

# Identification and Genetic Variation among *Hibiscus* Species (Malvaceae) Using RAPD Markers

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Germplasm identification and characterization is an important link between the conservation and utilization of plant genetic resources. Traditionally, species or cultivars identification has relied on morphological characters like growth habit or floral morphology like flower colour and other characteristics of the plant. Studies were undertaken for identification and determination of genetic variation within the two species of *Hibiscus* and 16 varieties of *Hibiscus rosa-sinensis* L. through random amplified polymorphic (RAPD) markers. Primer screening was made by using the DNA of variety “Prolific”. Genetic analysis was made by using ten selected decamer primers. A total of 79 distinct DNA fragments ranging from 0.3 to 2.5 kb were amplified by using ten selected random decamer primers. The genetic similarity was evaluated on the basis of presence or absence of bands. The cluster analysis indicated that the 16 varieties and two species formed one cluster. The first major cluster consisted of three varieties and a second major cluster consisted of two species and 13 varieties. The genetic distance was very close within the varieties and also among the species. Thus, these RAPD markers have the potential for identification of species/varieties and characterization of genetic variation within the varieties. This is also helpful in *Hibiscus* breeding programs and provides a major input into conservation biology.

*Key words:* Genetic Relationship, *Hibiscus* sp., RAPD Marker