Abstract

Hoya spp (Apocynaceae: Asclepiadaceae) has two types of leaf, succulent and non succulent. Succulent plant adapted well in extreme conditions, especially during dry period. Anatomical characters can be used to identify, classify, and determine plant relationships. The aims of this research were to identify anatomical characters of succulent Hoya's leaf and to determine the relationships among them. Ten examined Hoya species (H. diversifolia, H. latifolia, H. dolichosparte, H. bilobata, H. lacunosa, H. verticillata, H. purpureofusca, H. kuhlii oblanceolata and H. micrantha) showed anatomical similarity in their epidermal layer, hypodermal, mesophyl, and absence of sponge tissue at mesophyl. However, there are differences among the species. Based on paradermal section observation, two types of stomata were only found at the abaxial side, individual stomata and both individual and stomatal cluster. Hoya diversifolia has the smalest stomatal size, while Hoya latifolia has the biggest. H. lacunosa has the lowest stomatal density, while H. bilobata has the highest. H. diversifolia H lacunosa and H. oblanceolata have the lowest stomatal index, while H. bilobata has the highest. Observation on transversal section showed that H. purpureofusca has the lowest leaf thickness, while H. kuhlii has the highest. The hierarchival cluster analyses based on anatomical leaf characters showed different patterns of relationships which diversified as three groups at scale 15.