

Summer rainfall species: Wild Orchids

There must be many populations of rare orchid on isolated farms that have yet to be discovered. In this article Cameron McMaster explains why it is necessary track them down and conserve them.



a. A close-up of *Disa chrysostachya* depicting the arrangement of small individual flowers on the tall spike. It was photographed on the farm Balloch in the Barkly East district.

b. *Eulophia speciosa* is at home in coastal dune forest along the East Coast. This specimen was photographed at Kenton.

c. *Disa nivea* from a typical mountain habitat at the foot of the Drakensberg in the Maclear district. Note the long spurs on the flowers, a diagnostic feature of the *Disa*.

d. New populations of the green bearded orchid, *Disa lugens*, very rare in the Western Cape, have been found near Somerset East and Hogsback. The bearded lip is a unique feature of this striking orchid.

e. *Satyrium sphaerocarpum* is one of a number of attractive small, grassland orchids widespread in the summer rainfall region. This specimen was photographed in the Amathola mountains near Stutterheim.

f. *Huttonaea grandiflora* is a diminutive species that is hard to locate in damp mountain grassland. The spectacular blooms were ample reward after a diligent search at the summit of Naude's Neck Pass.

g. *Disperis wealei*, a small orchid found in damp grassland and vleis, at high altitude.

h. *Disa porrecta*, photographed on the farm Balloch in the Barkly East district. It's a rare and seldom seen orchid that mimics red hot poker flowers in order to attract their butterfly pollinator.

i. *Disa crassicornis*, one of the most spectacular of the summer rainfall orchids. It occurs in sheltered, shady spots.

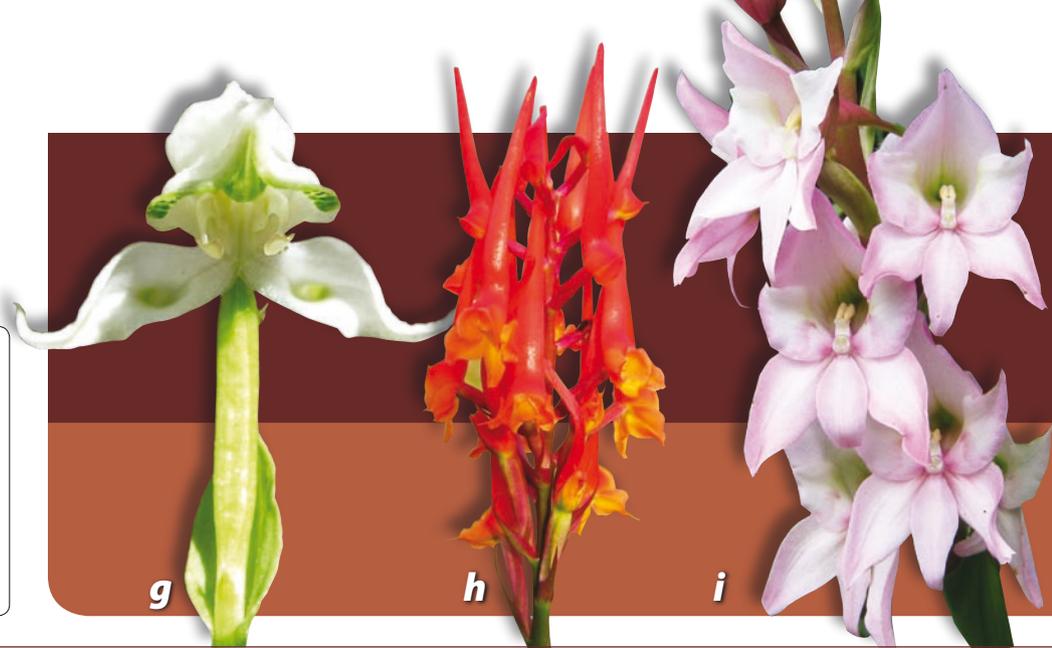
THE SUMMER RAINFALL REGION comprises the entire eastern part of the country from Port Elizabeth eastwards, and northwards to the Limpopo River and beyond. It includes a variety of vegetation types including subtropical grassland and forest along the coastal region, thicket, various types of grassland and savannah, and afro-montane forest. While orchids are found in these biomes, grassland supports the largest number and diversity of species, particularly the highland grassveld of the Drakensberg mountain chain, regarded as one of our important centres of plant endemism. Very often the ecotones, or transition zones, between vegetation types are particularly rich in orchid species.

There are 52 orchid genera in Southern Africa most of which are endemic. Most are terrestrial ground orchids, but a number of epiphytic genera such as *Polystachya* and *Mystacidium* are

found in the summer rainfall region, particularly on trees and bush in the thicket and forest biomes. Many orchid species are found in small local areas where specific environmental conditions prevail and it is particularly these isolated populations that are vulnerable. When landowners become aware of these species it is vital that adequate steps are taken to preserve them. Being very sensitive to habitat degradation, orchids are important indicator species of the condition of veld. Orchids are generally only found in healthy well-conserved grassland, and rapidly disappear when veld is degraded. Regular fires are an important element in grassland ecology and orchids are adapted to fire and



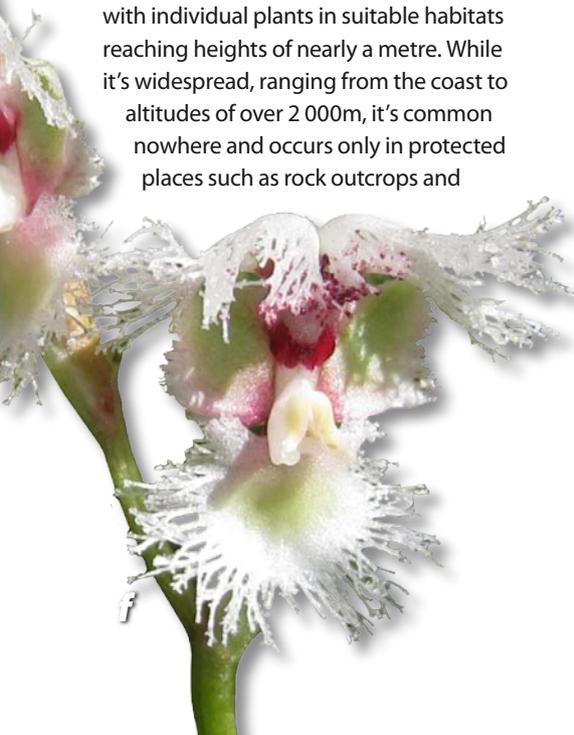
- Orchids are indicator species of healthy grassland.
- The majority are terrestrial, but a number are epiphytic.
- Preserving diversity may have yet undetermined benefits.



stimulated to flower after fire. However, incorrect burning practices, particularly too frequently, and burning in autumn and winter, is very detrimental to orchids and other plants, and in particular to the vigour of grass plants and the productivity of the veld. Spring burning with at least a few months rest after a burn is essential to preserve the health and vigour of the sward, permitting seeds to germinate and new plants to establish. Burning intervals should not be less than four years, followed by adequate rest. Continuous heavy stocking after a burn results in rapid degradation and loss of species.

A variety of adaptations

As in the winter rainfall region, *Disa* is the genus with the largest number of species and some of the most striking blooms. *Disa crassicornis* is possibly the most spectacular, with individual plants in suitable habitats reaching heights of nearly a metre. While it's widespread, ranging from the coast to altitudes of over 2 000m, it's common nowhere and occurs only in protected places such as rock outcrops and



forest verges. *Disa pulchra* is a beautiful pink species which flowers regularly on the Amathola mountains in December, always in the company of other pink flowers such as hairbells and watsonias with which it probably shares pollinators.

Disa chrysostachya has tall pencil-like spikes of small bright orange flowers, and can be found along the N2 in the Tsitsikamma region in spring. It has a range extending to highland montane grassland in the Barkly East district where it flowers in January. *Disa porrecta*, a rare species with bizarre orange flowers, with spurs facing upward to mimic red hot poker flowers, attracts the poker butterfly *Aeropetes tulbaghia* through mimicry. I was amazed to come across the rare green bearded orchid, *Disa lugens*, on the Bosberg above Somerset East some years ago, and even more surprised to find another strong population 200km further east near the Elandsberg in the Hogsback area. This was a significant extension of the range of this normally coastal winter rainfall species, illustrating the importance of looking out for strange and unusual flowers when walking in the veld.

Eulophia is a genus represented by many species in the summer rainfall region, most of which flower in early spring and early summer. Often, a number of species can be found flowering together in damp grassland. For instance, I have observed *Eulophia macowanii*, *Eulophia foliosa*, *Eulophia aculeata* and *Eulophia clavicornis* flowering simultaneously in the Stutterheim district after a grass fire.

The Elliot, Ugie and Maclear districts are particularly rich in orchids. Nearly all the genera can be found there with many species of *Disa*,

Eulophia, *Corycium*, *Satyrium*, *Disperis*, *Pterygodium*, *Holothrix* and *Habenaria*.

Adele Moore, a field guide from Maclear, takes groups on a spectacular Orchid Trail on the slopes of Mt Aurora, and she has recorded at least 40 species. Naude's Nek, the high pass between Maclear and Rhodes, is an excellent place to see orchids and many other alpine flowers. Specialities here are *Disa thodei* and *Disa fragrans* which have a wonderful scent, as well as the diminutive but spectacular *Huttonaea grandiflora*. Another excellent site for viewing orchids and a whole range of mountain flowers is the hiking trail on the slopes of Sentinel Peak in the northern Drakensberg, easily accessed from the car park above Witsieshoek.

'Burning intervals should not be less than four years.'

However, there should be innumerable unrecorded populations of rare orchid on isolated farms in the summer rainfall region. Education programmes are needed to show private landowners their role in conserving natural habitats and their component species.

This series is in part an effort to stimulate interest and motivate landowners to actively participate, even to the extent of establishing reserves on their property. Enormous areas of moist grassland are being destroyed by timber plantations – all the more reason to conserve biodiversity on private farmland. We need to conserve because we don't know the importance of individual species to healthy eco-systems.

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