

Thepwalee Khananthong 2014 : Leaf Anatomical Characteristics of some Bamboo Genera in Thailand.
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Bamboo leaves anatomical structures were studied for the propose of Bamboo classification especially at the genus level and for applying these data as basic information for further leaves study. The leaves of 14 genera included 40 species belong to Sub – family Bambusoideae were selected, they are *Bambusa*, *Cephalostachyum*, *Chimonobambusa*, *Dendrocalalmus*, *Dinochloa*, *Gigantochloa*, *Melocalalmus*, *Phuphanochloa*, *Phyllostachys*, *Schizostachyum*, *Teinostachyum*, *Temochloa*, *Thyrsostachys* and genus *Vietnamosasa*. The leaves specimens of all 40 species were collected and prepared basing on standard paraffin technics and were studied using compound microscope and seizz-axioskop 40. Anatomical features of the leaves were investigated between the range of two bulliforms, 10 bulliform ranges from each leaf were studied and 3 leaves were investigated for a species as replications. Four types of anatomy features were investigated which were leave blade, epidermis, mesophyll and bundle sheath extension of vascular bundle. The leaf blade anatomy in cross section were three types; flat, wavy and moniliform. Bulliform were found only at the upper epidermis as two characters; sunken and raised bulliforms. Small and large silica in different shape were found inside the epidermal cells. Trichomes, the epidermal appendage, were found in two features, uniseriate cells of trichome and cell wall extended-like trichome with thick papillae or clear papillae trichome. Mesophyll compose of the large arm – like plicate. Fusoid cells, a very large cell like air space, were located between upper and lower plicate cell layer, elliptic, oval and triangle shape located between upper and lower plicate cell layer. All vascular bundles contain bundle sheet extension which were classified into 4 types, type 1 their upper bundle sheath extension tissue arranged in column shape and lower bundle sheath extension tissue being larger than diameter of vascular bundle, type 2 their upper bundle sheath extension tissue arranged in inverted triangle shape and lower bundle sheath extension tissue being larger than diameter of vascular bundle, type 3 their upper bundle sheath extension tissue arranged in column shape and lower bundle sheath extension tissue being smaller than diameter of vascular bundle and type 4 their upper bundle sheath extension tissue arranged in inverted triangle shape and lower bundle sheath extension tissue being smaller than diameter of vascular bundle. These characteristics described could be used for classification of bamboo at the genus level.

Student's signature

Thesis Advisor's signature