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ELECTROPHORETIC STUDIES OF *EXACUM*

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Exacums of Sri Lanka, which produce large, attractive flowers and grow wild, have the potential of becoming commercially important flowering potted-plants. There are two recent morphological treatments for the taxa found in Sri Lanka, but the cytogenetics and chemotaxonomy of the genus have never been investigated.

Twenty two Operational Taxonomic Units (OTU's) of eight taxa of *Exacum* were collected from original habitats in Sri Lanka, and were grown along with three CTU's of *E. affine*, in a glasshouse at the Pennsylvania State University.

Isozyme analysis of foliar tissues were conducted using starch gel electrophoresis. Banding patterns for eight enzymes (ACP, AKP, DIA, GALDH, IDH, LAP, MDH, 6-PGD) were employed to construct clustergrams and to arrive at distant coefficients, which demonstrate the relatedness of the taxa.

The classification system proposed on the basis of isozyme analysis is largely in agreement with the existing classification systems of *Exacum*[1,2]. Seven species, including a species complex, are recognized in the Sri Lanka flora. The *E. trinervium* Complex contains the closely related species *E. macranthum*, *E. pallidum* and *E. trinervium* (with two sub-species *trinervium* and *ritigalensis*). *E. pedunculatum*, *E. axillare* and *E. petiolare*, along with *E. affine* differ widely from each other, and from the texa of *E. trinervium* complex.

References

1. Cramer, L.H. (1981) Gentianaceae In: Dassanayake, M.P. (ed.). A Revised handbook to the flora of Ceylon. Vol. 3 Amerind Publishing Co., New Delhi: pp 55-66.

2. Klackenberg, J. (1983) A reevaluation of the genus Exacum (Gentianaceae) in Ceylon. Nord. J. Bot. 3 355-570