

# IN VITRO STUDY OF DENDROBIUM CREPIDATUM AND ANALYSIS FOR GENETIC HOMOGENEITY BY USING RAPD MARKER

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*Dendrobium crepidatum* Lindl. & Paxton is a highly medicinal and threatened epiphytic orchid of Nepal, listed under the Appendix II of CITES. The main purpose of this study was to carry out in vitro shoot multiplication and use RAPD technique to study the variation among the wild population (mother plant) and the in vitro regenerated of *Dendrobium crepidatum*. Shoot tips obtained from in vitro culture of seeds were inoculated on MS (Murashige and Skoog 1962) medium with different growth regulators, Benzyl Amino Purine (BAP), Naphthalene Acetic Acid (NAA), Gibberellic Acid (GA3) and coconut water supplement. It was found that the most effective medium for shoot multiplication was MS medium supplemented with 10% coconut milk, 2 mg/l BAP and 0.5 mg/l NAA, which regenerated healthy greenish shoots. In molecular investigation, 4 arbitrary primers were used for RAPD analysis of the in vitro regenerated normal shoots, callus regenerated shoots and wild sample. As such, in the study of in vitro regenerated shoots formed through callus showed polymorphism while the remaining normal shoots showed genetic homogeneity. The possible cause of the polymorphism may be due to the production and abnormal growth on the shoots (possible somaclonal variation).