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Preliminary study on inter-specific relationships of the genus *Pandanus* based on flavonoids and structural characters

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Fifty six leaf flavonoid characters of fifteen *Pandanus* species were analyzed in order to infer inter-specific relationship of the genus. The existing classification for the genus is mainly based on leaf morphological characters as the flowers are not very common (Trimen,1974 and Dassanayake & Fosberg 1981).

Leaf flavonoids, anatomical and morphological characters were observed and multivariate analysis was carried out using SYNTAX 2000 software package to study the relationships of the taxa. Twenty one percent of leaf flavonoid glycosides were found to be common in the selected 15 species of *Pandanus*. The phenograms were produced considering only the structural characters and also together with the flavonoid characters. The phenogram of the cluster analysis based on the analysis of 25 morphological, 01 anatomical and 56 flavonoid characters inferred relationships better than phenogram resulted from analysis of only the structural characters. According to the phenogram produced from the combination of characters, two varieties of *P. amaryllifolius* (vern Rampeh), which have differences in morphological features shared common cluster. This is in agreement with the consideration of these two as varieties of *P. amaryllifolius* by Dassanayake and Fosberg (1981). Further, two cultivated species of *Pandanus,* with variegated leaves, are seem to be closely related taxa according to the present phenogram.

The present study proved that the use of combination of chemical and structural characters would be more pragmatic in developing phenograms which indicate reliable inter-specific relationships in the taxonomic revisions of the genus *Pandanus*.

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