

A New species of *Cyrtanthus* from the Eastern Cape

(First published in Veld and Flora, March 2004, Page 20)

Cyrtanthus macmasteri

The Eastern Cape is a region particularly rich in Amaryllidaceae – particularly *Cyrtanthus* and *Nerine*, and is sometimes referred to as the “headquarters” of these two genera. Yet a further species of *Cyrtanthus* has been described recently by Dr Dee Snijman in *Bothalia* (Snijman 2003). The discovery of this rare and beautiful new species is an interesting saga with which I have been involved over an extended period of time.



My first encounter with *Cyrtanthus* was on our family farm in the Cathcart district when I was a child. My grandmother often took me for walks and taught me to observe the flowers, birds and animals in the veld. I distinctly recall the numerous red “firelilies” that emerged in the spring – much later I was to identify these as *C. contractus*. This early introduction to the wonders of the veld engendered an interest that later led to a passion for wild flowers and particularly bulbs which I started to record, photograph and grow. Over the years I have encountered most of the *Cyrtanthus* species in the Eastern Cape. Whenever uncertain of the identity of a species I would send a pressing to various herbaria and so eventually got to know some of the botanists involved. I also came to know and eventually meet others with a similar interest and it has always been most rewarding to share experiences and discoveries with an ever-widening circle of friends.

So it was that on a hike through the spectacular Bolo River gorge with my brother, Nigel and his family on 30 January 1994, when my nephew Alistair McMaster pointed out a bright red flower on a rock ledge a few meters above the river bed, I was able to say to him “I think we have found a species that has not yet been described”. With its large flared flowers it was certainly different to any *Cyrtanthus* I had ever encountered, and its habitat and flowering time set it apart from all the Eastern Cape species with which I was familiar – it reminded me of *C. sanguineus*, but its flowers were smaller and did not flare as much. I was very excited and carefully photographed it and took the flower for pressing and identification. Despite intensive searching we found no other specimens that day.

We sent the single specimen to Amaryllidaceae specialist, Dr Dee Snijman at the Compton Herbarium. Her initial reaction, while very cautious, was encouraging. She could not put a name to it and did not rule out the possibility that it might be new – but a lot of work would be involved in establishing this, both extensive research to compare it with all similar herbarium specimens, as well as further field exploration to ascertain the status and distribution of the species and collect more material. This investigation was to occupy us for the next nine years during which time I made repeated trips to the Bolo River Gorge and many similar habitats – gradually

uncovering the secrets of this rare and elusive flower. This quest has been one of my main preoccupations over this period and has taken me to some very rough, isolated and yet beautiful and botanically rich parts of the Stutterheim district.

The Bolo River is a tributary of the Great Kei River in the Stutterheim district. In the last few kilometers before its confluence with the Kei, it flows through a deep gorge on a farm belonging to Fanie and Alta van Wyk, who have laid out one of the most spectacular hiking trails in the region. The Kei and its tributaries flow through deep steep-sided and bush-clad valleys 500 to 600m deep, with many cliffs and krantzes – really rough terrain, difficult to traverse. On the upper slopes of the valleys and gorges the bush gives way to open rolling grassland.

Extensive exploration of the region in 1995 and 1996 eventually revealed that the original specimen of the new *Cyrtanthus* was one of occasional isolated individuals in the valley. The main population occurred on the upper slopes of the Kei River gorge at the transition between Valley Bushveld and Dohne Sourveld (Veld Types 23a and 44b, Acocks, 1952) at altitudes of 700 to 800m. The terrain is deeply dissected and the vegetation changes from valley bushveld to grassland over small distances. The species occurs in thick grass sward between rocks on steep slopes of easterly or southerly aspects, often partially shaded by woody shrubs and small trees. The bulbs, which grow singly, are widely scattered and are nowhere abundant. The rock strata in which they occur consist of sedimentary rocks, being fine sandstone in the Beaufort series of the Karoo group (Lewis,1996). This species also extends into soils weathered from a dolerite intrusion near the sandstone. It was also established that the height of the flowering period occurs in February, extending into early March. Seed ripens at the end of March and by mid-April has mostly dispersed. Other amaryllids that occur at this locality are *Cyrtanthus obliquus* and *Brunsvigia gregaria*. Although the flowering times of the two *Cyrtanthus* species overlap, no natural hybrids have been observed.



Site where the new species was first discovered. The greatest concentration of *C. macmasteri* is below the rocky outcrop in the lower centre of the picture. However they have a wide distribution along the hillside for a distance of about two kilometers. They also occur on the dolerite intrusion which can be seen further back in the upper centre of the picture. The main flowering time is February. It is shy to flower and set seed and is not numerous.

On 5 March 1995 a further population of *C. macmasteri* was discovered some 15 km north of the original site. Here it occurs over a wider area, but always confined to the

specific altitude where the bushveld merges into the grassland above it. This particular locality is unique in that it is very isolated and so far from water that it is inaccessible to domestic livestock. Consequently it is still pristine and extremely rich in biodiversity. It is also exceedingly difficult to visit, being nearly 60km from Stutterheim, and the final approach entails a 10km hike over very steep and rough terrain, in the heat of summer. A unique feature of this habitat is that three species of cycads occur here – *Encephalartos frederici-guilielmi*, *E. princeps* and *E. caffer* – perhaps the only place in South Africa where three *Encephalartos* species overlap. Other species of amaryllids that occur here are *Boophone disticha* (a very large straight-leafed form which flowers in August), *Cyrtanthus macowanii* which flowers from mid-December and occurs over a wider area, and *Cyrtanthus obliquus* which is abundant.

At this site *C. macmasteri* occurs mainly above steep cliffs. Also at this locality are many *Encephalartos caffer*, some *E. princeps* (endemic to the Kei valley), and a few *E. frederici-guilielmi*. This population of *E. caffer*, over a hundred kilometres away from its previously known distribution in the Bathurst/Alexandria region, was discovered a few years ago when I first hazarded a climb up to this very isolated area. It is inaccessible to all but the most intrepid hikers and passionate botanisers who are prepared to hike for kilometres over very steep and rough country to reach it.



By 1996, with the additional information and material from both sites, it was generally accepted that we were dealing with a hitherto undescribed species. Consequently on 28 January 1996 I collected two bulbs and delivered these to the brilliant botanical artist, Dr Auriol Batten of East London, who very kindly offered to produce an illustration for use in the description. These two plants eventually produced capsules and seed and the result was a very beautiful and accurate colour plate. I am very grateful to Dr Batten for this magnificent illustration and for permission to reproduce it here.

Meanwhile, Dr Snijman continued her investigation of old literature and herbarium sheets to be completely sure of the validity of the new species. On 4 December 2001 she sent me the following communication:

“Since I last contacted you I have discovered another specimen at the Compton Herbarium that matches your Bolo collection. It was collected on 9-2-1963 by Mrs M.A. Holmes on the 'Slopes down to Nqancule and Kei Rivers'. Miss Barker had identified it as *Cyrtanthus galpinii* and the specimen had been languishing in that folder unnoticed. Please tell me if you know the above locality. And whether Mrs Holmes was known to you. We haven't any other collections of hers so she must have

had a special interest in this plant. The laid out flowers match Auriol's painting very well. They have stamens attached at different levels as in the *C. sanguineus* group. This obviously led Miss Barker to think it was *C. galpinii*, a small flowered species in the *C. sanguineus* group but always with only one flower and from the northern areas.”

Mrs Holmes was not known to me, but reference to my large scale trig-survey maps established that this site was on the east bank of the Kei River not more than 20km away from where I had originally discovered the species. This was confirmation of a third population on the slopes of the Kei valley. It is highly likely that more populations will be found. The limited flowering time and the extreme difficulty of exploring this very rough terrain makes this a tough challenge.

On the other hand, their isolation and the fact that the two populations on the west bank of the Kei are on farms which enjoy a high degree of conservation and protection, means that although it may be very localised and rare, there are no immediate threats to the future survival of this exciting new *Cyrtanthus*.

References:

Acocks, JPH, 1952. Veld Types of South Africa, *Memoirs of the Botanical Survey of South Africa* 40: 1-128.

Lewis, Colin, 1996, *The Geomorphology of the Eastern Cape*, published by Grocott and Sherry, Grahamstown.

Snijman, D.A. 2003. A new *Cyrtanthus* species (Amaryllidaceae: Cyrtantheae) endemic to the Albany centre, Eastern Cape, South Africa. *Bothalia* 33.

Acknowledgements:

I am deeply grateful the owners of the farms on which these plants occur, for their co-operation and assistance during my many visits to the localities. In particular I would like to thank Fanie and Alta van Wyk, Bob Acton for permission to explore their farms and Neil Potter through whose property I often had to hike to get to the second site. Neil also on occasion made the task easier by taking me some distance in his 4-wheel drive bakkie.

I am also very grateful to Dr. Auriol Batten for her interest in this project, for the beautiful plate and for the continued support and inspiration she gives to me.

Dr Dee Snijman has been extremely patient and thorough over the nine years that we have been involved in this project. Her commitment to accuracy and excellence, her friendship and encouragement and the honour she has bestowed on me by naming the new species for me, are very deeply appreciated.