

LIST OF FIGURES

- Fig.1: (a-b) Flowers and fruits of *Dysolobium pilosum* (*Vigna pilosa*), (c-d): Plants, flowers and young pods of *Vigna adenantha*, (e-h): Morphological characters of *Vigna trilobata*.
- Fig. 2: (a-c) Habit, flowers and pods of *Vigna aconitifolia*, (d-e) and Morphological features of *Vigna sublobata*.
- Fig. 3: Morphology of plants, flowers, pods and seeds of *Vigna mungo* (a-d) and *Vigna radiata* (e-f).
- Fig. 4: Fruit and seed morphology of *Vigna unguiculata* var. *unguiculata* (a-c) and *Vigna unguiculata* var. *cylindrica* (d-e).
- Fig. 5: (a-e) Habit, flowers, fruits and seeds of *Dolichos trilobus*.
- Fig. 6: (a-d) Habit, flowers, fruits and seeds of different accessions of *Lablab purpureus*.
- Fig. 7: Morphological features of *Macrotyloma uniflorum* showing flowers, fruits and variation in seed colours.
- Fig. 8: (a-f) Natural habitat and morphological features of *Macrotyloma ciliatum*.
- Fig.9: (a-c) Growing habit, fruits and seed morphology of *Phaseolus vulgaris*.
- Fig.10: (a-c) Morphological characters of *Macroptilium lathyroides*. (d-f) Fruiting specimens of *Psophocarpus tetragonolobus*.
- Fig.11: Genomic DNA of 25 accessions of *Vigna umbellata* in 0.8% agarose gel with uncut λ DNA.
- Fig.12: Crude genomic DNA of 17 species of Phaseolinae in 0.8% agarose gel.
- Fig.13: Diluted genomic DNA of 17 species of Phaseolinae in 0.8% agarose gel.
- Fig.14: ISSR banding pattern of 25 accessions of *Vigna umbellata* with the primers T(GACA)₄, (GTG)₅, G(CT)₈ and (CA)₈AG.
- Fig.15: ISSR banding pattern of 25 accessions of *Vigna umbellata* with the primers C(AG)₈, G(GACA)₄ and (CT)₈G.
- Fig.17: Analysis of Molecular variance among different accessions of *Vigna umbellata*.
- Fig.18: RAPD banding pattern for 49 accessions (17 species) of Phaseolinae with the use of primer OPN-20, OPN-02, OPN-04, OPN-06.
- Fig.19: RAPD banding pattern of 49 accessions belonging to 17 species of Phaseolinae using primers OPN-16, OPN-12, OPA-10, OPA-03.
- Fig.21: ISSR banding pattern of 49 accessions belonging to 17 species of Phaseolinae with the use of primer (a) (AG)₈ (b) (GA)₈G (c) (AG)₈G and (d) (CT)₉G.

- Fig.22: ISSR finger prints of 49 accessions (17 species) of Phaseolinae generated using the primers (a) (GACA)₄G(b) (GACA)₄ (c) (AGG)₈ (d) G(CT)₈ and (e) (TGA)₈.
- Fig.16: Dendrogram constructed on the basis of ISSR data for 25 accessions of *Vigna umbellata*.
- Fig.20: Dendrogram showing coefficient of similarity among accessions of *Vigna mungo* and *Vigna radiata*.
- Fig.24: Phylogenetic tree generated for accessions of *Vigna mungo* and *Vigna radiata* using ISSR data.
- Fig.25: Tree constructed on the basis of combined RAPD and ISSR data in respect of accessions of *Vigna mungo* and *Vigna radiata*.
- Fig.26: Phylogram generated on the basis of RAPD data in respect of all species of *Vigna*.
- Fig.27: Dendrogram generated for all species and accessions of *Vigna* on the basis of ISSR data.
- Fig.28: Cladogram generated on the basis of combined RAPD and ISSR data in respect of all the species and accessions of *Vigna*.
- Fig.29: Dendrogram constructed on the basis of RAPD data for all the species of *Vigna* and *Phaseolus*.
- Fig.30: Cladogram showing the similarities among different species and accessions of *Vigna* and *Phaseolus* as revealed from ISSR analysis.
- Fig.31: Dendrogram generated on the basis of combined RAPD and ISSR data in respect of all the species and varieties of *Vigna* and *Phaseolus*.
- Fig.32: Phylogenetic tree based on RAPD data in respect of *Dolichos trilobus*, *Lablab purpureus* and their accessions.
- Fig.33: Dendrogram generated on the basis of ISSR data for the accessions of *Dolichos trilobus* and *Lablab purpureus*.
- Fig.34: Tree constructed for all the accessions of *Dolichos trilobus* and *Lablab purpureus* using combined RAPD and ISSR data.
- Fig.35: Dendrogram constructed on the basis of RAPD data for 49 accessions of 17 species of Phaseolinae.
- Fig.36: Phylogenetic tree constructed on the basis of ISSR data in respect of all the 49 accessions belonging to 17 species of Phaseolinae.
- Fig.37: Dendrogram showing inter relationship among all the 17 species (49 accessions) of Phaseolinae based on combined RAPD and ISSR data.