

The newly discovered miracle clivia from the arid north-western Cape, *Clivia mirabilis* flowering at Kirstenbosch. Photo: Graham Duncan.

# Growing the miracle clivia

by **Graham Duncan**, Kirstenbosch

The new *Clivia* is thought to be a survivor from a previous climatic period in which a subtropical regime prevailed over what is now a semi-arid region.

The recent new addition to the genus *Clivia* brought about a great flurry of excitement among ardent followers of clivias. The new species was discovered by game guard Johannes Afrika in a nature reserve in a remote canyon of the Bokkeveld escarpment near Nieuwoudtville in the north-western Cape. It was brought to the attention of botanists at Kirstenbosch by Wessel Pretorius, officer in charge of the reserve.

The region where it was found is semi-arid, with a Mediterranean-type climate, very different from the subtropical environment in which the four other *Clivia* species (*C. caulescens*, *C. gardenii*, *C. miniata* and *C. nobilis*) are found in eastern and north-eastern South Africa. Numerous geophytic (a broad term encompassing plants with subterranean storage organs) genera have speciated extensively in the semi-arid southern and western parts of the subcontinent, and the new *Clivia* is thought to be a survivor from a previous climatic period in which a subtropical regime prevailed over much of the region. Its discovery was truly a miracle, and most appropriately, it was named *Clivia mirabilis*, the 'miracle clivia', by Dr John Rourke in 2002.

At first sight, *C. mirabilis* conjures up an image of a somewhat broad-leaved, robust form of *C. nobilis*, to which it is most closely related, with a flower head reminiscent of *C. caulescens*, but close inspection reveals its unique distinguishing features of long arching pedicels (flower stalks) that are dark red or brownish-red at flowering time and subsequently turn bright green during the fruiting stage, and its unusual irregularly-shaped berries. The species is further recognized by its reddish-orange, tubular pendulous flowers with yellowish tips, its sub-erect, leathery leaves with a conspicuous, dull white central striation, and its leaf bases that are suffused with purplish-maroon. (The latter two features are also seen in certain forms of *C. nobilis*.) The central striation in *C. mirabilis* is most prominent in younger leaves, becoming less obvious with age. Mature individuals develop a thick mat of unusually thick, fleshy roots, able to store



large quantities of water and sustain the plant over the long and dry, harsh summer. The rounded seeds of *C. mirabilis* are relatively small and similar to those of *C. nobilis*.

The flowers of *C. mirabilis* cannot realistically be described as being any more attractive than the best forms of the three other tubular-flowered species *C. caulescens*, *C. gardenii* and *C. nobilis*, and its most appealing features in my view, apart from the reddish-orange perianth, are the long, dark red arching flower stalks and bright orangy-red ovaries. Flowering rather late in the year, from mid-October to November, the berries ripen rapidly in only four months by mid- to late March, just before the onset of the first autumn rains.

## Cultivation

*Clivia mirabilis* has been in cultivation at Kirstenbosch for only three years but it has responded very well here, and two adult plants flowered successfully in November 2003. Although the plants are more sun tolerant than the other *Clivia* species and are exposed to full sun for a portion of the day in habitat, they should not be regarded as being subjects for very hot, all-day full sun positions under cultivation. Positions receiving morning sun and afternoon shade - a little more sun than those in which *C. nobilis* thrives - should be ideal. Plants grown in full shade at Kirstenbosch have performed well, but the flowers tend to look rather washed out.

According to former Kirstenbosch Curator John Winter, this species can be grown in a range of media, as long as it is very well aerated and drained. A humus-rich medium such as equal parts of finely milled bark or finely sifted compost, and coarse river-sand seems to suit it best, and the addition of the non-burning, organic fertilizer Neutrog Bounce Back to the surface, or mixed in, provides a full balance of nutrients that do not leach rapidly. As with the other *Clivia* species, it is essential that the rootstock is not planted too deep, but rests just below soil level.

Unlike *C. miniata*, I'm quite certain that *C. mirabilis* would not be able to stand up to the rigours of the average



garden where indiscriminate watering is the norm, and the plant is thus best suited to cultivation in containers, preferably under cover in areas with heavy winter or summer rains.

Due to its vigorous root system, 30-35 cm diam. containers are the most suitable in which to maintain sub-adult and adult plants, respectively, and once established, like the other clivias, they should be left undisturbed for many years. As for watering procedure, the plants appear to thrive on heavy drenching about once per week or every ten days throughout the year. Allow the medium to dry out between drenches, and never let it become waterlogged for an extended period. This long-lived plant could prove to be more cold tolerant than the other *Clivia* species, but this has yet to be tested.

Regarding pests and diseases, the leathery leaves of *Clivia mirabilis*, like those of *C. nobilis*, appear to be too tough to fall prey to the devastating exploits of lily borer caterpillars, but a close watch should be kept on mealy bugs that would certainly make themselves at home among the leaf bases. Excessively moist conditions will result in fungal rotting of the roots.

Like *C. caulescens*, *C. gardenii* and *C. nobilis*, *C. mirabilis* will probably remain a subject for the specialist grower, and not become a general garden plant as is the case in *C. miniata*, but one looks forward to seeing it in the specialist horticultural trade, and who knows what exciting hybrids may result within the next decade or two from its introduction into the *Clivia* breeding gene pool.

#### Propagation

As mature *Clivia mirabilis* plants are solitary and do not form offsets, the only practical method of propagation for the home gardener is by means of seed. The flowers of *Clivia mirabilis* are at least partially self fertile, and produce viable seeds following hand pollination among flowers of the same flower head. The seeds are ready for sowing once the fleshy

outer pulp of the berries has turned dark red. While the berries of *C. gardenii* and *C. miniata* can take up to twelve months to mature, and those of *C. caulescens* and *C. nobilis* up to eight months, those of *C. mirabilis* are remarkable in reaching maturity in just four months. One to several seeds are produced per berry and should be removed from the berry and washed with water, and sown in the same manner as other clivias, in a well aerated, humus-rich medium such as equal parts of milled bark or finely sifted compost, and coarse river-sand.

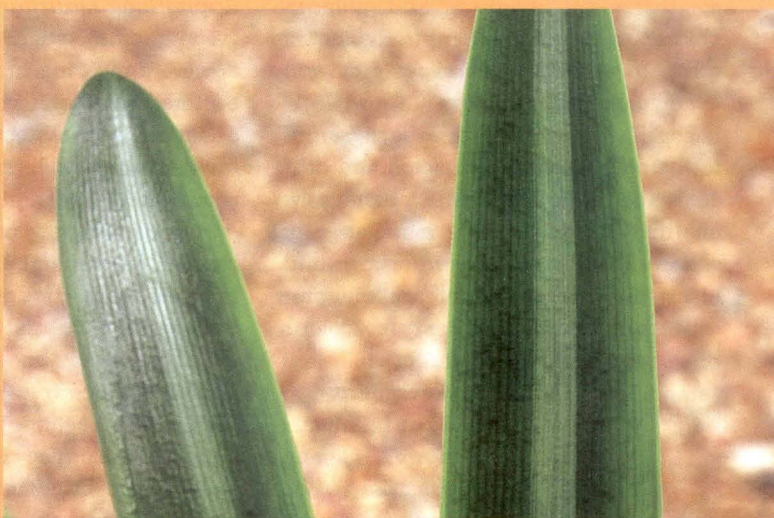
While it is often suggested that *Clivia* seeds be sown on top of the soil surface, I do not advance this practice simply because the seeds tend to shift position when being watered, and the developing radicle has difficulty in reaching and penetrating the surface. Instead, I recommend pressing the seeds into the medium so that they rest at or just below soil level. Sow the seeds individually in seed trays or pots and allow them to complete a full year's growth. The seeds germinate within one month. At the beginning of the second season, seedlings can be potted up individually into black plastic nursery bags or pots, and be grown on for a further year before planting out into larger containers. The sowing medium should be kept moist but never waterlogged, be watered with a fine rose and placed in a semi-shaded position. Seedlings of *C. mirabilis* are fast-growing when compared with those of the rather sluggish *C. nobilis*, and will almost certainly reach maturity before the latter species. I estimate the juvenile period for *C. mirabilis* to be about five years, under ideal conditions.

#### How to acquire seedlings

Seedlings of *C. mirabilis* grown at Kirstenbosch by John Winter will soon be available via mail order, through the South African National Biodiversity Institute's website ([www.sanbi.org](http://www.sanbi.org)), on behalf of the Northern Cape Nature Conservation Department. Get your order in now, as orders close on 31 January 2005.

BELOW LEFT: The irregularly shaped berries of *Clivia mirabilis* at various stages of ripening.

BELOW RIGHT: The stiff, leathery leaves of *Clivia mirabilis* with their characteristic dull white central striation. Photos: Graham Duncan.



#### Further reading

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