عنوان مقاله:

Evaluation of genetic diversity of *Avicenniaceae* family in Indian sundarban by using RAPD and ISSR markers

محل انتشار:

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نویسندگان:

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خلاصه مقاله:

The present investigation was undertaken to describe the relationships among species of Avicenniaceae family which have both economic and medicinal activities, collected in Indian Sundarban by the help of RAPD and ISSR markers. In this study, three different species of Avicennia genus were collected. Frozen young leaves (-۲۰۰C) were taken to isolate the genomic DNA using a slightly modified CTAB method. For this experiment, a set of ۱۰ RAPD and ۱۰ ISSR markers were used to analyse the genetic diversity. The study showed that ISSR markers were more efficient than RAPD markers for polymorphism detection, polymorphic bands content per primer and total no of loci detection per primer as they were ۷۵.۵۳%, ۱۱.۹ and ۱۵.۶, for ISSR and ۶۹.۰۴%, ۹.۶ and ۱۳.۷ for RAPD, respectively. However, the observed no of alleles, effective no of alleles, Nei's (۱۹۷۳) gene diversity and Shannon's information index (I) were higher for RAPD (۱.۶۰۸۷, ۱.۶۰۸۷, ۰.۳۰۴۳ and ۰.۴۲۱۹, respectively) than for ISSR (۱.۵۳۵۷, ۱.۴۳۵۶, ۰.۲۳۴۵ and ۰.۳۳۵۷, respectively). However, no such reports on genetic diversity using ISSR markers were available in the genus Avicennia. The results of this study can be seen as a starting point for future researches aimed to develop phylogenetic tree using more samples and more molecular markers.

کلمات کلیدی:

Avicenniaceae, ISSR, mangrove, RAPD, sundarban