Nasir) Nasir, Apiaceae Paper presented in IIIrd J & K State Science Congress, Univ. of Jammu .2008
- Breeding system of *Artemisia maritima* L. Floral biology and pollination mechanism Paper presented in IIIrd & K State Science Congress, Univ. of Jammu .2008

- Resource allocation in relation to breeding system of andromonoecious umbellifer *Coriander sativum L.* Paper presented in IIIrd J & K State Science Congress, Univ. of Jammu .2008
- Divesity of weed associated with rabi and kharif crops of Sewa river catchment area in northwest himalaya. Paper presented in IIIrd J & K State Science Congress, Univ. of Jammu.2008
- Status, invasiveness and environmental threat of some alien invasive plant species in Jammu region and their ecological management. Paper presented in IIIrd J & K State Science Congress, Univ. of Jammu .2008
- Environmental and socio-cultural concern of Sewa hydroelectric project- a case study from northwest Himalaya. Paper presented in IInd J & K State Science Congress, Univ. of Kashmir.2006
- Medicinal plants of Kishtwar High altitude National Park, Jammu and Kashmir (Northwest Himalaya) Paper presented in IInd J & K State Science Congress, Univ. of Kashmir.2006
- Kala zira – cultivation and constraints. Chapter in Book on "Spice Plantation, Medicinal and Aromatic plants". (Ed. J. Singh. Bikaner.). 2005
- Resource allocation in relation to life cyle pattern in geophyllous *Scaligeria stewartiana* (Nasir) Nasir Paper presented in Ist J & K State Science Congress, Univ. of Jammu.2005
- Utilization pattern and conservation of the tree diversity of district Poonch in Northwest Himalaya Paper presented in Ist J & K State Science Congress, Univ. of Jammu.2005
- Wild edible plants of Sewa catchment area in Northwest Himalaya Paper presented in Ist J & K State Science Congress, Univ. of Jammu.2005
- Utilization field status and conservation of *Buxus wallichiana*. Paper presented in Ist J & K State Science Congress, Univ. of Jammu.2005
- In-situ pollen germination in *Fumaria indica* (Hausksn) Pugsely Paper presented in Ist J & K State Science Congress, Univ. of Jammu.2005
- Evolutionary trend in the fruit of Himalayan umbellifers Paper presented in Ist J & K State Science Congress, Univ. of Jammu.2005
- Impact assessment of hydroelectric project on phytodiversity of Sewa catchment area of Northwest Himalaya. Paper presented in Ist J & K State Science Congress, Univ. of Jammu.2005
- *Rhyncostylus retusa* (Linn.)Blume (Orchidaceae) –A new record for Jammu and Kashmir state with a note on its extended distribution and conservation. The Jour. Of Orchid Soc. Of India. Vol. 16 (2002).
- Pollination mechanism in *Carthamus tinctorius L.* National seminar on “Recent research trends in life sciences” Centre for Research and Development, University of Kashmir, Srinagar.2002.
- Characteristics of the Phytodiversity of Sewa river catchment area in North West Himalaya and implications for conservation. National seminar on “Recent research trends in life sciences” Centre for Research and Development, University of Kashmir, Srinagar.2002.
- Genetic diversity in *Scaligeria stewartiana* (Nasir) Nasir Proc. National Symposium on Plant Biodiversity and its Conservation. 2001. Bishen Singh Mahendra Pal Singh, Dehra Dun.
- Biodiversity-people, patents and profits, paper presented at National Seminar on Biodiversity- Status, Management and Monitoring 1998.

- Traditional Medicines of Dogra's, paper presented at National workshop on Drug industry and Academy Pharmacology 1997. Haryali.
- Chromosomal variability in *Scaligeria stewartiana* (Nasir) Nasir. J. Cytol. Genet. 27 : 43 – 45. (1992).
- Evolutionary trends in fruit structure of genus *Torilis* Adans (Apiaceae) Phytomorphology 41 (3&4) : 325 – 329 (1991).
- Chromosomal evolution in genus *Torilis* Adans (Apiaceae.) Cytologia 56: 597 – 602 (1991).
- Additions to the flora of Doda district (J&K) Jour. Tax and Econ. Bot. 1990.
- Floral sex-ratio in some umbellifers. Jour. Pl. Sci. Research 5 : 1-7 (1989).
- Reproductive biology of wild and cultivated carrot (*Daucus carota* L) New Phytologist 112 : 437 – 443 (1989).
- Pollination mechanism in *Coriandrum sativum* L. (Apiaceae). Proc. Ind. Acad. Sci. Plant Sci. 99 (5) : 509 – 515 (1989).
- Taxonomic position of *Centella asiatica* (L) Urban. Proc. Ind. Acad. Sci. Plant Sci. 99 (4) : 363 – 368 (1989)
- Cytotaxonomy of the Himalayan species of genus *Torilis* (Apiaceae). Plant systematics and Evolution 159 : 185 – 192 (1988)
- Reproductive biology of *Coriandrum sativum* L. Jour. Pl. Sci. Research 2 : 81-95 (1986).
- Breeding systems in Apiaceae- a review. Jour. Cytol. And Genet. 21 : 35-47 (1986).
- Cytological studies on *Cyathocline lyrata* Cass. Jour. Cyto. And Genet. 21:82-86 (1986).
- Insects in relation to the pollination of some umbellifers. Bull. Bot. Surv. Ind. 28 (1-4) : 39-42 (1986).
- *Peucedanum thomsonii* – a rare Indian umbellifer rediscovered. Bull. Bot. Surv. Ind. 26 (3,4) : 236 (986).
- Nucleolar organising region in the Apiaceae (umbelliferae). Plant Systematics and Evolution 154 : 11-30 (1986).
- B-chromosomes in *Ligusticum thomsonii* var. *evolutior* C.B. Clarke (Umbelliferae). Cytologia 51 : 427-32 (1986).
- Floral biology of *Scandix pectin-veneris* Linn. Phytomorphology 35 (3,4) : 173-179 (1985).
- Reproductive biology of *Torilis arvensis*. Proc. Ind. Acad. Sci. (Bot.) 95 (4) : 227-236 (1985).
- Floral biology of *Torilis leptophylla*. Proc. Ind. Acad. Sci. (Bot.) 93 : 449-454 (1984).
- Plant teratological studies II. Stem fasciation in *Plantago indica* L. and *Morus alba* L. Ind. Jour. Forestry 6 (4) : 336-337 (1983).
- Studies on Kashmir Himalayan umbelliferae-IV. *Trachyspermum baluchistanicum* – An addition to Indian flora. Jour. Econ. And Tax. Bot. 1983.
- Studies on nucleolus and nucleolar chromosomes in agiosperms IV. Aberrant nucleolar chromosomes in *Heracleum candidans* Chromosome Infor. Service 34 : 6-7 (1983).
- Studies on Kashmir Himalayan umbelliferae – III. Some new records. Jour. Bomb. Nat. Hist. Soc. 1 : 243-45 (1983).
- Studies on Kashmir Himalayan umbelliferae - origin and affinities. Jammu University Review 1 : 23-48 (1983).
- Extinction of *Euryale ferox* from Kashmir lakes. Environmental Awareness 5 (1) : 11-12 (1982).
- Some novel tea substitutes from Kashmir. Ind. Forester 108 (4) ; 310-13 (1982).

- Wild edible plants of Kashmir. Some less known vegetable plants and beverages. Bull. Bot. Surv. Ind. 22 (1-4): 67-69 (1982).
- Studies on Kashmir Himalayan Umbelliferae I. *Apium leptophyllum* a new record for J&K State Jour. Tax. and Econ. Bot. 3(2) : 507-08 (1982).
- *Eremurus persicus* – an addition to the flora of Jammu and Kashmir State. Ind. Jour. Forestry 5 (3) : 244 (1982).
- Cytology of *Chaerophyllum capnoides* Crhomosome News letter 4 (3) : 61=63 (1981).
- *Argemone ochroleuca* sweet – a new record for Jammu and Kashmir State Ind. Forester 107 (7): 459-60 (1981).
- Cytomorphology of *Ammi majus* and *A. visnaga*. Perspectives in cytol & Genet. (Eds). G.K. Manna & Sinha, U: 617-622 (1981).
- Chromosome numbers in some umbellifers of Kashmir Himalaya Taxon 29 (4) : 543 (1980).
- A new base number for the genus *Bunium* L. Curr. Sci. 48 (15): 688-89 (1979)