

Molecular and Phytochemical Fingerprinting of Anti-Cancer Drug Yielding Plants in South India

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Abstract : Studies were performed to select the superior genotypes based on intra-specific variations, caused by phytogeographical, climatic and edaphic parameters of three anti cancer drug yielding mangrove plants such as *Acanthus ilicifolius* L., *Calophyllum inophyllum* L. and *Excoecaria agallocha* L. using ISSR (Inter Simple Sequence Repeats) markers and phytochemical analysis such as preliminary phytochemical tests, TLC, HPTLC, HPLC and antioxidant tests. The plants were collected from five different geographical locations of the East Coast of south India. Genetic heterozygosity, Nei's gene diversity, Shannon's information index and Percentage of polymorphism between the populations were calculated using POPGENE software. Cluster analysis was performed using UPGMA algorithm. AMOVA and correlations between genetic diversity and soil factors were analyzed. Combining the molecular and phytochemical variations superior genotypes were selected. Conservation constraints and methods of efficient exploitation of the species are discussed.

Keywords : anti-cancer drug yielding plants, DNA fingerprinting, phytochemical analysis, selection of superior genotypes

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