Conservation strategies for jerangau merah (Boesenbergia stenophylla) using DNA profiling and micropropagation

ABSTRACT

Jerangau merah (Boesenbergia stenophylla) is highly endemic to the highland of Borneo. Their medicinal value attracts many plant collectors which raise up to the concern on their population size .A study was carried out to establish the conservation approaches for this species. The objectives of this study are to determine the genetic variations among accession from Bario and to develop the in vitro culturing protocol for productions of seedlings. Genetic variation studies were done using simple sequence repeats (SSR) and random amplified polymorphic DNA markers (RAPD). Micropropagation of shoot tips was carried out using BAP and NAA plant growth regulator supplemented in MS media. The genetic variation studies using SSR and RAPD marker show no variations among accession and three sub populations. Two steps protocol was recommended for the tissue culture of B. stenophylla. But it start with culturing using shoot tips in MS media containing 0.2 mg/L NAA for shoot induction followed by subï culturing to MS media with 2 mg/L BAP +0.4 mg/L NAA for rapid shoot elongation. This study suggests that their conservation should remain as in situ and seedling production under optimum nursery conditions should be carried out near to their natural populations.

Keyword: Boesenbergia; Jerangau; Microsatellites