

## Flavonoid and molecular markers for *Cryptocoryne* species in Sri Lanka

The genus *Cryptocoryne* Fischer ex Widler in the family Araceae has ten endemic species in Sri Lanka. At present all these species are highly exploited for the medicinal and aquarium trade. Currently the identification of *Cryptocoryne* species is solely based on the morphology of the inflorescence, which is restricted to a short period of the year. It is necessary to develop alternative methods to distinguish species of the genus *Cryptocoryne*, which utilises minimum amount of sample material from these threatened species. One of the objectives of the study was to identify flavonoid markers for the different *Cryptocoryne* species using standard Chromatographic techniques and UV-visible Absorption Spectroscopy. Other objective was to use polymerase chain reaction based random amplified polymorphic DNA technique (RAPD-PCR) to obtain DNA polymorphism to reveal molecular markers to distinguish species.

Fresh samples of five species growing in the laboratory were used as the identification has been confirmed already using floral characters. In the flavonoid survey, the presence of apigenine (a flavone) was observed in the four species *C. wendtii*, *C. beckettii*, *C. walkeri*, and *C. undulata*. *Cryptocoryne thwaitesii* demonstrated the presence of an unusually methelated flavone in the absence of apigenine, supporting the sub generic classification of the genus that already exist. Two more phenolic compounds showed the polymorphism in occurrence within the five species selected and these are yet to be characterized. Further studies are being carried out to identify the glycosides of the above aglycones, to be used as species markers.

A suitable method has been identified for DNA isolation from *Cryptocoryne* species. Out of five Operon primers employed, OPC 14, OPE 4 and OPD 8 gave DNA profiles suitable for comparison of the species used for the study.