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Scleria pantadenia and *Scleria tricristata*: Two new species of *Scleria* subgenus *Hypoporum* (Cyperaceae, Cyperoideae, Sclerieae) from Tanzania

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Abstract

Scleria pantadenia Meganck & Bauters and *Scleria tricristata* Meganck & Bauters are presented as new species of *Scleria* (Cyperaceae) from Tanzania. *Scleria pantadenia* is a small, tufted annual sedge species characterized by its delicate, brittle appearance and its small nutlets with gland-like tubercules and basal rim of swollen tuberculate cells. *Scleria tricristata* is a small, tufted annual sedge species characterized by a single, terminal unbranched spike and its remarkable nutlets with three protruding dentate ridges of translucent tissue. Both species are described, illustrated and compared with their closest relatives.

Introduction

Scleria P.J. Bergius (1765: 142) is, with 250 or more herbaceous annual or perennial species (Govaerts *et al*. 2015), one of the major genera in the Cyperaceae. The genus has a pantropical distribution, locally extending into (warm) temperate regions. Within the Cyperaceae, the genus is placed in the monotypic tribe Sclerieae (Muasya *et al.* 1998; Hirahara *et al.* 2007; Hinchliff *et al.* 2010; Viljoen *et al.* 2013; Jung *et al.* 2013). Although many authors have suggested different infrageneric classifications for *Scleria* (e.g., Nees 1842; Clarke 1908; Core 1936; Kern 1961; Camelbeke 2001), most authors now seem to agree upon two subgenera: *Scleria* subgenus *Hypoporum* Nees (1834: 303) C.B. Clarke (1894: 684) and *Scleria* subgenus *Scleria*. At the sectional level, seven sections are recognized based on Clarke (1908) and Core (1936). Kern (1961) added two new sections, resulting in nine commonly recognized sections (e.g., Camelbeke 2001). However, until now this classification has not been tested using molecular phylogenetic data, and an extensive molecular evolutionary revision of the genus is required.

Scleria displays wide variation in the structure of the inflorescence and in spikelet morphology. Seven inflorescence types were described, all derived from the basic paniculate type by contraction and reduction of branches (Camelbeke 2001). Flowers are always unisexual and arranged in androgynous, subandrogynous, male or female spikelets. The fruit is a nutlet with, at its base, an often trilobed hypogynium in *Scleria* subgenus *Scleria*. The hypogynium is generally absent or reduced in *Scleria* subgenus *Hypoporum*.

While working on a molecular phylogenetic study of the genus *Scleria*, several species could not be identified with existing identification keys. These species also could not be matched with any previously described species. Here, we describe two new species of *Scleria* subgenus *Hypoporum* from central Tanzania. Subgenus *Hypoporum* comprises slender, narrow-leaved annuals or perennials, sometimes hairy and usually growing in open, seasonally dry habitats. The inflorescence is terminal, glomerate-spicate with usually many clusters of spikelets, commonly called glomerules, or sometimes paniculate and then the spikelet-clusters tend to be very small (Haines and Lye 1983). The spikelets are androgynous, sometimes with additional male spikelets. The hypogynium is always absent or rudimentary.

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