

DNA markers for understanding mangrove genetics

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Abstract

Knowledge of genetic diversity within and among populations is important for conservation management. To ensure the optimal conservation of the mangrove forests in any region, it is essential to explore the genetic diversity of the populations. Population genetic studies of mangroves are also essential for evaluating afforestation, domestication, and breeding programmes. Several species of mangroves at high risk of extinction may disappear well before the next decade if existing protective measures are not enforced. It is in this context, the understanding of mangroves for their genetic diversity is a matter of urgency. Mangroves display significant inter- and intra-specific variations as evident by the molecular markers such as AFLP and RAPD. Microsatellite markers are the tools being used for understanding the genetic variations. RFLP is also a genetic marker which allows direct detection of variation at the DNA level. Species of *Rhizophora* and *Avicennia* are important components of the mangrove forest vegetation. There are several natural hybrids of *Rhizophora* species but their parental species are not clearly understood. In this regard, we attempted two molecular markers such as microsatellite and RFLP to find out the genetic relationship between the species of *Rhizophora* including a natural hybrid. Genetic diversity of *Avicennia* species at both intra- and inter-populations along the east coast of India using RAPD as a molecular marker was also attempted. The results are discussed in the paper.

Keywords

molecular markers, genetic variation, hybrid disputes, mangrove conservation