

Development of Micro-Propagation Protocol for *Aponogeton dassanayakei*

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Aponogeton is a genus of freshwater aquatic plants and there are five *Aponogeton* species native to Sri Lanka with three endemic members. They have a high demand as an ornamental aquarium plant, food source and medicinal herb. Due to these reasons over exploitation of plants from natural habitats is common with poor attention on conservation. *Aponogeton dassanayakei* is a newly identified *Aponogeton* species from Sri Lanka. This study was carried out to develop a micro-propagation protocol for newly identified *Aponogeton dassanayakei*. Treatments included full strength Murashige and Skoog (MS) solid basal media supplemented with combinations of 6-benzylaminopurine (BAP) (0.00, 1.00, 2.00 mg L⁻¹) with 0.10 mg L⁻¹ Indole-3-acetic acid (IAA) and without IAA for both shoot initiation and multiplication in seed culture. Ten replicates obtained per each treatment. During shoot initiation seed germination rate, seedling height and number of leaves per seedling were taken as the response variables and shoot multiplication stage plant height and number of leaves were considered. Application of hormones showed significant effect ($p < 0.05$) on both number of leaves and seedling height but not on seed germination rate in shoot initiation. Hormones supplemented in solid media during shoot multiplication were shown significance difference ($p < 0.05$) in plant height but not in number of leaves. According to the study, MS medium supplemented 1.00 mg L⁻¹ BAP is the best for shoot initiation. MS medium containing 2.00 mg L⁻¹ BAP is best for shoot multiplication. The study demonstrated that micro-propagation could be useful for large scale propagation of *Aponogeton dassanayakei* while conserving the plant in natural habitat.

Keywords: *Aponogeton dassanayakei*, Micro propagation, Murashige and Skoog medium, 6-benzylaminopurine, Indole-3-acetic acid