

CHAPTER 4

BOTANY

Doctoral Theses

025. ALOK KUMAR
Characterization of an Organic Solvent Tolerant Lipase from an Antibiotic, Organic Solvent and Heavy Metal Resistant Soil Bacterium Acinetobacter sp. AHMI
Supervisor : Prof. Ved Pal Singh
Th 21264

Contents

1. Introduction 2. Review of literature 3. Materials and methods
4. Results and discussion 5. Summary 6. Conclusion 7.
References and appendices.

026. BALI (Sapinder)
Development of DNA Markers and a Genetic Linkage Map in Beveragial Tea.
Supervisors : Dr. Shailendra Goel and Prof. S.N. Raina
Th 21114

Contents

1. Introduction 2. Review of literature 3. Development of an efficient enrichment protocol for microsatellite isolation and a set of genomic microsatellite markers in beveragial tea 4. Development of genetic linkage map using AFLP and RAPD markers and mapping of drought tolerance trait for beveragial tea (TV-clones) 5. Summary and conclusion 6. References and Appendix.

027. BHARDWAJ (Ankur R.)
Genome-wide Discovery and Profiling of Development and Stress Related Non-coding and Coding RNAs from Brassica Juncea
Supervisor : Dr. Manu Agarwal
Th 21112

Contents

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

028. CHAUHAN (Vibha)
Systematics of the Genus *Indigofera* L. (Tribe Indigofereae, Fabaceae) in India with Emphasis on Trifoliolate Group.
Supervisor : Prof. Arun K. Pandey
Th 21118

Contents

1. Introduction 2. Taxonomic history 3. Material and methods
4. Morphology 5. Phytogeography 6. Pod morphology, anatomy
and evolution 7. Phylogenetic analyses 8. Taxonomy 9. New
species and new records 10. Discussion 5. Summary, references
and appendices.

029. MANGLA (Yash)
**Reproductive Biology and Identification of Male-specific SCAR
Marker in *Hippophae Rhamnoides* L.**
Supervisor : Dr. Rajesh Tandon
Th 21113

Contents

1. Introduction 2. Review of literature 3. Material and methods
4. Results 5. Discussion 6. Summary and conclusions 7. Literature
cited and Appendices.

030. MAYANGLAMBAM LELEEKA DEVI
**Studies on Three Species of Podostemaceae with Reference
to Morphology, Reproductive Biology, In-vitro Seed
Germination and Ecology.**
Supervisor : Dr. P.L. Uniyal
Th 21115

Contents

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

031. MUKHERJEE (Soumya)
Salt Stress-Induced Biochemical Changes Associated with Seedling Growth in Sunflower.
 Supervisor : Prof. S.C. Bhatla
Th 21263

Contents

1. Introduction 2. Review of literature 3. Material and methods
 4. Results and discussion 5. Summary and conclusions 6.
 References and research publications.

032. RAXWAL (Vivek Kumar)
Landscape of Open Chromatin in Abiotic Stresses and Characterization of Genome wide Binding Targets of HSFA7 Family Members in Arabidopsis Thaliana.
 Supervisor : Dr. Manu Agarwal
Th 21119

Contents

1. Introduction 2. Review of literature 3. Materials and methods
 4. Results (Landscape of open chromatin in abiotic stresses) 5.
 Results (Characterization of HSFA7 family member in heat stress) 6. Discussion 7. Summary and conclusions 8. References and Annexures.

033. SACHIN KUMAR
Characterization of Phytoplasma from Diverse Host Plants with Special Emphasis on Phyllody Affected Sesame (sesamum Indicum L.) and Studies on Aspects of Symptom Development: A Molecular and Bioinformatic Approach.
 Supervisor : Prof. Suman Lakhanpaul
Th 21121

Contents

1. Introduction 2. Screening of diseased plants for phytoplasma occurrence and molecular characterization of the detected phytoplasma 3. Detection, characterization and molecular diversity analysis of sesame affecting phytoplasma and its putative insect vectors 4. Identification of microflora coinhabiting phytoplasma in plant and insect host 5. Microscopic localization and real-time PCR based quantification of phytoplasma in phyllody diseased sesame plants 6. Comparative protein profiling of

healthy and phyllody affected sesame plants 7. Identification of secretory proteins in Onion Yellow's phytoplasma genome and the putative function of selected proteins using bioinformatics 8. Summary and conclusions. References. Annexure

034. SARITA KUMARI
Analyses of Genetic and Pathogenic Variation Among Botrytis Cinerea Isolates
 Supervisor : Dr. Rupam Kapoor
Th 21120

Contents

1. Introduction 2. Review of literature 3. Objective-I: Variations in *B. cinerea* isolates on the basis of cultural, morphological and biochemical traits 4. Objective-II: Molecular characterization and phylogenetic analysis among isolates through PCR based techniques 5. Objective-III: Evaluation of pathogenic potential and fungicide resistance 6. Summary and conclusions. References and Appendix.

035. SUBRAMANIAM (Shweta)
Systematics, Evolution and Biogeography of the Genus Crotalaria L.
 Supervisor : Prof. Arun K. Pandey
Th 21116

Contents

1. General introduction. 2. Taxonomy and distribution of the genus *Crotalaria* 3. Molecular systematics of Indian *Crotalaria* based on analyses of nuclear ribosomal DNA sequences 4. Reinstatement of subsection *Bracteatae* (Section *calycinae*) in the genus *Crotalaria* and a revised circumscription of the species in the complex 5. Biogeography and one major diversification of the Indian stem group of *Crotalaria* by molecular dating analyses revealed 6. The systematic and evolutionary significance of the pod morphological and anatomical variations in the fruits of *Crotalaria* with respect to their dehiscence mechanism 7. Seed morphological characteristics and its adaptive strategies for reproductive success of the genus *Crotalaria*. 8. Chromosome evolution and physical mapping of 45S and 5S rRNA gene sites in *Crotalaria lutescens* Dalz. by fluorescent in situ hybridization 9. Summary and References.

036. THAKUR (Anita)
Physiological and Biomolecular Events Associated with Seed Development in Sunflower.
 Supervisor : Prof. S.C. Bhatla
Th 21265

Contents

1. Introduction 2. Review of literature 3. Material and methods
 4. Results and discussion 5. Summary and conclusion 6.
 References and research publication.

037. THAKUR (Pratibha)
Reproductive Biology and Genetic Diversity of Lumnitzera Racemosa Willd. (Combretaceae) - An Endangered Mangrove Species.
 Supervisor : Prof. A K Bhatnagar
Th 21117

Contents

1. Introduction 2. Material and methods 3. Observations 4.
 Discussion 5. Summary and conclusions 6. Literature cited. 7.
 Illustrations 8. Published work.

M.Phil Dissertations

038. AFTAB HASAN
Biomass, Carbon and Nutrient Estimates in the Delhi Ridge Forest Ecosystem.
 Supervisor : Dr. Ratul Baishya
039. AMIT KUMAR
Effects of Different Plantations on Soil Properties.
 Supervisor : Prof. K. S. Rao
040. EKTA
Ecological Study of the Delhi Ridge Forest Ecosystem.
 Supervisor : Dr. Ratul Baishya
041. GUPTA (Mithilesh Kumar)
Isolation and Characterization of Fatty Acid Desturases From Pinus Spp.
 Supervisor : Dr. Girish Mishra

042. KAVITA DEVI
Transcription Factors Regulating Epicuticular Wax Formation: An Evolutionary Analysis.
Supervisor : Prof. R. Geeta
043. MISHRA (Priya)
Studies on Morphoanatomical Variation in Populations of Taxus Wallichiana Zucc. in Western Himalaya.
Supervisor : Dr. P. L. Uniyal
044. MISHRA (Shivani)
Assessment of Algal Diversity of the Cold Desert, Ladakh and their Potential Applications.
Supervisor : Prof. S. C. Bhatla
045. NEGI (Priyanka)
Cultural Morphological & Molecular Characterization of Alternaria Carthami Isolates Causing Leaf Spot Disease of Safflower.
Supervisor : Dr. Rupam Kapoor
046. SAKET (Rupa)
Studies in Leaf Development with Special Reference to Ficus.
Supervisor : Prof. R. Geeta
047. SINGH (Nutan)
Studies on the Diversity of Mosses in North Sikkim.
Supervisor : Dr. P. L. Uniyal
048. SINGH (Swati)
Comparative Transcriptional and Translational Analysis of N-MYC Downregulated Like (NDL) Gene Family in Arabidopsis.
Supervisor : Prof. R. Geeta
049. TASHI ANGMO
Study of Algal Diversity from Selected Lakes of Ladakh and their Applications.
Supervisor : Prof. Dinabandhu Sahoo
050. TOMAR (Vatsala)
Bioremediation of Heavy Metals and Radioactive Wastes : A Microbial Approach.
Supervisor : Prof. Ved Pal Singh