

of mycotoxigenic fungi reported in this study is a cause for concern. Future study will investigate markets in other provinces.

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A revision of the genus *Lichtensteinia* (Apiaceae)

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Lichtensteinia is a poorly known genus of Apiaceae endemic to South Africa. A comprehensive revision, based on extensive field work and herbarium studies, is presented. Seven species are recognized, namely *L. interrupta*, *L. obscura*, *L. globosa* (a new species), *L. latifolia*, *L. trifida*, *L. crassijuga* and *L. lacera* (the last-mentioned divided into three varieties). Morphological and anatomical variation in the genus, as well as geographical distribution patterns are discussed and illustrated. Hypotheses of infrageneric relationships were generated using morphological, anatomical and molecular data. *Lichtensteinia* is an anomalous genus because it shares diagnostic characters with both the subfamilies Saniculoideae and Apioideae (including large rib oil ducts and umbellate inflorescences). The genus is therefore of considerable interest in the wider context of a revised classification system for the family Apiaceae, as it shows a possible sister group relationship to the whole of the subfamily Apioideae.

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What is an optimal site for seedling establishment?

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We investigated the establishment of seedlings of *Androstachys johnsonii* under and away from the canopies of conspecific parents. We found that sizes of babies under their own parents differed significantly with those away from the canopies of parents. Shade is apparently key factor in controlling growth and development of *Androstachys johnsonii* babies.

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Long-term effects of limestone dust deposition on photosynthesis in the desert shrub *Zygophyllum prismatocarpum*

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The detrimental effects of limestone dust on vegetation surrounding heavily industrialised point sources have been studied extensively, but similar investigations in desert ecosystems have not yet been conducted. In a first study of its kind, we investigated the effects of limestone dust deposition on a succulent shrub occurring in the Sperrgebiet region of the Namib Desert at a limestone quarry near Skorpion Zinc mine. The effects were determined in *Zygophyllum prismatocarpum* E. Mey. ex. Sond. (dollar bush) plants with heavy, moderate and no visible foliar dust cover. The leaf characteristics (shape, orientation and surface sculpture) of this species considerably enhanced foliar limestone dust deposition. Scanning electron microscopy (SEM) and electron dense spectrometry (EDS) was used for visualisation of dust deposition and elemental analysis of dust particles. Chlorophyll *a* fluorescence kinetics, photosynthetic gas exchange, chlorophyll content and leaf water potential measurements were employed to study the physiological effects of dust deposition on these plants. Novel evidence is provided showing how limestone dust deposition decreased overall plant performance through loss of chlorophyll content, inhibition of CO₂ assimilation rates and decreased electron transport capacity. Characteristic changes in fast fluorescence rise kinetics in leaves heavily covered with limestone dust indicated the presence of a heat stress component that could have serious consequences in the hot arid environment in which these plants occurred. Importantly, gradual recovery was observed in these plants after termination of limestone extraction at the quarry. Moreover, the recovery process was accelerated by rainfall, mainly because of dust removal from leaves and stimulation of new growth.

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Out of Africa: Reproductive traits of species of South African Iridaceae indicate their likelihood of naturalisation elsewhere

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