**CYRTANTHUS – its horticultural potential**

*Part 1*

_This highly ornamental group has enjoyed a large following of admirers, but only in the last ten years have its horticultural requirements been explored._

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_Cyrtanthus_ is an entirely African genus of approximately fifty species belonging to the family Amaryllidaceae, and its distribution is concentrated in South Africa, in particular the south-eastern Cape Province. The _Cyrtanthus_ group, is, on the whole, not easy to maintain in cultivation over an extended period. However, with the recent appearance of a fine _Cyrtanthus_ collection at Kirstenbosch Botanic Gardens, much horticultural information has come to light. This article is the first in a series of two, both aimed at providing gardeners and horticulturists with explicit cultivation hints, in order to popularise the genus. Part 1 deals with _Cyrtanthus_ cultivation in general, while Part 2 lists detailed descriptions for particular species. While a number of species are quite widespread in nature, many have extremely restricted distribution ranges, another reason for encouraging their cultivation.

Some readers will be distressed to learn that our most famous _Cyrtanthus_ species, the George Lily, Knyasa Lily or Scarborough Lily, still known to many under one of its numerous old names as Vallota speciosa, has undergone yet another name change. It became _C. purpureus_ in 1963, but in a recent paper by Hilliard and Burtt (1986), it has been shown that the correct name for this plant is now _C. elatus!_

**Horticultural Potential**

_Virtually every member of the genus exhibits some degree of horticultural potential, but due to their rather delicate nature, and the difficulty in cultivating many of these species, their greatest potential lies in their use as container subjects. While all species are suited to container cultivation, only certain species are suited to general garden culture._

_Furthermore, enormous potential lies in the field of hybridisation, as subjects for both container and garden cultivation, as well as for the cutflower market. A number of species are pleasantly fragrant, a characteristic which would greatly enhance the appeal of hybrid cutflowers if it could be combined with other requirements such as longevity of flowers, colour, stem length and the like. A number of species, to my mind, are of such a difficult nature to maintain successfully over an extended period in cultivation, that they will inevitably remain subjects for the dedicated, testing their skills and patience to the limit! Fortunately though, several of these beautiful but difficult species can at least be used very successfully in hybrid combinations._

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General Cultivation Notes

The following is a general outline of cultivation notes gained from my experience with the Kirstenbosch collection. More detailed hints are provided for each species in Part 2 (see next issue). For example, it is very important to know the growth habits of the species (whether evergreen or deciduous) in order to cultivate them successfully. In general, the evergreen species are far easier to grow than the deciduous ones; amongst the latter group are several which require fire to bloom in the wild, and these species are particularly difficult to flower in cultivation.

(I) Aspect — In general, the genus prefers a very lightly shaded position, or one which receives sun for only half the day, preferably in the morning. This applies to both pot and garden subjects. There are, however, a few species which actually prefer a full sun position like C. brachyscyphus and C. obliquus, while others such as C. eucullus and C. ibnabatius flourish in medium shade. At Kirstenbosch, the small to medium-sized species are grown in pots on raised, corrugated asbestos benches on stone chips, under a fibreglass roof with open sides. Large species like C. obliquus are grown in big asbestos pots on the ground, but still under cover. For the home gardener, a covered stoep or patio with protection from the hot afternoon sun and heavy rain is recommended for container subjects. Those species suited to general garden culture (see Part 2) are grown to advantage in a rockery, near a garden pond or in an herbaceous border. It must be borne in mind that the genus is generally not tolerant of severe frost. In Northern Hemisphere countries with extreme winter temperatures, cultivation in a cool greenhouse is required.

(II) Growing Medium — Perfect drainage of the growing medium is a prerequisite for the successful cultivation of Cyrtanthus. The amount of organic matter incorporated into the growing medium depends on the particular species being cultivated. Those species recommended for garden culture require a good garden loam with generous helpings of well-decomposed compost and river sand. For container subjects, easily-grown species like C. breviflorus and C. sanguineus, a medium of equal parts fine compost and medium-grained river sand and industrial sand is recommended. For less easily grown species like C. galpinii and C. smithiae, the amount of compost should be reduced to produce a mix of say, one part compost, two parts river sand and two parts industrial sand. More difficult species like C. guthrieae and C. montanus should be grown in a medium of equal parts river sand and industrial sand, while extremely difficult species such as C. leucanthus and C. spiralis require the same mix, but with very coarse river sand or gravel included.

(III) Planting — Since all Cyrtanthus species have perennial fleshy roots (as is the case with other amaryllid genera), they are not lifted and replanted each year as one would normally do with the corms of many species of Iridaceae, for example. Once planted, the bulbs should be left undisturbed for several years until they become overcrowded. Several species, notably C. brachyscyphus, C. mackenti and C. sanguineus really enjoy being “packed” together and should not be disturbed for many years. Under cultivation, the necks of Cyrtanthus bulbs are planted at, or just below ground level, or with varying degrees of the neck and bulb exposed above ground level, depending on the species. The bulbs of C. angustifolius for example, are planted at, or just below soil level, while those of C. sanguineus must have the neck fully exposed. On the other hand, at least two thirds of the bulbs of C. obliquus should be exposed above ground.

A generous layer of broken corks, or stone or bark chips should always be placed over the drainage holes for container subjects. This is covered with a thin layer of compost, and the rest of the container is then filled with the appropriate growing medium.

Ordinary deep plastic pots are ideal for the small to medium-sized species, while large asbestos pots are suited to the bigger species. A 20 cm diameter pot is suited to the dwarf species like C. clavatus and C. guthrieae, while a 25 cm pot can be used for medium-sized species such as C. fergusoni and C. loddigesianus. A 30 cm pot is suited to larger species like C. elatus and C. mackenti, while a 35 cm pot is used for those species with very large bulbs, such as C. falcatus and C. obliquus.

Several species, notably C. montanus and C. sanguineus, are ideal subjects for cultivation in 20-25 cm diameter hanging baskets.

(IV) Watering — Correct watering procedure is critical to the successful cultivation of this genus. Knowledge of whether a particular species is evergreen or deciduous will determine watering procedure; most deciduous species are dormant in winter, during which time they should be kept as dry as possible. Evergreen species also require a rest period and should be watered far less frequently during winter. Those species recommended for garden culture are usually tough enough to withstand moisture during their dormant period. However, the roots of the majority of species tend to rot very quickly if they are overwatered, or if they receive moisture during dormancy. This soon leads to fungal rotting of the bulbs if left unchecked. In my experience, for both evergreen and deciduous species, it is important to allow...
the growing medium to dry out almost completely in between watering during summer, which is the main growing period for most species. It isn’t possible to prescribe a hard-and-fast rule regarding how often to water. This is particularly important when it comes to the watering of extremely difficult species like C. spiralis which, even during its active growing period, must be watered at very infrequent intervals. To sum up, “when in doubt, DON’T WATER!”

(V) Feeding — Unlike Nerine, a genus in which feeding is not generally recommended, dilute feeding during the growing period is indicated for Cynanthus. The evergreen species benefit particularly from the application of liquid fertilizers with a high potash but relatively low nitrogen content, such as Kelpak. Apply at half the recommended rate, about every three weeks. The use of bone-meal mixed into the growing medium, and granular slow-release fertilizers sprinkled on the soil surface have also proved beneficial.

(VI) Pests and Diseases — Lily borer — this devastating pest, more commonly known as the Amaryllis caterpillar, attacks the foliage of the larger evergreen species, in particular C. elatus. Preventative fortnightly spraying with a carbaryl-based pesticide such as Karbaspray is required for effective control.

Mealybug — all species are very susceptible to this pest which infests the bulbs and leaf bases in next to no time. Spraying the foliage and drenching the soil medium with a chloropyrifos-based insecticide such as Dursban is recommended.

Red spider — attacks the foliage of many species, particularly during summer. Spray with a propargite-based insecticide such as Omite for effective control.

Damping-off — this fungus causes weakening and collapse in seedlings, and is particularly prevalent when seed has been sown too thickly, resulting in poor aeration. Spray with a captab-based fungicide like Kaptan as soon as infestation is noticed, or drench the medium with benomyl e.g. Benlate.

Rotting — fungal rotting of the bulbs is usually the result of overwatering. Unhealthy-looking plants which are suspected of rotting should be lifted immediately, the diseased portions cut away, the bulbs washed thoroughly with water and dusted with Kaptan. Allow to dry for a few days and replant in pure river sand to encourage new root development.

Propagation

(I) Seed — The black, flattened seeds of Cynanthus are dry and slightly winged. Unfortunately, the seed of this genus has a rather limited period of viability, and best germination results are obtained from very fresh seed, sown soon after harvesting. The seed is sown just below the surface in a very well-drained, sterilised medium, such as equal parts fine compost, industrial sand and river sand, in deep pots or seed trays. Care must be taken to sow thinly to avoid overcrowding and damping-off. The containers are kept in a protected, shaded position and kept moist by watering with a fine rose. Germination is usually excellent if seed is fresh (C. falcatus germinates in about ten days, while some species may take several weeks). The seedlings should remain in the containers for their first season, and depending on their progress, can be potted-up individually from their second season onwards.

(II) Offsets — Many species, particularly evergreens like C. elatus and C. mackennii form offsets very readily, while others such as C. galpinii and C. leucanthus hardly ever do. Offsets are separated after the flowering period, when large enough, and replanted immediately. If the basal plate of the bulbs is damaged in the process it is best to treat with Kaptan before replanting.

(III) Bulbs — A few species reproduce extremely rapidly by forming masses of bulblets, produced from the base of the bulb, under the papery tunics. Vying for the hotly contested title of “most prolific bulbil producer” are C. lobatus and C. montanus, which reproduce so rapidly by this method as to cause their owner a certain amount of embarrassment when showing visitors around the Cynanthus area! These bulblets do not remain attached to the parent bulb, but become summarily detached when they have reached a certain size. They often undergo a prolonged state of dormancy and are best planted in drills in deep containers in a very sandy mixture, with their upper third exposed. When they have produced leaves and become firmly rooted they are potted-up in the normal way.

(IV) Tissue Culture — Recent encouraging results achieved with the propagation of Cynanthus species by staff of the Tissue Culture Laboratory at the National Botanic Gardens, Kirstenbosch, will undoubtedly be of great use in making material more widely available for the horticultural industry. These results are of great importance for the conservation of the endangered members of this genus.

REFERENCE

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Cyranthus spiralis, watercolour drawing by Ellaphie Ward Hilhorst.

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