Nerine gibsonii

The exquisite Gibson's nerine, a species that could well be threatened with extinction

by **Tony Dold**, Selmar Schonland Herbarium, Rhodes University, Grahamstown and **Cameron McMaster**, African Bulbs, Napier

ABOVE: A white flowered Gibson's nerine, *Nerine gibsonii*. Photo Tony Dold.

The Latin name *Nerine* is from the Greek *Nereis*. In Greek mythology Nereus, son of the sea god Pontus and Gaea, Mother Earth, was called the old man of the sea. He was married to Doris, a daughter of the Titan Oceanus, by whom he had fifty beautiful daughters: the nymphs of the sea or Nereids. The pronunciation follows the classical Latin *ne-reé-ne*.

The genus *Nerine* is endemic to southern Africa with about twenty-five species mainly concentrated in the summer rainfall areas, particularly in the Eastern Cape. Most species are gregarious in nature and grow in large colonies. Several species, notably *N. sarniensis* (the Guernsey lily) and *N. bowdenii*, have been horticultural favourites in Europe since the early seventeenth century, and are the originals for several hundred cultivars. Many species of *Nerine* have featured in *Veld & Flora* and *Flowering Plants of Africa* over the years and although there is a plethora of popular literature available it appears that the genus is nevertheless in dire need of taxonomic revision.

Threatened species

Following the current World Conservation Union (IUCN) Red Data categories, five species, *Nerine gibsonii, N. gracilis, N. huttoniae, N. marincowitzii* and *N. masoniorum,* are listed as Vulnerable. Charles Craib recently highlighted the plight of *N. gracilis* in Gauteng and Mpumalanga in *Veld & Flora* 88(3), while Dee Snijman showed that *N. marincowitzii* is threatened by porcupines in its limited range in the Western Cape in *Flowering Plants of Africa* 58. Dold *et al* discussed the conservation status of Eastern Cape endemics *N. huttoniae* in *Veld & Flora* 86(1) and *N. masoniorum* in *Veld & Flora* 86(4). Happily *N. huttoniae* has subsequently been found by the authors at two new localities near Cradock (reported in the previous issue of *Veld & Flora*) but a recent visit to *N. masoniorum* saw the entire population, as predicted in 2000, now completely built over with informal shacks. *Nerine gibsonii* was, until very recently, listed as Data Deficient, but having reassessed the species, it has been assigned a status of Vulnerable. A further four species, *N. bowdenii, N. humilis, N. pancratioides* and *N. pudica,* are also Red Data species although they are assessed as Lower Risk.

Gibson's nerine

First collected in Cala by Alice Pegler in 1910, the species was only described in 1968 by Ken Douglas in honour of Lance 'Gibby' Gibson, an attorney in Engcobo, who made the second collection in 1955, also near Cala. Douglas, a decorated Second World War veteran and teacher (later headmaster) at Kingswood College for thirty-six years, grew and studied nerines for thirty years. Gordon McNeil, a well-known *Cyrtanthus* enthusiast and tropical fruit farmer from Ofcolaco, made a third collection from Cala from which the type specimen was prepared in 1966. Cameron McMaster collected some plants around the early 1970s when he saw thousands of plants blanketing the roadside on the mountain pass between Stokwe's Basin and Cala. He noted at the time 'flowers varied from white to purple with all shades of pink in between'. A collection he made in 1976 was lodged in the Bulb Collection at Kirstenbosch where it has survived and still flowers regularly according to curator Graham Duncan.

In March this year, more than forty years later, we visited the remains of this population and were fortunate to see any plants at all. The landscape has been completely transformed by years of intensive overgrazing and the perennial wetland that was once home to the impressive colony has become a vast 'donga'. Only two flowering plants (one pink and one white flower) and a

handful of bulbs were found after a thorough search. More recently, with the reconstruction of the road, the vlei has been partly removed for the building of a culvert under the new road and the remainder 'filled in' for some obscure reason. This is despite the fact that 'upgrading' (expansion beyond its existing size or volume) of any roads outside of Town Planning Areas is a 'listed activity' (which may have an substantial detrimental effect on the environment) and is thus subject to the EIA regulations contained in Sections 21, 22 and 26 of the Environment Conservation Act, 1989. Furthermore, in terms of Section 39 of the Minerals Act, No 50 of 1991, an environment management plan may be required before a permit to open a borrow pit is issued by the Department of Minerals and Energy (DME).

Clearly this once grand population is no longer viable. Bulbs falling from the collapsing walls of the donga were rescued by Cameron McMaster and taken into cultivation at African Bulbs in Napier and at the Bulb Collection at Kirstenbosch under the care of Graham Duncan. The remaining plants will not survive the recent bulldozing event and in this case it was most prudent to resort to *ex situ* conservation measures. (For more information on *ex situ* conservation see Graham Duncan's article in *Veld & Flora* 88(4).) A specimen is housed in the Schonland Herbarium in Grahamstown for the record.

Ken Douglas mentions only two localities in his description of *N. gibsonii*: Mntunthloni and Qumakala (Nqumakala) Mountains, both between Cala and Engcobo, and describes the habitat as rocky grassveld. Tony Norris, then chairman of the Nerine Society of the UK, also saw the species in its mountain habitat near Cala in the early 1970s and described the habitat as 'wet bog with many bulbs, actually in and under water in acid black fibrous soil that dries out completely in winter'. Since both Norris and McMaster were originally directed to the site by Ken Douglas, Norris' locality is in all likelihood the same as that of our population. His description tallies exactly with what we found. Chris Edwards and Dave Fenwick assure us that Norris' collection and its progeny are still in cultivation in the United Kingdom. An authenticated photo-

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ABOVE: Landfill and borrow pit over *Nerine* habitat on the roadside between Stokwe's Basin and Cala. Cameron and Nigel McMaster photograph the few surviving plants. Photo: Tony Dold.
TOP RIGHT: Doomed to extinction as its fragile habitat erodes away, an exposed *Nerine gibsonii* bulb on the edge of the donga. Photo: Tony Dold.

graph of his *N. gibsonii* collection on Dave's website (www.theafricangarden.com) matches our material perfectly. McNeil's type specimen label states that it was collected on the mountain overlooking Cala near the Radio Tower. In total then, there are six herbarium specimens (collected in natural habitat) but only four (now three) known localities.

Relationships

In classifying nerine species, Tony Norris defined a '*Nerine appendiculata* group' that comprised four species that combine the diagnostic characters of pubescence and stamenal appendages: *N. appendiculata*, *N. brachystemon**, *N. masoniorum* and *N. gibsonii*. There is no doubt that *N. gibsonii* is most closely related to *N. appendiculata* and, although very similar, perhaps the most obvious distinction between the two species is the stamenal appendage. In *N. appendiculata* they are fitted with two, three or four linear teeth up to 10 mm long whereas the basal appendage of *N. gibsonii* is smaller, with only one (occasionally two) small protuberances about 2 mm long. Interestingly, an archived letter from Mrs Amelia Mauve (nee Obermeyer) at the National Herbarium in Pretoria to Mike Wells at the Selmar Schonland Herbarium in Grahamstown, suggests that the 'new' species was likely to be a mutant of *N. appendiculata*. Mrs Mauve nevertheless supported Douglas by drawing up a list of diagnostic characters for him**.

Although 'our' population is sadly no longer extant it is likely that other viable populations, less accessible to domestic stock and unrestrained bulldozers, exist. Generally the high mountains in the region such as Mntunthloni and Nqumakala are only grazed in summer and are for the most part fairly well preserved. We would need to visit Cala in March for the next few years to establish the true conservation status of the species, but in the meantime seed from the rescued plants, when it can be reaped next year, will be distributed to Kirstenbosch and Kew. Ideally a reserve is needed in the Cala – Engcobo region, the nearest being the privately owned Black Eagle Nature Reserve at Sterkstroom some 80 km to the west.

*now placed in *Nerine appendiculata*.

**If you would like a table showing the diagnostic characters of *Nerine appendiculata* and *N. gibsonii* send your request to the editor at voget@kingsley.co.za.

Further reading

Craib, C. *Nerine gracilis*. *Veld & Flora* 88(3), 105-107.

Dold, T & Weeks, D. 2000. *Nerine huttoniae*: a rare Eastern Cape endemic from the Fish River. *Veld & Flora* 86(1), 14-15.

Dold, T., Cloete, E. & Weeks, D. 2000. The *Nerine* from Misty Mount. The conservation status of *Nerine masoniorum* in the Eastern Cape. *Veld & Flora* 86(4), 168-169.

Douglas, K.H. 1968. A new species of *Nerine* from the Transkei. *Journal of South African Botany* 34: 5-7.

Duncan, G. 2002 *Grow nerines: A guide to the species, cultivation and propagation of the genus* Nerine. 'Kirstenbosch Gardening Series.' National Botanical Institute, Cape Town.

Duncan, G. 2002. Just holding on. Spectacular geophytes in peril. *Veld & Flora* 88(4), 142-147.

Norris, C. A. 1974. The genus *Nerine*: Part 2. *The Nerine Society Bulletin* 6: 7-31.

Snijman, D.A. & Ward-Hilhorst, E. 2003. *Nerine marincowitzii*. *Flowering Plants of Africa* 58: 44-48.

Victor, J.E. & Dold, A.P. 2003. Threatened Plants of the Albany Centre of Floristic Endemism, South Africa. *South African Journal of Science* 99: 437-446.