

Genomic Relations among Two Non-mangrove and Nine Mangrove Species of Indian Rhizophoraceae

Arup Kumar Mukherjee^{a,*}, Laxmikanta Acharya^b, Pratap Chandra Panda^b, Trilochan Mohapatra^c, and Premananda Das^{a,§}

^a DNA Fingerprinting Laboratory, Regional Plant Resource Centre, Nayapalli, Bhubaneswar 751 015, Orissa, India. Fax: 91-674-2550274. Email: arupmukherjee@yahoo.com

^b Taxonomy and Conservation Division, Regional Plant Resource Centre, Nayapalli, Bhubaneswar 751 015, Orissa, India

^c DNA Fingerprinting and Rice Genome Mapping Laboratory, NRC on Plant Biotechnology, Indian Agricultural Research Institute, New Delhi 110 012, India

[§] Present address: INSA Senior Scientist, GMR Research Foundation, 4-123/E Swaroop Nagar, Padmavathi Colony, Uppal Kalan Municipality, Hyderabad 500039

* Author for correspondence and reprint requests

Z. Naturforsch. **59c**, 572–578 (2004); received February 12/April 7, 2004

Random amplified polymorphic DNA (RAPD) and amplified fragment length polymorphism (AFLP) markers were used to study the genomic relationship among 11 members of Indian Rhizophoraceae represented by nine true mangroves and two non-mangrove species. The AFLP and RAPD bands were scored and analyzed for genetic similarities and cluster analysis was done which separated the 11 species studied into two main groups, the true mangroves and the non-mangroves. The polymorphism observed for these markers showed a high degree of genetic diversity among the constituent taxa of the family. The phylogenetic relationship inferred from molecular marker systems supported the traditional taxonomic classification of the family Rhizophoraceae based on morphological characters at the levels of tribe, phylogeny and delimitation of genera and species, except the intra-generic classification of the genus *Bruguiera* and the placement of *Rhizophora* in the family Rhizophoraceae.

Key words: AFLP, RAPD, Rhizophoraceae