

**A novel feature of structural variegation in leaves of the tropical plant
*Schismatoglottis calyptrata***

Abstract

We report a novel feature of leaf variegation. As is often the case in tropical forest floor herbs, *Schismatoglottis calyptrata* leaves feature structural variegation. Examination of leaf anatomy in *S. calyptrata* revealed a novel feature of structural variegation, which was generated by variation in the spatial arrangement of the adaxial-most tip of the palisade cells. In fully green leaf parts, contact between the adaxial-most tip of the palisade cells and the cone-shaped base of the outer epidermis cells was tight, and palisade cells were arranged radially around each epidermal cell. In dull, grayish-green leaf parts, the contact was loose, and no particular spatial arrangement of palisade cells relative to epidermal cells was observed. This feature of structural variation could be disadvantageous for photosynthesis efficiency in view of the hypothesis that, for rainforest herbs, cone-shaped epidermal cells may function as lenses. However, the high frequency of leaf variegation of *S. calyptrata* in natural habits suggests that this structural variegation plays an unknown advantageous role.