



LEAF ARCHITECTURE AS A PROMISING TOOL IN CONFIRMING IDENTITY OF CONFUSING PLANT TAXA

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ABSTRACT – The search for stable taxonomic characters has always been a subject of interest among taxonomists and systematists. Several studies had been using tools such as gross morphology, anatomy, biochemistry and molecular biology to address or somehow resolve taxonomic problems. However, these studies were limited, depending on the resources made available to a laboratory or office. This paper presents leaf architecture as another potential tool in taxonomy. Leaf architecture refers to patterns of venation in leaves, found to be genetically fixed. Published literature in selected journals were reviewed in detail and were synthesized. The review indicated that leaf architecture is currently used in 1) species identification, 2) species description, and 3) species classification. It has been quite effective in addressing nomenclatural issues between two morphologically similar species, very common in many cultivated plants, like *Hoya*, causing taxonomic confusion among gardeners, hobbyists and even taxonomists. Gaps include, 1) small number of specimens or small number of representative species (for family and generic studies), though leaf samples taken, were at least 30 per species, 2) samples were taken from a single source most of the times, disregarding possible variation when samples are from diverse localities, topographies, elevations and agroclimatic conditions, and 3) age of the leaf was not a consideration in collecting samples. Despite these gaps, though, leaf architecture has a very high potential to complement reproductive structure-based Linnean taxonomy and the modern day molecular taxonomy.

Keywords: leaf morphology, leaf venation, systematics, taxonomic evidences



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