

**Cytological and Morphological Studies on
Some Species of Vernonia Schreb
(Asteraceae) in Nigeria.**

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Abstract:

Seven species of *Vernoxia* viz: *Yemenis* cinerea, *V biafrae*, *V pauciflora*, *V migeodi*, *V. temoreama*, *V. cenferta* and *V. amygdalina* were collected and identified. Two other materials collected could not be identified for lack of appropriate specimens.

Studies were carried out on morphological characteristics of some vegetative parts, number of flowers per head, seed characteristics and germinability, and potentials for vegetative reproduction. Studies on somatic chromosomes were carried out with a view to finding out the trend of karyotype evolution and the relationship of the latter to the evolution of growth forms in the genus.

The species display a rather complex relationship with respect to their morphological attributes. The sizes of leaves varied among the species in relation to the type of ecological habitat. Three distinct sizes of flower heads (Capitula) were identified. There were variations in Number of florets and seeds per head even among species with about equal sizes of capitulum. The overall number of flowers and seeds per plant was higher in species with smaller flower heads. The small seed sizes were characteristic of species found in open communities. Various adaptive strategies were observed in respect of seed dispersal, germination and seedling establishment in sometimes different habitats from that of adult plants. Chemical or photoperiodic inductive of dormancy is suspected to be responsible for the poor terminability of seeds of some perennial species.

The chromosome Numbers of the species fall into two major groups of $n = 10$ ($2a = 20$; $2m = 40$) and $m : 9$ ($2n = 18$). The $n = 10$ ($2n = 20$) species include *V. migeodi*, *V. conferta*, and *V. tenereana*. The species with $n = 9$ ($2m = 18$) are *V. ciuerea*, *V. biafrae* and *V. pauciflora*. *V. amygdalina* was the only polyploid in this study and had $2n = 40$. Analysis of karyotype indicates that the $n = 10$ group seems to be more ancestral and therefore associated with more mature vegetational communities, while the $m = 9$ group are more derived and sometimes show weedy tendencies.

Keywords: Vernonia Schreb (Asteraceae)/ somatic chromosomes

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