

Zantedeschia aethiopica

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Zantedeschia aethiopica is not a calla. This is a common misinterpretation by many in New Zealand. It does belong to the *Zantedeschia* genus, the leaf is similar, but there are many differences. Some of those differences I will endeavour to explain in this presentation. Firstly though let us look at some of the known taxa of *Z. aethiopica*.

We have the arum — which is the white bloom — it has various forms including winter and summer flowering.

In New Zealand we have the better known 'Childsiana', which is also white and also comes in various forms but this has been mainly induced by treatment with hormones and or containerising, creating a bonsai effect.

We also have the 'Green Goddess'. This is a well known cultivar in New Zealand.

If we look at the callas, we have numerous cultivars. The big thing that needs to be remembered is that all of the callas are deciduous. They have a specific growing season and require a dormancy. This is probably one of the essential differences. *Zantedeschia aethiopica* on the other hand, does not necessarily require any dormancy.

A few calla species are *Z. rhemannii*, *Z. angustiloba* (syn. *pentlandii*), *Z. "odourata"*, and a number of cultivars. In New Zealand these have been hybridised very successfully to produce a multitude of colours.

Callas grow from tubers and they require, as already mentioned, a dormant period. They are extremely prone to *Erwinia*. They have, in general, a 6-week flowering period and they are not very tolerant of wet conditions.

Zantedeschia aethiopica is evergreen and it has, depending upon climatic conditions, a long flowering period of 3 to 6 months. They grow from a rhizome, are strongly resistant to *Erwinia* under most circumstances, enjoy wet conditions, and are a lot more forgiving. The only comparative disadvantage is the lack of a range of cultivars.

Zantedeschia aethiopica is left in the ground for long periods and is not dug on a regular basis. In fact they are better left in a position where they are growing well for 5 to 7 years until they become overcrowded, and only at this stage should they be lifted.

I have already touched on some of the known taxa of the *Z. aethiopica*. There are others that are little known and are comparatively new, such as the pink-throated form, which we call 'Marshmallow'. 'Marshmallow' has a beautiful pink colouring and this colouring is enhanced if the flower itself is set slightly above eye level in a vase. It is interesting to note that shading can influence the degree of colouring. This can be brought about by artificial shade or the greater leaf canopy as the plant matures in the 2nd or 3rd year and the emerging bud is shaded from the direct sunlight prior to its emergence. If it is then picked just shortly after it emerges and allowed to open inside, frequently this pink colouring will be throughout the whole flower.

Of the other potential cultivars that are still to be released onto the market, we have one that we call 'Green Tip', which at this stage is still being bulked up. Application has been made for plant variety rights (PVR) and it would be under patent pending. Unfortunately it will be a year or two before this cultivar is available. Its main distinguishing feature is the fact that it is only the top of the petal that is green and this tends to stand up. It is actually a hybrid between the white arum and 'Green Goddess' and it has taken time and effort to stabilise. The effort has gone on for somewhere near to 15 years to achieve this, and it is quite an exciting product that will be on the market shortly.

Another new cultivar is called 'Red Invador'. This too falls into the category of patent pending, but at the date of this presentation it would be doubtful if there were more than 20 plants available. 'Red Invador' is distinguished by its red spadix. This red spadix against the white is very, very striking.

Zantedeschia aethiopica, in my opinion, has a lot of exciting possibilities down line and have been much neglected. The problem of bringing more colour and more variation to them could be quite a challenge for breeders in the future. I am of the opinion that it will not cross or hybridise with the callas. Having made that statement I have got to admit that the pink-throated arum, some many years ago, was available at Kew Gardens in England, having been supplied by people from South Africa. The powers that be at Kew simply put this down to a hybridisation between *Z. aethiopica* and *Z. rehmannii*. I personally would challenge this. We have sourced this form back to a specific area in South Africa, where it was known some 20 years ago and all efforts by breeders have failed to create a hybrid between the *Z. aethiopica* and the common calla.

I said *Z. aethiopica* has some exciting possibilities. Again I would mention that it is a reluctant hybridiser and it does not respond readily to tissue culture. In fact tissue culture, I understand from most of those that operate in this area, is totally uneconomical.

To its credit, though, let me state that it is a wonderful cut flower with a very long vase life. It is a wonderful garden plant and also a wonderful container plant. We already have quite a number and range of cultivars that can be used for all these purposes.

Zantedeschia aethiopica has a vase life of 4 to 6 weeks providing it is picked at the right stage. It has a container life of 2 to 3 years and as a garden plant it has a life span that I would hesitate to measure, but would suggest 5 to 10 years in one area, possibly more depending upon the conditions. As a commercial cut flower it should be left in the ground for 5 years and more without digging. It is interesting to note that the flowering ability increases as the plant grows older and as it multiplies under the ground. It is not uncommon to pick 50 flowers from a single plant in Year 3.

It thrives on a high soil moisture content. It is also a lover of soils with high organic content, and high nutrients. It prefers some shading, to what degree we have yet to learn. If, for example, we look at the 'Green Goddess' in New Zealand it will grow with very little shading. In the case of 'Marshmallow' the degree of shading can definitely influence the colouring. It needs to be remembered here that while high light enhances the colouring, direct sunlight appears to reduce it.

Ideal conditions then are one of sensible husbandry, of supplying high organic matter and a good nutrient balance. High moisture content, observation of the performance of the plant, and a little experimentation will enable one to find what

makes this plant produce both the best colour and the highest number of blooms.

It is interesting to note that 'Red Invador' and 'Green Tip' are the only new types for a number of years. White arums have quite a number of different forms that have not been exploited. These include different flowering periods, different petal textures which would travel differently, and different sizes. 'Marshmallow', which nearly became extinct at one stage, is now becoming available to the public. 'Green Goddess' is well known throughout New Zealand and let us hope there are many other new cultivars to come onto the market to keep the excitement of *Z. aethiopica* in the forefront of the marketplace.