

CYTOTAXONOMIC STUDIES ON SOME ALOES OF KENYA

"This thesis is my original work and has not been presented for a degree in any other University."

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This thesis has been submitted for examination with our approval as University supervisors.

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## ABSTRACT

The genus Aloe L. of the family Liliaceae comprises succulent plants naturally occurring and widely cultivated as ornamentals in Kenya. It is highly diversified in its life form and ecological adaptations, thus making its taxonomy a very complex one.

While the traditional tools of taxonomy have been used to split the species within this genus, cytological observations could greatly increase our accuracy in classification at the species level and below.

The genus Aloe was chosen as the subject of study because it is well represented in Kenya, and it has large chromosomes which are suitable for cytological studies.

Attempts were made to study the karyotype characters of several species of Aloe, with the aim of correlating karyotype features with the observed gross morphology.

The Feulgen staining technique was carried out on eight Aloe species. They were 2 trees, A. ballyi and A. ferox, 1 herb, A. graminicola, and 5 shrubs, A. nyeriensis, A. ciliaris var. Tidmarshii, A. kedongensis, A. tenuior var. densiflora, and a hybrid, Aloe sp. The results showed 3 tetraploids and 5 diploids, all having a uniform karyotype.