Evaluation of Suitable Potting Media and In-vitro Protocol for *Kendrickia walkeri* Hook.f.

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ABSTRACT

Kendrickia walkeri, is an epiphytic climbing shrub that belongs to the Melastomataceae family and it is vulnerable and included to the National Red List 2012 in Sri Lanka. Hence present study was aimed to find out suitable potting media for vegetative propagation and to develop suitable protocol for in-*vitro* propagation of *Kendrickia walkeri*. The pot experiment was laid out in a Completely Randomized Design (CRD) with three treatments randomized in seven replicates. Treatments were three different potting media i.e. coir dust only, coir dust: sand and coir dust: leaf mold: sand. Semi-wood stem cuttings were planted and each pot were kept in single propagators for twenty one days. After that, the data were obtained on stem height, number of new leaves, number of shoots and number of roots with two weeks intervals. Data were tabulated and analyzed using Analysis of Variance (ANOVA) procedure of Statistical Analyzing System (SAS). Duncan's New Multiple Range Test (DNMRT) was performed to compare the differences among treatment means at p=0.05. Among different treatments the highest stem height, number of leaves/shoots as well as roots per plant was recorded in coir dust, leaf mold and sand medium. The laboratory experiments was laid out in a Completely Randomized Design (CRD) with six treatments randomized in four replicates. Treatments were different protocols i.e. 1% $HgCl_2$ (3 minutes), 1% $HgCl_2$ (4 minutes), 2.5 % Clorox + 1% $HgCl_2$ (4 minutes), 5 % Clorox + 1% $HgCl_2$ (4 minutes), 7.5 % Clorox + 1% $HgCl_2$ (4 minutes) and 2.5 % Clorox + 1% $HgCl_2$ (5 minutes). Nodes were treated according to the protocols and inoculated in Murashige and Skoog (MS) medium supplemented with 1.5 mg/ L benzyl amino purine (BAP). The data of number of survived explants were taken with three days intervals. The highest number of survived explants were recorded under, 2.5 % Clorox + 1% $HgCl_2$ (5 minutes) protocol. Hence, coir dust, leaf mold and sand medium can be considered as a successful potting media for vegetative propagation of *K. walkeri* by nodal stem cuttings and *K. walkeri* exposed to 70 % ethanol for 15 seconds, 2.5% Clorox for 5 minutes and 1% $HgCl_2$ for 5 minutes duration, can be recommended for direct plantlet regeneration from nodal explant of *Kendrickia walkeri* and further studies for micro propagation technique.

Key words: *Kendrickia walkeri, vegetative propagation, in-vitro protocol,*

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