

Title : Leaf epidermal anatomy of some aquatic plants in Chiang Mai University

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ABSTRACT

This study aims to study leaf epidermal tissue of 17 species of aquatic plants found in Chiang Mai University, including *Echinodorus cordifolius* (L.) Griseb, *Hydrocotyle umbellata* L., *Pistia stratiotes* L., *Colocasia esculenta* (L.) Schott, *Lasia spinosa* (L.) Thwaites, *Canna indica* L., *Ipomoea aquatica* Forsk., *Cyperus involucreatus* Roxb., *Hydrilla verticillata* (L.f.) Royle, *Thalia geniculata* L., *Marsilea crenata* C. Presl, *Nelumbo nucifera* Gaertn., *Nymphaea capensis* Thunb, *Bacopa caroliniana* (Walt.) B.L. Robins, *Eichhornia crassipes* (Mart.) Solms, *Salvinia cullata* Roxb. ex Bory and *Salvinia molesta* D.S.Mitch. Five leaves per species were collected, bleached with 3% sodium hypochlorite, and stained with 0.1% Toluidine blue. Leaf epidermal tissue was studied under the compound microscope. The results showed that the epidermal cells were 5 different shapes: rectangular, graminous, irregular, isodiametric, and polygonal. Five types of stomata, including actinocytic, anisocytic, anomocytic, diacytic, and paracytic were observed. Two types of trichomes, unicellular and multicellular were found. Also, six types of crystals were found, namely acicular, plate, prism, raphide, rod, and rosette, respectively. The length of guard cell and stomatal index were different depending on plant species.