

## **Group name: Molecular Taxonomy**

### **Group works on:**

Assessment of diversity, molecular systematics and phylogeny of Indian plants. We use morphological and molecular techniques to unravel diversity and taxonomic problems in plants of economic and taxonomic importance. The molecular markers used in these studies include comparative sequencing of chloroplast and nuclear DNA regions and PCR based fingerprinting techniques like RAPD, DAMD, ISSR, AFLP, PCR-RFLP, etc.

### **Objectives:**

- To undertake molecular systematic and phylogenetic studies on selected genera and species complexes of Indian plants through morpho-taxonomic and molecular marker-based techniques.
- To carry out molecular analysis of genetic diversity in endemic, rare, endangered, threatened and economically important plant species of India.
- To collaborate with other R & D Groups and Divisions of CSIR-NBRI and similar other Institutions to facilitate research in molecular systematics.

### **Achievements:**

#### **Up to 11<sup>th</sup> Five Year Plan:**

The group has successfully carried out systematics and diversity studies in: Indian Rutaceae, Trifolieae, Loteae, Genesteae, Thermopsidae and *Astragalus* (Leguminosae), *Aconitum* (Ranunculaceae), *Chenopodium* (Amaranthaceae), *Murraya* (Rutaceae) *Podophyllum* (Podophyllaceae), *Phyllanthus* (Phyllanthaceae), *Punica* (Punicaceae), *Sapindus* (Sapindaceae), *Tricholepis* (Asteraceae), molecular phylogeny of *Citrus*, and Punicaceae (Myrtales).

#### **In 12<sup>th</sup> Five Year Plan:**

The group is currently pursuing its research activities on significant taxa like *Bergenia*, *Bixa*, Cucurbits, *Curcuma*, *Ephedra*, *Ficus*, *Gladiolus* and *Merope*.

### **Ongoing Projects:**

- Bio-prospection of plant resources and other natural products (BioprosPR-BSC-0106)
- Introduction, domestication, improvement, and cultivation of economically important plants (AGTC-BSC-0110)

### **CSIR-NBRI In-house Projects:**

- Taxonomic studies and digitization of plant diversity of India (OLP-0083)

### **Outside Agencies like DBT/DST/MOEF Projects:**

### **Foreign Collaborations:**

### **Areas Open for Collaboration:**

- Molecular Systematics and Phylogeny of Plants

### **Publications:**

- Books: 04
- Research Papers: 150
- Review Articles: 05

### **Feedback required:**

Scientists working in the areas of Molecular Systematics are welcome to interact with this group for exchange of new ideas and information.

**Name of Group Leader:** Dr. T. S. Rana

**Phone:** +91 522 2297854

**Fax:** +91 522 2205836

**Mobile:**

**Email:** [ranats@nbri.res.in](mailto:ranats@nbri.res.in); ranatikam@gmail.com