A CONTRIBUTION TO THE TAXONOMY OF THE GENUS *FUIRENA* ROTTB. (CYPERACEAE) IN KENYA

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ABSTRACT

The genus *Fuirena* poses taxonomic problems because the plants have reduced vegetative and reproductive structures. Some perennial taxa of the genus have been raised and lowered in rank at different times. Material collected at Kapsabet, presently called as *Fuirena* sp. A, cannot be identified using the key and descriptions on the family Cyperaceae in the flora in East Africa.

Five perennial taxa in the genus *Fuirena* Rottb., occurring in Kenya, namely, *F. stricta* Steudel subsp. *chlorocarpa* (Ridl.) Lye, *F. pubescens* (Poir.) Kunth var. *pubescens*, *F. pubescens* (Poir.) Kunth var. *major* Lye, *F. pubescens* (Poir.) Kunth var. *buchananii* (Boeck.) C. B. Cl., and *Fuirena* sp. A, have been investigated with reference to their taxonomy. Sources of taxonomic information used are morphology, anatomy, palynology and cytology.

The taxon *Fuirena* sp. A has six perianth segments while *F. pubescens* (Poir.) Kunth var. *pubescens* has none, though in other characters such as the culm and leaf morphology they seem to be closely related.

Culm anatomy of all the taxa shows a homogenous chlorenchyma without peripheral air cavities, while the spongy central ground tissue has irregular air spaces. The pollen grains of all taxa investigated are of *Mapania* type. The polar axis length measures up to 30.6µm in *F. stricta* subsp. *chlorocarpa*; 45.2µm in *Fuirena* sp. A; 45.2µm in *F. pubescens* var. *pubescens*; 54.8µm in *F. pubescens* var. *major*; and 52.4µm in *F. pubescens* var. *buchananii*.

The chromosome number determined at metaphase I is n=19 in *F. stricta* subsp. *chlorocarpa*; n=20 in *Fuirena* sp. A; n=21 in *F. pubescens* var. *pubescens* and var. *major*; and n=24, 40, 44, and 46 in *F. pubescens* var. *buchananii*. The chromosome counts are new records for the five taxa, while *F. pubescens* var. *buchananii* shows polyploidy and aneuploidy.

A new taxon, *Fuirena* sp. A, has been recognised. Another taxon, *F. pubescens* (Poir.) Kunth var. *buchananii* (Boeck.) C. B. Cl. qualifies to be raised to a specific rank, namely *F. buchananii* Boeck. *stat. nov.* with two varieties. The current taxonomic treatment of *F. pubescens* (Poir.) Kunth var. *pubescens*, *F. pubescens* (Poir.) Kunth var. *major* Lye and *F. stricta* Steudel subsp. *chlorocarpa* (Ridl.) Lye is supported by the present findings.