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## Full Length Research Paper

# Foliar epidermal studies in the family Bignoniaceae JUSS. in Nigeria

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## Abstract

Comparative studies have been carried out on the leaf epidermal features of eleven species of the family Bignoniaceae in Nigeria. The species are relatively uniform in the qualitative macro morphological characters except in the leaf shape, which varies from ovate, elliptic, oblong-elliptic, oblong, oblanceolate to obovate-lanceolate. A more constant macro character for the species is the leaflet length /leaflet width ratio, which ranges from 2:1 to 4:1. The epidermal morphology of the adaxial and abaxial surfaces of the species was studied with the light microscope. The epidermal cells are polygonal, irregular or both. Anticlinal walls are straight, curved or undulate/ wavy. Leaflets of all species are hypostomatic with stomata restricted to the abaxial surface. The Anomocytic stomata type is most prominent except *Kigelia africana*, which has diacytic stomata. Striae are

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present on the adaxial surface of *Oroxylum indicum* and abaxial surface of *Spathodea campanulata*. Knobs are present on the abaxial and adaxial surfaces of *Markhamia lutea*, *Markhamia tomentosa*, abaxial surface of *Stereospermum kunthianum* and adaxial surface of *Tabebuia rosea*. Other features of the epidermis that show variation include stomatal size, shape and frequency. Epidermal cell shape, anticlinal wall undulation, striation on the epidermis, stomata type, distribution and stomata index are of taxonomic importance in the family while epidermal size and number are of little diagnostic value. The significance of these observations is discussed in relation to the taxonomy of the family.

**Key words:** Foliar epidermis, bignoniaceae, Nigeria.

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