

COMPARATIVE ANATOMICAL STUDY OF SOME ACACIA TAXA SEEDS GROWN IN CENTRAL SUDAN

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ABSTRACT

This study deals with the anatomical characters of eight species and subspecies of Acacia (*Acacia mellifera*, *A. nilotica* ssp. *adansonia*, *A. nilotica* ssp. *nilotica*, *A. orefota*, *A. polyacantha* ssp. *cambylacantha*, *A. Senegal* var. *Senegal*, *A. seyal* var. *seyal*, and *A. siberiana* var. *siberiana*) which were collected from central Sudan. Wax methods were adopted to make transverse sections in the seeds, the prepared slides were investigated and compared. It is found that the seeds of the studied plants are more or less similar in their general internal structure. The epidermis is formed of uniseriate cells covered by cuticle, followed by lignified cells of different thicknesses, they are 6-7 layers in *A. mellifera*, *A. nilotic*ssp, *adansonia*, *A. nilotica* ssp *nilotica*, and *A. sieberiana* var *sieberiana*, and 3-4 layers in *A. orefota*, *A. polyacanthas* sp *campylacantha*, *A. Senegal* var *Senegal* and *A. seyal* var *seyal*. Many layers of thick walled lignified parenchyma tissue ranging from 3-25 layers. The embryos formed of two elongated cotyledons the structure of the embryo is different in *A. mellifera*, *A. nilotic*ssp, *adansonia*, *A. nilotica* ssp *nilotica* and *A. seyal* var *seyal*. The outermost layer of the embryo is formed of one layer of small compact cells surrounding parenchyma cells filled with reserved food materials their nature and quantities differ from one species to another.

Keywords: Anatomy, Seeds, Acacia, Seed coat, Embryo.