required. The proven anti-bacterial, -fungal, -feedant properties of parthenin may play bigger roles than its allelopathic effect in affording \textit{P. hysterophorus} a competitive advantage over other plants.

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\textbf{Implications of inbreeding depression for invasion in \textit{Lilium formosanum}}

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In plants self-fertilisation almost always results in inbreeding depression: selfed progeny perform less well than outcrossed progeny. Habitually selfing species, however, typically show low levels of inbreeding depression due to the purging of deleterious recessive alleles. Moreover, in selfing species, inbreeding depression tends to occur late in the life cycle while in outcrossing species it occurs at either early or late stages. We investigated the expression of inbreeding depression in the predominantly self-fertilising \textit{Lilium formosanum} in the field and in the shade-house. There was no inbreeding depression in germination and growth up to two months after sowing. Results on performance will be presented up to two years after sowing. If inbreeding depression is generally absent or low over the whole life cycle this will suggest that seed produced by selfing makes an important contribution to invasion in this species.

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\textbf{Pollinator mediated floral variation and hybridization in \textit{Tritoniopsis revoluta}}

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It is thought that the great variety of floral structures in flowering plants reflect adaptations to different biotic pollen vectors. Pollinators also play a very important role in both the formation of new species, and maintaining reproductive barriers between different species. \textit{Tritoniopsis revoluta} is a pink irid occurring in the Swartberg and Langeberg Mountains, as well as Potberg Mountain. By comparing flower tube- and pollinator tongue-length data collected from all known \textit{T. revoluta} populations, it was determined that this species is highly variable in respect to corolla tube-length and is pollinated by different fly species across its range. One of the \textit{T. revoluta} populations exhibits a bimodal distribution of tube-lengths. Pollination experiments at this site determined that \textit{T. revoluta} is almost an obligate outcrosser, with only very limited capacity to self. However, in the absence of long tongued flies, nectar wells up the corolla tube and becomes available to bees which visit the flowers, contributing to seed set and reproductive assurance. Bees do not distinguish between long and short tubed flowers growing side-by side and probably contribute to gene-flow between the two ecotypes which are fully compatible. However, the offspring produced by inter-ecotype crosses are not very fertile, which may contribute to the narrowness of the hybrid zone. Chloroplast markers were used to clarify phylogenetic relationships between long and short phenotypes in sympathy, as well as between-populations in allopatry. Relatedness of plant populations seems to reflect geography rather than shared pollinators or similarities in tube length, suggesting strong selective pressures and local adaptation in the face of gene-flow. The results from this study present evidence for pollinator-driven floral variation within a single plant species. Most surprising is the fact that this immense diversification in floral morphology has probably been driven by morphological variation found within a single family of flies.

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\textbf{Results of a disease investigation of \textit{Aloe dichotoma} in Goegap Nature Reserve, South Africa}

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Over the last few years numerous reports of large scale death of \textit{Aloe dichotoma} (quiver tree) trees have been made. Although a number of studies blame the mortality on climate change and an apparent range shift, numerous reports mention the occurrence of fungal diseases on these trees. None of these reports, however, name the causal agents of the fungal diseases. During May 2008 three 100 m × 100 m plots on the Goegap Nature Reserve in the Northern Cape Province were investigated for the presence of fungal disease on \textit{A. dichotoma} trees. All trees in the plots were evaluated for disease and insect pests, measured and photographed. Although lichen growth was abundant on the stems and branches of trees in some sites, no fungal disease of the more than 300 trees evaluated was observed. The most common problem identified on the trees were infestation by scale insects on the leaves of trees, damage to the trees by various animals such as baboons and gemsbok and in one site weevil infestation. A brief visit was also made to the quiver tree forest near Kenhardt where the same situation was observed, with the main problem being that of scale infestation and uprooting of trees. Young plants, ranging in size from ~30 stem