

HURTLING TOWARDS EXTINCTION

Five charismatic, threatened *Red Data List* plants.

by *Janice Golding*, SABONET, c/o National Botanical Institute, Pretoria

Plant Red Data Lists list extinct, threatened and potentially threatened plants that have been assigned risk categories according to guidelines set by the World Conservation Union (IUCN). Approximately 10% of South Africa's plant species appear on the *Red Data List (RDL)*. Preliminary expectations are that many species categorized as 'indeterminate' or 'uncertain' should in fact be removed from the forthcoming *Red Data List*. In this article, five plant species with *RDL* status are selected, all of which are found in habitats that are subjected to human modification. These charismatic plants can serve as important flagships for conserving ecologically sensitive habitats. No reference is made to grasslands and important plant groups (such as cycads or ground succulents) that also desperately require protection against extinction.

APONOGETON RANUNCULIFLORUS

Aponogeton ranunculiflorus (Aponogetonaceae) is an aquatic vascular plant, known from humic tarns (sandstone depressions filled with water) from the Drakensberg summit. The species grows at an altitude of 2 600 m in the mist belt. The species straddles Lesotho and KwaZulu-Natal. Its *RDL* status was assessed by Hilton-Taylor as 'rare' and as 'vulnerable' by Scott-Shaw (based on past population declines, its limited distribution range and the few number of known localities).

The type specimen was collected in Lesotho's Sehlabathebe National Park, in a 3 ha zone and was first described in 1972. Subsequent surveys have found more localities, all of which are within a 10 km radius of the type locality. Additional localities occur in the uKhahlamba Drakensberg Park and near Sani Pass. The degradation of fens and bogs in Lesotho from overgrazing and erosion, has resulted in disturbances to its surrounding habitat. The species needs clear pools because siltation disrupts photosynthesis.

The species can readily be cultivated, and seed has



Aponogeton ranunculiflorus grows completely submerged, except for its flowers that seem to float on the surface. Each individual plant does not reach more than 10 cm in length. This photograph was taken in 1967 by the late Amy Jacot Guillarmod, the pioneer of Lesotho's flora.

been sent to Kew, Holland and Grahamstown. The flowering time for cultivated plants is less than one year.

EUPHORBIA PERANGUSTA

Euphorbia perangusta (Euphorbiaceae) is restricted to the Northwest Province. It has been observed in the Groot Marico area in bushveld on low quartzitic ridges and amongst rocks. Its *RDL* status was categorized as 'endangered' by both the Transvaal Threatened Plants Programme (then under the Transvaal Department of Nature Conservation) and Hilton-Taylor. Essentially, the species is known from one large sub-population consisting of fewer than 100 mature individuals, and three to four sub-populations each consisting of not more than fifteen individuals. Much of the Groot Marico area is subjected to game and cattle farming.

Ralph Peckover gives an account of *E. perangusta* in *Veld & Flora* (see 'further reading' below) and mentions introducing cultivated *E. perangusta* seedlings into the known localities. Apparently *E. perangusta* grows readily in cultivation. More than 700 seedlings were produced from twenty seeds from the late 1980s to the mid 1990s. Survival success of the introduced stock has been estimated at around 60%. Well-planned translocations can certainly help to boost species numbers in the wild and can thus save populations from extinction.

Dr Robert Archer from the National Herbarium in Pretoria recognizes that *E. perangusta* is taxonomically very close to *E. knobelli*, and may well be a subspecies



Euphorbia perangusta in its natural habitat of rocky outcrops. Definitely something worth seeing in the wild. Photo: Ralph Peckover.

or variety. The taxonomy has thus to be resolved and this has far-reaching implications for clarifying the *RDL* status of *E. perangusta*. Introductions of cultivated material into the wild need to be closely monitored to check for reductions in the number of wild individuals.

SERRURIA AEMULA

The following spiderheads (genus *Serruria*, Proteaceae) are all from the Cape Flats in the Western Cape and are threatened by expansion of suburbia. *Serruria foeniculacea* was listed as 'endangered' by Hilton-Taylor. The last two remaining individuals were translocated to a reserve sanctuary. *S. foeniculacea* has subsequently been found to be a variant of *Serruria aemula* and has been instated as *S. aemula* var. *foeniculacea*. The other variety of the species, *S. aemula* var. *congesta*, is thought to be 'extinct in the wild'. *S. aemula* is interesting for its range of substrate-related ecotypes (like many other members of the Proteaceae). Populations growing on loamy and shale-derived, clay elements have larger, more robust leaves and the plants generally have a bushier habit. Hilton-Taylor assessed the *RDL* status of *S. aemula* as 'endangered' because of its narrow distribution range. The largest sub-population (counted before the 1990s) consisted of some 200 mature individuals and exists on a Natural Heritage Site under power-lines. Approximately eighty mature individuals were counted on military base land in 1998. A few other scattered, smaller sub-populations exist on the Cape Flats.

A surprising find of a sub-population consisting of about forty flowering individuals near a frequently burnt area earmarked for development (along railway tracks in a semi-formal residential area) was discovered in October 1998. It is tempting to upgrade its *RDL* status.

Serruria furcellata, another Cape Flats endemic, is quite likely extinct. It was last observed in the late 1980s before the onset of housing development in the north-east sector of the Cape Flats. However, it may well exist in the eastern Cape Flats area. A disjunct



Approximately forty individuals of *Serruria aemula* have managed to survive along railway tracks in Bontehuvel in the Cape. The substrate here appears to be a fine, grey acid sand and a somewhat coarse-textured, white alkaline sand.

Photo: Janice Golding.

population consisting of a few scattered individuals of *S. furcellata* was located in the Elandsbloof Mountains and this distribution anomaly has yet to be explained. The Elandsbloof sub-population may well be an altogether different taxonomic entity.

GERRARDANTHUS TOMENTOSUS

Gerrardanthus tomentosus (Cucurbitaceae) is a creeper that grows in moist, shaded, coastal sub-tropical thicket margins (scarp forest). The species is known only from KwaZulu-Natal's Durban Metropolitan Area. Its *RDL* status was assigned as 'rare' by Craig Hilton-Taylor (1996) and 'vulnerable' (because of its narrow distribution and the few number of localities where it exists in the wild) by Rob Scott-Shaw (1999). The new proposed *RDL* status of *G. tomentosus* is 'critically endangered' or 'endangered' based, in addition to Scott-Shaw's reasons, on the few numbers of reproductively mature individuals. The species has been described as the world's most threatened caudiciform.. It survives in a highly fragmented area where there is little possibility of genetic exchange. The rootstock is harvested whole for muthi because it is mistakenly identified as *Gerrardanthus macrorhizus*.

G. tomentosus is known only from five herbarium collections over a 125 year period. The type locality is in Inanda, originally collected by Medley-Wood in the 1870s. All subsequent collections have also been made in the vicinity of the metropolitan area. One locality is semi-protected with about ten individuals and here the survival of the species is extremely uncertain. The last female plant died and the sub-population is functionally extinct. Furthermore, the locality, which is less than 1 ha, is subjected to alien plant infestations and is criss-crossed with footpaths. The other locality is well protected and was only recently re-discovered.



Gerrardanthus tomentosus grows from a massive rootstock (caudex) which is substantially smaller than that of *G. macrorhizus*.
Photo: Richard Symmonds.

According to Dr Neil Crouch, this new record is 20 km from the other sub-population, and consists of hundreds of individuals (mature and juveniles), many being female! It is almost certain that none of the other three localities exist.

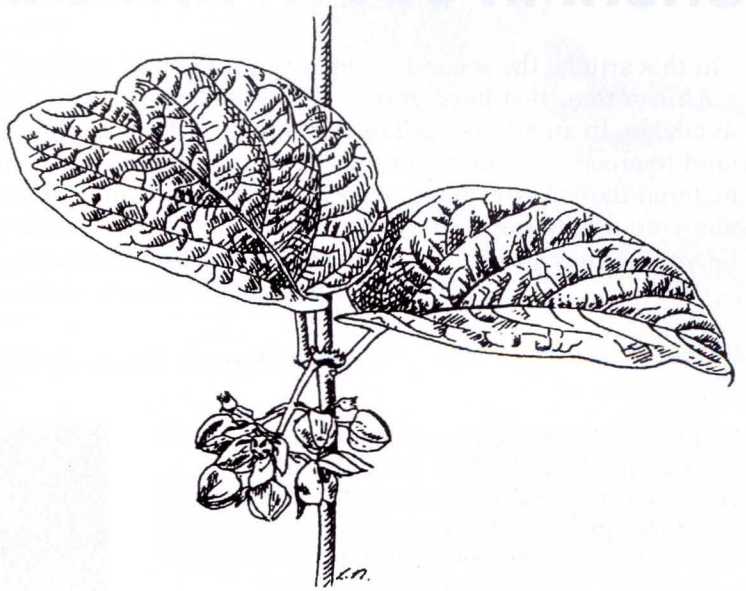
G. tomentosus is uncommon in cultivation. The Silverglen Nursery in Durban has demonstrated that it is an ideal candidate for horticultural propagation (except for root knot nematodes). Seed-set is between two-and-a-half and four years.

Mondia whitei [Apocynaceae (Periplocoideae)] is commonly called White's ginger or uMondi. It is a robust, woody climber that grows in (coastal) swamp forest and also riverine forest. It is distributed in the eastern part of southern Africa and occurs as far north into south-central and east Africa, and is at its southernmost distribution limit in KwaZulu-Natal. It is used widely as a love potion and vanilla substitute in South Africa, Swaziland and Mozambique, and occasionally for horticultural purposes. The assigned *RDL* status by Hilton-Taylor was 'vulnerable' in KwaZulu-Natal and 'indeterminate' in the former Transvaal. Scott-Shaw categorizes the species as 'lower risk-conservation dependent'. The current status should probably be upgraded to a threat category ('critically endangered', 'endangered' or 'vulnerable') due to past population declines and projected future declines.

Herbarium records from as early as the 1860s remark on the abundance of the species in KwaZulu-Natal. However, it was predicted in as early as 1915 that this species would become extinct in South Africa because of extremely high levels of exploitation as a muthi plant (despite the fact that its stem is difficult to identify in dense forests!). Today, the species remains over-exploited across most of its range. Its habitat is subjected to woodcutting, expansion of agricultural systems and the draining of wetlands. In KwaZulu-Natal it is known only from isolated pockets each consisting of fewer than twenty individuals in formally protected areas, and has rarely been observed beyond the boundaries of protected areas. It is claimed to be near to extinction in the areas south of the Tugela River. Two very small sub-populations are also known from Tzaneen and Duiwelskloof in Mpumalanga, near a thriving sub-population of *Polystachya albescens* and Mpumalanga's only known locality of the ground orchid, *Calanthe sylvatica* respectively.

M. whitei plants produce either cream or maroon coloured flowers (based on various ecological factors) with maroon the more common, and efforts to determine whether this represents subspecific taxa are underway.

M. whitei is easily propagated from cuttings, grows well in cultivation and flowers in less than one year. Seed-set in the wild is prolific. It also does well in the Durban and Pietermaritzburg Botanical Gardens. In recent years, it has rarely been observed on muthi markets, and this is clearly an indication of the difficulty in finding plants in the wild. Many more localities and sub-populations probably exist, and these need to be recorded and monitored by conservation authorities. ♀



Mondia whitei.

Acknowledgements

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Further reading

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- Scott-Shaw, R. 1999. *Rare and threatened plants of KwaZulu-Natal and neighbouring regions*. KwaZulu-Natal Nature Conservation Service. p. 181.

THE SOUTHERN AFRICAN PLANT RED DATA LIST PROJECT

The Southern African Botanical Diversity Network (SABONET) has launched the Southern African Plant Red Data List Project. The main objective of the project is to compile the southern African region's first comprehensive account of its threatened plant biodiversity. The countries involved are Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. Secondary objectives are to establish a regional network of persons aware of threatened plants throughout the region, and to develop competence in making an inventory of threatened floras. South Africa's National Botanical Institute is responsible for the overall management of SABONET. Janine Victor, from the National Herbarium in Pretoria, is managing South Africa's *Red Data List*.

The project is funded through the NETCAB Programme (Regional Networking and Capacity Building Initiative for Southern Africa) of the IUCN's Regional Office of Southern Africa (IUCN-ROSA). Co-support from the Global Environment Facility (GEF) Project is implemented by the United Nations Development Programme (UNDP). The project will culminate in a publication in September 2001. Should you wish to know more about the Southern African Plant Red Data List project, or if you wish to make a contribution to the *Red Data List*, please contact the Southern African Plant Red Data List Coordinator, Ms Janice S. Golding at SABONET, c/o National Botanical Institute, Private Bag X101, Pretoria, 0001 or tel (012) 804 3200, fax (012) 804 3211, e-mail golding@nbipre.nbi.ac.za.