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A study on the effect of some factors on rooting and plantlet regeneration of *Chirita zeylanica* and *C. walkeri* leaf cuttings

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Chirita zeylanica and *Chirita walkeri* (Gesneriaceae) are endemic wild flowering plant species found in Sri Lanka having an exploitation potential within commercial floriculture. Both species can be propagated by seedlings, soft wood cuttings, and leaf cuttings. Seedlings and soft wood cuttings are not entirely efficient methods of mass propagation as these methods cannot produce a large number of plants within a short period. But, one *Chirita* leaf can produce a cluster of plantlets within 3-4 weeks. Therefore, this study was conducted to determine the most suitable rooting medium, method of placement of the leaf cutting in the medium, and effect of exogenous Indole butyric acid (IBA) for successful rooting and higher rate of plantlet regeneration in *C. zeylanica* and *C. walkeri* leaf cuttings. Sand only and sand and compost, 1:1 media were used with three methods of leaf cutting placements; only leaf petiole dipped in medium (A), entire leaf on the surface of the medium (B) and petiole and half of the leaf dipped in medium (C), with and without IBA application. The treatments were arranged in a factorial experiment using a randomized complete block design (RCBD) with 6 replicates. The mean number of primary roots, root length, and number of plantlets were recorded after 60 days. For both species, sand medium was significantly effective on rooting. For *C. zeylanica*, the effect of placements A and B gave significantly high rooting and number of plantlets in the sand medium. For *C. walkeri*, cutting placement B was significantly effective on rooting. For both species IBA treatment showed no significant effect. Plantlets formation could not be observed in *C. walkeri* leaf cuttings even after 60 days.

Keywords: *Chirita zeylanica, Chirita walkeri,* IBA, leaf cutting placement, plantlet regeneration

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