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TAXONOMIC SIGNIFICANCE OF LEAF EPIDERMIS MICROMORPHOLOGICAL CHARACTERISTICS OF Pentace L. (MALVACEAE s.l) IN MALAYSIA

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Abstract

Pentace (Malvaceae s.l) is known to have difficulty in indentification at species level due to high similarities in morphological characteristics. A study on the leaf epidermis micromorphological characteristics were done in 18 Pentace species from Malaysia under scanning electron microscope to investigatate its' systematic significance. Variations were found in stomata, trichome, waxes and cuticle ornamentation. Six types of stomata observed were anomocytic, parasitic, diacytic, anisocytic, tetrasitic and staurocytic. P. hirtula was identified with anomocytic and P. erectinervia with tetracytic stomata and P. excelsa with wax-coated stomata. Cuticular striae was present only in three species. Film, crustose and granules waxes were found in this study. There were 22 types of trichomes recorded, including simple, non-cushioned armed, stellate, stellate rotate, stellate lepidote, dentate, lepidote, multiradiate clump trichomes, multicellular glandular, stelate rotate, capitate glandular, peltate glandular trichomes, three types of radial, capitate glandular and cushioned stellate. P. acuta and P. eximia were identified with epicalyx, P. floribunda with fan and P. strychnoidea with palmatifid radial trichomes. P. grandiflora can be identified by the presence of cluster peltate glandular trichomes. In conclusion, the leaf epidermis micromorphological characteristics definitely have taxonomic value in Pentace and can be used in differentiation and identification up to the species level.

Author keywords

leaf epidermis; leaf micromorphological; Pentace; trichomes

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