B-55: Investigation of *Munronia pumila* Wight through tissue culture techniques

K Hirimburegama, A S Seneviratne, N Gamage, J Ganegama Arachchi
(*Dept of Botany, Univ of Colombo, Colombo 3*)

Munronia pumila Wight (Binkohomba, Fam: Meliaceae), is an endemic medicinal plant in Sri Lanka. Traditional propagation is through seeds. Despite the high demand in the local market, there has been no organised cultivation of this plant. The latter is required to produce a sufficient amount to meet the demand, while preserving the plant. The present practice is to use wild plants for commercial purposes. As a result, the plant has become rare and if no protective measures are taken, it may become extinct in Sri Lanka.

Propagation through seeds is not sufficient due to poor production of seeds and their low viability. Propagation through stem cuttings is also not in practice. Therefore, tissue culture techniques offer a promising alternative.

A study was done to determine the possibility of propagating through tissue culture techniques using mature leaf, petiole, seed and floral parts. They were cultured on basic Murashige and Skoog (1962) medium with BAP and 2,4-D at different concentrations, both in light and complete dark.

The highest callus formation was observed with mature leaf on 2,4-D and BAP in the dark. Cotyledon and hypocotyl parts of the seed also produced a callus.

Leaf callus in the absence of growth regulators and also in BAP (0.2 mg/l), produced green bud-like structures, which did not develop into shoots. Shoot formation occurred on the callus of cotyledon and hypocotyl in the presence of BAP and NAA. The hypocotyl callus on 5 mg/1 BAP and 2 mg/1 NAA, formed multiple shoots.

This suggests the possibility of micropropagation of *Munronia pumila* through callus of hypocotyl.