

## Genetic variations of *Adiantum incisum* Forssk. revealed by ISSR markers in the Western Ghats of Tamil Nadu, India

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**ABSTRACT:**

Inter Simple Sequence Repeats (ISSR) markers were used to measure the levels of genetic variation and patterns of the population structure within and among the five populations of *Adiantum incisum*, a terrestrial fern in India. For this purpose, a detailed study was conducted in three replicates at 2011-14 season in the collection points of Western Ghats, South India. Five wild *A. incisum* accessions (maiden hair) were evaluated for genotyping experiment. Results showed a significant variation among genotypes and were classified based on this variation in four groups by genetic cluster analysis. In the experiment, five ISSR primers amplified 63 polymorphic bands. The genetic identity data among genotypes were calculated and varied from 0.4603 to 0.7460. The percentage of polymorphism showed superior genotype that could be used for the conservation of species. ISSR proved to be a helpful marker for genotype identification prediction within a closed group of inter specific population in the study area.

**Keywords:**

ISSR analysis, *Adiantum incisum* Forssk, Genetic variation, Southern Western Ghats.