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Scanning electron microscopy of the leaf epidermis and pollen grains in the family *Bignoniaceae Juss*. in Nigeria

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Abstract

The leaf surfaces and pollen grains of the Nigerian Bignoniaceae were studied using the Scanning Electron Microscope (SEM). The species in this study were: *Crescentia cujete* Linn. *Jacaranda mimosifolia* D. Don. *Kigelia africana* (Lam) Benth. *Markhamia tomentosa* (Benth) K. Schum. , *Newbuldia laevis* (P. Beauv.) Seemann ex Bureau. *Spathodea campanulata* P. Beauv. *Stereospermum acuminatissimum* K. Schum. *Stereospermum kunthianum* Cham. *Tabebuia rosea* (Berthol) D. C. *Tecoma stans* (Linn) H, B &K. and *Tecomeria capensis* (Thunb.) Spach. Stomata were present on the abaxial surfaces of all the species studied. Sunken stomata were found in *K. africana* and *J. mimosifolia* while the others have raised stomata. Peltate trichomes were found on some species e.g. on the abaxial surfaces of *C. cujete, J. mimosifolia, M. tomentosa, N. laevis T. stans* and *T. rosea;*on the adaxial surfaces of *C. cujete, M. tomentosa, N. laevis, S.acuminatissimum* and *T. rosea*. *M. tomentosa* has both glandular and non-glandular trichomes on the abaxial surface while *T. capensis* has only non-glandular trichome on the adaxial surface. While the non-glandular trichomes of *M. tomentosa* were long and blunt those of *T. capensis* were short and pointed. Striae were found on the adaxial surface of *T. stans* and on both the abaxial and adaxial surface of *T. capensis*. The pollen grains of species studied were of the tricolporate type being mostly circular except those of *J. mimosifolia* and *T. stans* which were elliptic. Ornamentation of the all the pollen were reticulate. The significance of these observations is discussed in relation to the taxonomy of the family.