Amaryllis magic

From controversy to crossbreeding, this beautiful Cape bulb does not fail to enchant.

by Graham Duncan, Kirstenbosch

For many a city-bound motorist, the rush hour journey along the southern end of Cape Town’s Union Avenue linking the southern suburbs with the city centre, is made more tolerable around March by the sudden appearance, as if by magic, of hundreds of spear-shaped flower buds from the bone dry earth in the centre traffic island, that rapidly transform into spectacular heads of deliciously fragrant pink trumpets.

*Amaryllis belladonna*, the familiar ‘Belladonn Lily’ or ‘March Lily’, was one of the first Cape bulbs to be taken back to Europe, where it has been grown for well over three and a half centuries. It was illustrated by the Jesuit priest G.B. Ferrari in Rome as far back as 1633, but it was Linnaeus who in 1753 afforded it its modern binomial in his *Species plantarum*. His admiration for our beautiful lily is clearly reflected in both the generic and specific names with which he chose to describe the species. *Amaryllis* is derived from the Greek *amarullis*, referring to a beautiful Roman shepherdess often mentioned in the classical mythology of Ovid, Theocritus and Virgil, while *belladonna* is Italian for beautiful lady.

Its exquisite blooms, overpoweringly fruity-sweet perfume and ease of cultivation has endeared it to gardeners around the world and it has become naturalised in many temperate parts, including the Mediterranean coast, the western and southern parts of Australia, and in California and New Zealand. On the Channel Island of Jersey the plant has become such a familiar sight that it is boldly depicted on post cards there and resolutely referred to as the Jersey lily! Similarly on one of the well-known terraces at Trescoe Abbey Gardens on the Isles of Scilly, a host of *A. belladonna* provide a brilliant feast of pink each October.

For almost fifty years, from 1938 to 1987, a heated debate raged between botanists as to the correct application of the name *Amaryllis belladonna*. The controversy stemmed from the fact that over many decades this name had been applied to numerous different bulbous plants, by different authors, including the tropical South American and Caribbean species *Hippeastrum puniceum*, as well as the plant we know so well in South Africa. It was the view of certain American botanists that the name *A. belladonna* be retained for the South American plant, despite the fact that the type specimen clearly upheld the identity of the South African plant.

The matter was finally brought to conclusion in 1987 at a meeting of the Committee for Spermatophyta, at which preservation of the name was unanimously supported for the
The recent discovery of a second species in the genus *Amaryllis*, *A. paradisicola*, brought about great surprise and excitement in horticultural and botanical circles.

Cultivation

While *A. belladonna* thrives on benign neglect, the complaint is often heard from frustrated gardeners that their bulbs have either never flowered, or flower very erratically.

As is the case with the 'George lily' (*Cyrtanthus elatus*, previously known as *Cyrtanthus renoster*), the bulbs have a reputation for being hard to grow. The flowers appear in March or April, when the days are long and the temperature is relatively high. The bulbs are planted in well-drained, sandy soil, and require plenty of sunlight. The flowers are trumpet-shaped and come in a variety of colors, including pink, red, and white.

In conclusion, the discovery of *A. paradisicola* has added a new species to the South African garden, and has the potential to bring new life to the horticultural and botanical communities.
as *Vallota speciosa*), there can be no doubt that there are certain forms of *A. belladonna* that are naturally free-flowering and others that are not. Even with free-flowering forms, not every bulb flowers every year.

As with *Cyrtanthus elatus*, forms of *A. belladonna* that reproduce at a rapid vegetative rate tend not to flower reliably, while the converse is true. A number of measures can be taken to improve flowering performance in *Amaryllis*.

Both *A. belladonna* and *A. paradisiaca* have very low nutritional requirements and should not be grown in overly rich soils or receive any supplementary feeding, which simply results in the production of luxuriant foliage, at the expense of flowers. *A. belladonna* easily adapts to a wide variety of soils, growing best in sandy loam, and is remarkably resilient to general garden watering during its summer dormant period, provided that the soil drains rapidly.

The bulbs of *A. paradisiaca* are far less obliging and are best grown in pure river-sand, with the addition of a little finely sifted compost or finely milled bark, and they have the added requirement of an absolutely dry summer dormant rest. The bulbs of both species like a warm position but *A. belladonna* must have sufficient light or direct sun to flower well. A minimum of full morning sun is required for this species when grown outdoors, or very bright light for as much of the day as possible when grown under cover.

Flowering in *A. belladonna* diminishes markedly once surrounding vegetation becomes too thick and regular clearing is essential to provide sufficient sunlight. *A. paradisiaca* responds well to both lightly shaded and sunny conditions.

As is the general rule with amaryllids, once the bulbs are established, they like to be left severely alone and only lifted once clumps become too thick or soil replenishment is required.

Plant the large egg-shaped bulbs by midsummer so that they are in the soil before they flower. Bulbs of *A. paradisiaca* are best planted with the very short, thick neck fully exposed. In temperate climates the bulbs of *A. belladonna* are planted with the top of the relatively long narrow neck resting at, or just above soil level, while in colder parts the top of the neck should rest just below the surface or even deeper.

It is well known in certain amaryllids like *Nerine bowdenii* that up to three inflorescence buds can be present in the bulb at any time, each bud having been formed one year apart and thus at a different stage of development. Under ideal conditions, the oldest bud will develop fully and flower, but should unfavourable conditions prevail, or the required stimulus for flowering be received too late, it simply aborts.

In many *Brunsvigia* species and in *A. paradisiaca*, stimulation of the oldest inflorescence bud to successful flowering appears to be triggered by moisture received at a particular time of year. Thus in the Kirstenbosch bulb nursery I have found that a single heavy drench applied to bulbs of *A. paradisiaca* in mid or late February results in successful flowering, whereas drenching later than the middle of March results in buds aborting. The fire-adapted *A. belladonna* appears not to respond to this treatment.

Both *Amaryllis* species make excellent, long-lived container plants, and for *A. paradisiaca*, container cultivation under cover is really the only practical manner in which to ensure the bulbs receive a dry summer rest and are protected from excessive rainfall over the winter months, such as is experienced in the southern suburbs of Cape Town.

Plastic pots or urns with a diameter of 30-35 cm are suggested for temperate climates of the Southern Hemisphere, while large terracotta pots

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are suited to colder parts of the Northern Hemisphere.

The virtually indestructible bulbs of *A. belladonna* are admirably suited to rock garden pockets or the front of the herbaceous border, or even planted on the outside of perimeter walls and fences. During the winter growing period, a heavy drench once per week is recommended for *A. belladonna*, while for the more sensitive *A. paradisicola*, watering should be delayed to once every two weeks.

*A. belladonna* is frost hardy in the Northern Hemisphere and can be grown outdoors where temperatures do not fall below -5 °C, such as in the milder parts of England, provided they have well drained soil and some protection, such as the base of a south-facing wall. In colder climates, cultivation in the cool greenhouse or conservatory is recommended.

As a cut flower, *A. belladonna* provides an excellent, long lasting display, affording full appreciation of its strong, fruity-sweet fragrance.

### Propagation

Both species are easily propagated by their fleshy, rounded seeds. Like most members of the family Amaryllidaceae, the water-rich seeds don't undergo a dormant period but germinate within a few weeks of ripening and cannot be stored dry for extended periods. As with *Crinum* and *Nerine*, the flowers of *Amaryllis* are at least partially self fertile, producing viable seeds without the need for cross-pollination.

Remove the seeds from the rupturing capsules before they drop to the ground and sow them in deep seed trays or pots in a sharply drained medium such as equal parts of coarse river-sand and finely milled compost or bark.

For *A. paradisicola* the compost/bark component should be reduced considerably to one part compost/bark and three parts river-sand.

To prevent overcrowding, press each seed into the medium so that it rests just below the surface, allowing about 15 mm around each seed to provide adequate growth space for each seedling. The often-recommended practice of sowing seeds on the soil surface is to be discouraged as the seeds move around every time they are watered and the developing radicle often fails to penetrate the surface.

Place the seed trays in a lightly shaded position under cover, and water once per week with a fine rose. Germination takes place within four to six weeks and seedlings should be dried off in the normal manner for the summer period.

*A. belladonna* seedlings can be potted up singly into 15 cm diam. plastic pots at the beginning of their second season. They can be planted out into permanent containers or into the garden at the beginning of their third season, and flowering in this species can be expected from the fifth season onwards, under ideal conditions.

Seedlings of *A. paradisicola* should remain in their seed trays for their second season and be potted up singly at the beginning of their third season. The
duration of the juvenile period in *A. paradisicola* is as yet unknown but I estimate it to be at least seven or eight years, under ideal conditions.

Offset production is a reliable method of increasing stocks of *A. belladonna* but the bulbs of *A. paradisicola* are almost always solitary and have to be propagated by seed. Offsets can be removed from the mother bulb at any stage of the summer rest period or even in early winter as the bulbs commence active growth.

They are removed by gentle tugging, and should not be forcibly broken off as this may cause excessive damage to the basal plate. Damaged surfaces should be dusted with a fungicide such as Captab and be replanted as soon as possible to prevent excessive desiccation of the perennial fleshy roots.

**Pests**

The most important pest affecting amaryllids in general, and *Amaryllis* in particular in southern Africa, is the lily borer (*Brithys pancrati!*) also known as amaryllis caterpillar. The dull brown noctuid moth lays her eggs on flower buds, stalks and stems, and on the undersides of leaves.

The voracious caterpillars are evidently immune to the highly toxic alkaloid compounds found in members of the family Amaryllidaceae, and rapidly bore into the tissue, causing it to turn black and disintegrate.

Every part of the plant falls prey to this devastating pest, and although tremendous damage is caused, it seldom results in death of mature bulbs. Large caterpillars can be picked off by hand, or affected parts can be cut away, and in severe infestations, preventative spraying with a carbaryl-based insecticide is highly effective.

The bulb necks are sometimes subject to heavy infestation by the universal mealy bug scourge when grown under enclosed conditions, and slugs and snails are partial to the leaves and are sometimes responsible for the transfer of viral disease from infected to healthy plants, for which there is no cure. In the Northern Hemisphere, narcissus bulb fly and red spider mite infestation of foliage are problematic, the latter especially when grown under enclosed, warm conditions.

**Sources of supply**

It is surprising that bulbs of *Amaryllis belladonna* are so difficult to come by at general garden centres in South Africa, but specialist seed and bulb nurseries do stock them from time to time.

Material of *A. paradisicola* is as yet unavailable but once the nursery stock at Kirstenbosch has increased sufficiently, bulbs will be made available at the Kirstenbosch Garden Centre, and at Botanical Society Plant Fairs and Rare Plant Fairs in Cape Town.