

Wild orchids

The winter rainfall species

The few species mentioned and illustrated here are but some of the wild orchids that occur in the region, many populations of which have already disappeared forever, writes **Cameron McMaster**.

THE WINTER RAINFALL REGION IN SA is confined to the southwestern part of the country, but some rain falls in summer along the

southern coast and especially in the eastern extremity of the region.

The vegetation types consist of sand-plain vegetation along the west and south coast, and fynbos on sandstone-derived soils along the mountain chains and alkaline soils derived from marine deposits on the Agulhas plain and the southern coast. Lowland plains between the mountains consist mostly of clay soils derived from shale and support Renosterveld vegetation which is particularly rich in geophytes (bulbous plants including orchids).

With such a diversity of soil types and topography it's not surprising the winter rainfall region has by far the largest number of orchid species of any region in SA. Most are endemic, occurring exclusively in the winter rainfall region, but a few extend into the eastern and northern parts of SA. Within each vegetation type there are many microhabitats supporting local species with highly restricted distribution – species that are vulnerable and in danger of extinction should their habitat be destroyed or degraded.

The vast majority of orchids are terrestrial and deciduous, well adapted to winter growth and a spring to mid-summer

flowering cycle. However, some are evergreen, particularly species adapted to wetland areas, seepages and streams.

Fire is an important natural phenomenon in both fynbos and Renosterveld and it's a very important element in orchid ecology. Fires can occur at variable intervals with an average interval of 10 to 15 years. Most orchids are stimulated to flower profusely in the first season after a fire when competition for sunlight and moisture from surrounding vegetation is reduced.

Designed to survive

This strategy has evolved over millions of years to ensure the species' effective reproduction.

After flowering, conditions are ideal for seed distribution and germination. Often this is the only time one can view certain species. Some, like *Evotella rubiginosa*, only flower after a fire and so wait many years. Because it's so seldom seen, it has been regarded as very rare, but after the great fire of 2006 in the mountains behind Napier where I live, I recorded 15 orchid species in flower, none of which appeared again the following year. Most noteworthy were *Corycium carnosum*, *Ceratrandra atrata*, *Disa racemosa*, *Disa obtusa*, *Disa tenuifolia*, *Disa atricapilla* and *Disa bivalvata*. The latter two are especially interesting as they use sexual mimicry to attract pollinators. The

1. *Evotella rubiginosa*, flowering after a fire near Napier in 2006. It is rarely seen as it occurs in isolated populations in fynbos and only flowers after fire.

2. *Corycium carnosum*, after the 2006 fire on Napier mountain, is rarely seen as it depends entirely on infrequent fires to flower.

3. *Satyrium carneum*, a common but striking orchid occurring in coastal and dune fynbos. This specimen was photographed near Struisbaai.

- Fire in fynbos and Renosterveld is an important element in orchid ecology.
- Many orchid species are endemic to the winter rainfall region.
- Most orchid species are under threat.



1



2



3

flowers closely resemble female wasps and are pollinated by the males. There are, however, many orchid species which don't require the stimulus of fire to flower, including some of the showy disas.

Disa is the largest genus in the family Orchidaceae and contains many of the most striking orchids. The single spur protruding from the back of each flower is one of the diagnostic features. *Disa uniflora*, the floral emblem of the Western Cape and the first South African orchid to be described as early as 1704, is the flagship *Disa* species and was written about last week. The so-called blue disas, *Disa graminifolia* and *Disa purpurascens*,

'Satyriums have prominent spikes of many small flowers.'

are tall, sensational fynbos species which occur in small isolated populations in the Cape Mountains, and have suffered severe depletion through picking.

Many species are rare and threatened by habitat destruction, such as *Disa venusta*, now extinct in the Cape Peninsula. However, while on an outing last summer for the Custodians of Rare and Endangered Wildflowers (CREW), I came across a small population on the farm Fairfield near Napier.

Disa lugens, the green bearded orchid, is a similar example of a rare species that has become increasingly threatened by the destruction of coastal vegetation. Fortunately, I have found new and healthy populations in the Eastern Cape,

a considerable extension of its known range. These two examples illustrate the importance of keen observation and recording, especially by landowners, of all the wildflowers on their farms. They are in the most favourable situation to discover and monitor rare species.

A mythical association

The genus *Satyrium* also contains a number of spectacular and colourful orchids. *Satyriums* have prominent spikes of many small flowers, each with two spurs which are the feature the genus is named after – the satyr is a Greek mythical character with a human body and head, two horns and the hips and feet of a goat. The large, dark-pink *Satyrium carneum* which occurs commonly in the Strandveld on the Agulhas plane in spring, is one of the most spectacular.

A similar, but rarer and more localised scarlet species, *Satyrium princeps*, occurs near Knysna and is severely threatened by urban sprawl and alien invaders. *Satyrium neglectum* is another showy pink species widespread in Renosterveld, but more than 90% of its original habitat has been transformed by agriculture. *Satyrium coriifolium* is an orange species that's adapted well to habitat transformation and has been able to colonise disturbed areas along roadsides. Its range extends eastwards as far as Port Elizabeth. It's particularly evident along the N2 between Grabouw and the Bot River in spring.

Acrolophia is a genus of evergreen orchid with persistent tough, leathery leaves and spikes of rather dull, small flowers. While

surveying sites near Natures Valley last year CREW discovered three plants of one of the most striking members of the genus, *Acrolophia lunata*. Originally described from the Langeberge this elusive species, with a tall inflorescence of small white flowers, had not been seen for many years (see the June 2008 issue of *Veld and Flora*, published by the Botanical Society of SA).

When so much attention is focused on only three particularly rare species, the role farmers and landowners play in conservation becomes understandable. The few species mentioned in this article are a tiny sample of the many hundreds of beautiful wild orchids, many populations of which have already disappeared forever. – Cameron McMaster (cameron@haznet.co.za) |fw

1. The bizarre flowers of *Disa atricapilla* mimic the females of a particular wasp and achieve pollination by deceiving the male wasps. This orchid only flowers after infrequent fires.

2. The well known "Moederkappie", *Disperis capensis* is fairly common in Cape Fynbos. This picture was taken on the farm Fairfield in the Napier district.

3. *Disa racemosa* photographed near Napier, is a striking orchid from damp spots in the Cape mountains, and flowers prolifically after fire.

4. *Pterygodium acutifolium*, photographed after the 2006 fire on Napier mountain, is dependant on fire to flower.

5. The famous blue disa, *Disa graminifolia*, flowers in mid summer in mountain fynbos and although it is illegal to pick wild orchids, it is being threatened by flower pickers.

