

## CHAPTER 6

### BOTANY

#### Doctoral Theses

034. BHARDWAJ (Deepak)  
**Pisum Sativum GB Subunit of Heterotrimeric G-Protein and Its Interacting Partners Involved in Heat and Drought Stress Tolerance and No-Induced Stomatal Regulation.**  
Supervisors : Dr. Suman Lakhanpaul and Dr. Narendra Tuteja  
Th 20260

#### *Contents*

1. Introduction. 2. Review of literature. 3. Material and methods. 4. Results. 5. Discussion. 6. Summary and conclusions. 7. References and Appendix.

035. CHAUDHARY (Vidhi)  
**Biochemical and Ultrastructural Analyses of Antagonistic Interactions of Cyanobacteria with Plant Pathogenic Fungi and Their Biocontrol Potential in Tomato.**  
Supervisors : Dr. Radha Prasanna and Prof. A. K. Bhatnagar  
Th 20158

#### *Contents*

1. Introduction. 2. Material and methods. 3. Results. 4. Discussion. 5. Summary and conclusions.

036. ELANGBAM GEETANJALI  
**Effects of Elevated Carbon Dioxide on Growth of Selected Micro and Macro Algae.**  
Supervisor : Dr. Dinabandhu Sahoo  
Th 20159

#### *Contents*

1. Introduction. 2. Previous work. 3. Materials and methods. 4. Observations. 5. Discussion. 6. Summary and conclusion. 7. References.

037. HEIKHAM EVELIN  
**AM Symbiosis and Salinity Tolerance : Alleviation of Ionic, Osmotic and Oxidative Stress in Trigonella Foenum-Graecum L. Colonized by Glomus Intraradices Schenck and Smith.**  
 Supervisor : Dr. Rupam Kapoor  
Th 20155

*Contents*

1. Introduction. 2. Materials and methods. 3. Results and discussion Objective I. 4. Results and discussion Objective II. 5. Results and discussion Objective III. 6. Results and discussion Objective IV. 7. Summary and references.

038. IFFAT PARVEEN  
**Evaluation of the Recommended Loci for DNA Barcoding of Indian Orchids.**  
 Supervisor : Prof. Shashi B. Babbar  
Th 20162

*Contents*

1. Introduction. 2. Molecular systematics and DNA barcoding of orchids : A cursory perusal. 3. Materials and methods. 4. Results. 5. Discussion. 6. Summary and conclusions.

039. KHANDURI (Priyanka)  
**Reproductive Ecology, Developmental Biology and Phylogenetic Analysis of Some Indian Podostemaceae.**  
 Supervisor : Dr. Rajesh Tandon  
Th 20211

*Contents*

1. Reproductive ecology of selected species of podostemaceae. 2. Female gametophyte development in selected species of podostemoideae; podostemaceae. 3. Comparative morphology and anatomy of seedling development in the selected species of podostemaceae. 4. Isolation and molecular characterization of Fertilization Independent Endosperm (FIE) gene from podostemaceae. 5. Comparative morphology and molecular systematics of Indian podostemaceae. 6. Summary and conclusions.

040. SAVINDRA KUMAR  
**Potential of Sargassum Wightii and Gracilaria Verrucosa Two Important Seaweeds as Source of Food and Fuel Through Biorefinery Approach.**  
 Supervisor : Dr. Dinabandhu Sahoo  
Th 20164

*Contents*

1. Introduction. 2. Review of literature. 3. Material and methods. 4. Observations. 5. Discussion. 6. Summary and conclusion. References.

041. SHARMA (Basudha)  
**Structural, Biochemical and Elemental Analyses Accompanying Stigma Maturation and Early Post-Pollination Events in Sunflower.**  
 Supervisor : Prof. S. C. Bhatla  
Th 20157

*Contents*

1. Introduction. 2. Review of literature. 3. Material and methods. 4. Results and discussion. 5. Summary and conclusions. References.

042. SHARMA (Gaurav)  
**Bioprospecting of Artemisia Anna L. Micropropagation, Bioassay Driven Isolation and Elicitation of Artemisinin Effective Against Vectors of Malaria, Filarial, Degue and Japanese Encephalitis.**  
 Supervisor : Prof. Veena Agrawal  
Th 20210

*Contents*

1. Introduction. 2. Review of literature. 3. Materials and methods. 4. Observations. 5. Discussion. 6. Summary and conclusion. 7. References. Appendix.

043. SHWETA SHEKHAR  
**Taxonomic Studies on Inula L. and Related Genera in India.**  
 Supervisor : Prof. Arun K. Pandey  
Th 20160

*Contents*

1. Introduction. 2. Taxonomic history. 3. Material and methods. 4. Phytogeography. 5. Morphology and anatomy. 6. Paylnology. 7. Phylogenetic analyses. 8. Taxonomy. 9. General discussion. Summay and references.

044. SINGH (M. Arunjit)  
**Impact of Grazing, Epiphytism and Lower pH on Biomass Production of Kappaphycus Alvarezii (Doty) ex. P. c. Silva.**  
 Supervisor : Dr. Dinabandhu Sahoo  
Th 20156

*Contents*

1. Introduction. 2. Previous work. 3. Material and methods. 4. Observations. 5. Figures. 6. Discussion. 7. Summary and conclusions.

045. TAYAL (Pamil)  
**Tagging Pathogenicity Genes in Botrytis Cinerea By Insertional Mutagenesis.**  
 Supervisor : Dr. Rupam Kapoor  
Th 20161

*Contents*

1. Introduction. 2. Review of literature. 3. Objective I - Standardize agrobacterium tumefaciens mediated transformation as a tool for insertional mutagenesis for botrytis cinerea; and screen the putative trnsformants for impaired virulence. 4. Objective-II - Morphological, cultural and biochmeical characterization of selective transformants of botrytis cinerea. 5. Objective-III - Isolation and identification of T-DNA insert junctions. 6. Objective-IV - Cloning, complementation and characterization of native genes in mutants. 7. Summary and conclusions.

046. USHA RANI  
**Recombinant RBCL Cloned from Different Host Plants in Escherichia Coli as a Substrate for Insect out Proteases.**  
 Supervisor : Dr. Sudeshna Mazumdar-Leighton  
Th 20163

*Contents*

1. Introduction and review of literature. 2. Material and methods. 3. Evaluation of recombinant RBCLs, rubisco and casein as protease substrates. 4. Maldi tof PMF and MS/MS analyses. 5. Summary and conclusions. 6. References.

047. VERA YURNGAMLA KAPAI  
**In Vitro Plantlet Regeneration and Acclimatization of Orchids: Cymbidium Lunalin 'Atlas', Thunia Venosa Rolfe and Vanda Testacea (Lindl.) Reichb. F. and Application of Thin Cell Layer Technique in the Hybrid.**  
 Supervisor : Prof. I. Usha Rao  
Th 20165

*Contents*

1. Introduction. 2. Materials and methods. 3. Observations and results. 4. Discussion. 5. Summary. 6. Literature cited. 7. Illustrations.

## M.Phil Dissertations

048. AFTAB HASAN  
**Biomass, Carbon and Nutrient Estimates in the Delhi Ridge Forest Ecosystem.**  
 Supervisor : Dr. Ratul Baishya
049. AMIT KUMAR  
**Effects of Different Plantations on Soil Properties.**  
 Supervisor : Prof. K. S. Rao
050. BHARDWAJ (Ila)  
**Characterization of Brassica Mini3 Gene in Arabidopsis Thaliana, A Heterologous System.**  
 Supervisor : Dr. Sandipt Das
051. EKTA  
**Ecological Study of the Delhi Ridge Forest Ecosystem.**  
 Supervisor : Dr. Ratul Baishya
052. GUPTA (Mithlesh Kumar)  
**Isolation and Characterization of Fatty Acid Desaturase From Pinus Species.**  
 Supervisor : Dr. Girish Mishra

053. KAR (Ritwika)  
**Novel Strategy for Specific Silencing of Multiple Loci Using Artificial Micro-RNA.**  
Supervisor : Dr. Sandip Das
054. MISHRA (Priya)  
**Studies in the Morpho-Anatomical Variations in the Population of Taxus Wallichianazuce in Western Himalaya.**  
Supervisor : Dr. P. L. Uniyal
055. MISHRA (Shivani)  
**Assessment of Algal Diversity of the Cold Desert Ladakh and Their Poternal Applications.**  
Supervisor : Prof. D. B. Sahoo
056. REKHA  
**Effect on Gold Nanoparticles on Germination, Seeding Development and Antioxidant Metabolism of Sesame (Sesamum Indicum L).**  
Supervisor : Prof. Suman Lakhanpaul
057. SHARMA (Bhavna)  
**Detection and Partial Purification of Antifreeze Proteins From Leaves and Berries of Hippophaerhamnoides.**  
Supervisor : Dr. Renu Deswal
058. SINGH (Nutan)  
**Studies in the Diversity Masses in North Sikkim.**  
Supervisor : Dr. P. L. Uniyal
059. SINGH (Swati)  
**Comparative Transcriptional & Trnaslational Analysis of N-Mycdownregulatedlicke (NDC) Members in Arabidopsts.**  
Supervisor : Prof. R. Geeta
060. TASHI ANGMO  
**Study of Algal Diversity of Pangong Lake, Ladakh and Their Application.**  
Supervisor : Prof. D. B. Sahoo