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# COMPARATIVE LEAF MICROMORPHOLOGY AND PALYNOLOGY OF SELECTED *Ruellia* L. AND *Justicia* L. SPECIES FROM ACANTHACEAE FAMILY AND ITS TAXONOMIC SIGNIFICANCES

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## Abstract

A leaf micromorphology and palynological study was conducted on the selected Acanthaceae species namely *Justicia betonica* L., *Justicia carnea* Lindl., *Justicia procumbens* (L.) Lam., *Ruellia repens* L., *Ruellia simplex* C. Wright and *Ruellia tuberosa* L. Taxonomists often faced difficulties in identifying and classifying species within the Acanthaceae family, especially when plant specimens obtained from the field samplings are incomplete such as the absence of flowers and fruits. Thus, the objective of this study is to identify and list the characters of leaf micromorphology and palynology that are useful in identification of species in Acanthaceae. The procedures involved such as dehydration, critical point drying, gold coated and examination under scanning electron microscope Zeiss Supra 55VP and were analyses using SmartSEM software. Results revealed the common and

variations characteristics of leaf micromorphology that can be useful in identification of species and genera studied such as type of epicuticular waxes, cuticular ornamentations, stomata characteristics and the presence of trichomes. Findings in this study also have shown some variations in the pollen morphology that can be used in species identification and classification. In conclusion, the results have demonstrated that leaf micromorphology and pollen morphology characteristics have taxonomic significance and can be used as an additional data especially in identification and classification of species as well as genera of Acanthaceae. © Malaysian Journal of Microscopy (2025). All rights reserved.

Author keywords

Acanthaceae; leaf micromorphology; palynology

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