

## ABSTRACT

*Exacum* (L) is a rare endemic ornamental plant found in Sri Lanka. The most recent classification system of Sri Lankan *Exacums* identified seven species and three sub species of *Exacum trinervium* complex. Even plants of the same species growing in different localities show variation in morphological characters, the analysis of genetic variation is important. Detection of genetic polymorphism using molecular marker is easy and it provides more reliable information than phenotypic analysis. PCR based techniques like RAPD, microsatellites and minisatellites are more popular and convenient to investigate genetic polymorphism in our conditions.

In order to assess the genetic variation in several *Exacum* populations, the RAPD technique was employed. DNA was extracted using CTAB method from young, tender leaves and RAPD profiles were generated for four taxa of genus *Exacum* using 22 Random primers. Five primers (OPQ 18, OPS 17, OPN 1, OPN 20 and OPQ 11) produced clear polymorphic RAPD profiles.

With the comparison made using banding profiles, it is evident that *E trinervium* and *.macranthum* are the closest and amongst the 4 species studied. *E. petiolare* showed the highest divergence while *E walkeri* was showing more affinity for the earlier group.