

Impact of ecological factors on genetic diversity in *Nothapodytes nimmoniana* Graham based on ISSR amplification

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ABSTRACT:

Nothapodytes nimmoniana Graham is one of the most important anti cancer phytochemical yielding plant belongs to the family of *Simarubaceae*. In order to evaluate the genetic diversity of different *Nothapodytes nimmoniana* land races based on molecular markers, five landraces were collected from different populations of the Western Ghats of South India. The ISSR methodology utilized employed for evaluating the genetic diversity within the species using 12 ISSR primers. A total of 108 bands were produced. The overall percentage polymorphism was 87.10. Nei's overall gene heterozygosity was found to be 0.333. The genetic distance between the samples ranged from 0.214 to 0.399 and the genetic identity ranged from 0.6637 to 0.8068. The Shannon's information index was found to be 0.4924. The UPGMA dendrogram showed the relationship between five different populations in two major clusters. Genetic diversity was correlated with soil factors for ascertaining the validity of the markers.

Keywords:

Ecological factors, Genetic diversity, *Nothapodytes nimmoniana*, ISSR.