



FRIENDS OF PARKS

VOLUNTEERS WORKING FOR CONSERVATION



BANDICOOT TAILS

Newsletter of the Friends of Scott Creek
Conservation Park

No. 11, June 1996

The President's Corner: It has been a quiet month, and Tom has nothing spectacular to report. However, he commends the article attached to this Bulletin. It is written by one of our members, Anne Prescott (of "Blue With Five Petals" fame). He feels it is not only an important argument for the continued push to control the spread of *Monadenia*, but also of the many other weeds which threaten our remnant bushland.

We must acknowledge the source of this article. It appeared in a recent issue of the Journal of the Native Orchid Society of S.A. (NOSSA).

Last Meeting: Our last meeting, at Coromandel Valley Primary School, was addressed by John Hanel, exchange ranger from CALM, W.A. He gave us a well illustrated talk on some of the parks in Sandgroper territory, from the Kimberley to the South Coast. It made your secretary quite homesick! John spends most of his time interacting with park visitors, particularly in the gorges of the Kimberley and in his present posting at Dwellingup. Tim Fuhlbohm is presently there as the S.A. part of the exchange. CALM (Conservation & Land Management) is largely run by personnel from the old Forestry Department, so there is much use of fire as a control for fuel loading and bush regeneration. Weeds are a problem (what's new) and dieback a major concern in both forest areas and heathland. It can be controlled by phosphorus injection, but the remedy is very expensive. There is little development of the Friends movement, in contrast to S.A.

Are You Interested In?:

The Friends Forum? This is being held this year at Noarlunga and is being organised by the Friends of Onkaparinga. The dates are Saturday & Sunday, 21st and 22nd September. The Forum includes discussions, reports, park walks and a dinner. Anyone wishing to attend, contact Don Reid for registration forms and information.

Friends of Cleland meetings? This group advises that they are having talks on the 17th July (on Calicivirus) and their AGM on 18th September, when Joan Paton will talk on "Birds and Plants Living Together" They meet at Cleland Education Room at 8 pm.

Explore The Flinders Ranges?: The Royal Geographic Society of S.A. has just published a guidebook to the Flinders for \$36 a copy. Don Reid has brochures for anyone interested.

Working Parties: Our last two working bees have been uphill from Gate 3 where we have been working on an extensive infestation of gorse and boneseed. Major progress has been made in perfect weather for cutting and swabbing. The Tuesday Working Group spent the 5th in pulling boneseed along Nevill Road in the morning. In the afternoon, the areas which were recently sprayed for blackberry control in the site of the Crassula infestation were inspected. Both pests look sick.

Tom Hands and John Butler have located a major Erica infestation on the northern side of the 'panhandle' area. This plant is emerging as one of our major pests. Where it occurs, it has propagated very heavily and requires cutting and swabbing to eradicate it.

COMING PROGRAMME:

Date	Time	Location	Activity
June 13	7.30 pm	Thompson's , Frith Road	Business meeting
June 16	9.00 am	Gate 3	Weeding
June 20	7.30 pm	Enid Robertson's, Blackwood	Working Party on Management Plan

Note: There will be no business meeting in July. At the meeting on the 13th we hope to lay out the programme for the rest of the year.

Don't forget to watch out for *Monadenia bracteata*. It is showing up already, and the onset of winter rains should accelerate its growth.

Any queries on Friends activities, please contact your office bearers:

President	Tom Hands	388 2150
Secretary	Don Reid	388 2123
Treasurer	John Thompson	388 2387

Remember - this is "The Year of Recruitment"

AN ECOLOGIST'S VIEW OF *MONADENIA BRACTEATA* IN SOUTH AUSTRALIA

by ANN PRESCOTT

I am a professional ecologist. I have been involved in the campaign to eradicate the African Weed-Orchid *Monadenia bracteata* from the Adelaide Hills. Why did I choose this action?

Ecology is the scientific study of what organisms and individuals exist in the natural world, and how and why these different organisms interact. This, in turn, is used to develop some basic principles about natural systems and to be able to predict what will happen if we make changes to it, based on such information as we can gather.

I would like to outline **the processes and the information** that I used to make the decision about what I would do with respect to *Monadenia bracteata* in South Australia.

The Process

There are several major threats to the long term survival of our native orchid species under current European land use practices. The most damaging is clearing and changing the land use to agriculture. A second is the grazing pressure of introduced animals on native scrub and a third of these is competition for resources between native species and species brought here by Europeans. Let me expand.

Of these three threats, clearing, grazing and competition it is competition which is of most concern with *Monadenia bracteata*.

Competition is a fight between individuals and between species. It is a fight for sufficient resources of sunlight, nutrients, space and water to allow for adequate growth and vigour to produce seeds or tubers for the next generation. There will be a physical limit to the number of individuals or the number of species that can survive in a given area determined by the amount of resources that can be scrounged. Good 'scroungers' will be successful competitors.

Competition can have three outcomes:

- 1) the new invader can be unsuccessful and die out
- 2) the invader and native species jostle for position and both survive in some form in a changed habitat.
- 3) the invader can make one or more of the original species extinct as they effectively outcompete the native species for resources.

If you cut a cross section through the soil, you see the roots, corms, rhizomes and tubers of plants all co-existing. These tubers and roots etc will be competing for the limited space, water and nutrients available in the soils. If a very aggressive plant such as *Monadenia bracteata* with no 'enemies' in the way of grubs or insect pests which eat it and with no 'special limiting requirements' such as unique mycorrhiza or unique insect pollinators, it will have a competitive advantage. So, instead of increasing the number of orchid species in the Adelaide Hills from 100 to 101, it is just as likely to decrease the number to 70 or 80 as the aggressive species out-competes other orchids.

The Information

Monadenia bracteata clearly has the capacity to spread rapidly and out-compete many other plants. Yes, it is apparently currently more common in grassy paddocks and 'disturbed' areas in the Hills such as previously cleared areas and firebreaks. Others might argue that the first and second of the three competition outcomes is prevailing. That is, *Monadenia bracteata* is noncompetitive in native scrub and is jostling for position in degraded areas.

But let's take the argument a bit further. I ask myself the question, "Would a *Monadenia bracteata* seed in a grassland of introduced grasses germinate the same way in a grassland of native grasses?" As an ecologist I predict that *Monadenia bracteata* will become established in native grasslands, one of the rarest and most biologically valuable types of habitats in South Australia and where some of the rarest orchids and other understory species occur. I must also assume that there is a high probability that *Monadenia bracteata* will make one or more native species extinct by aggressive competition.

Monadenia bracteata has already been found in the close vicinity of nationally declared rare and endangered species such as *Psoralea parva* (small scurf-pea) and *Drosera praefolia* (Tepper's sundew).

I believe that it is irresponsible, on the one hand, to bemoan the demise of the native orchids and natural habitats, particularly those which are rare and endangered, and then to take a 'it doesn't matter' attitude to one of the three major threats to orchids, that of competition.

This is why I have been concerned about *Monadenia bracteata* establishing in South Australia and what motivated me to join the program to eradicate this species before it took hold.

One of the first decisions in an eradication program is to consider whether eradication (rather than a control program) is a viable option. This occurs in at least two cases:

Option one: when the economic devastation that it could cause makes it imperative to eradicate it. An example would be foot and mouth disease or exotic (*Orobancha* (broomrape) species parasitic on economic crops.

Option two: when there are very few individuals so that it would be possible to eradicate it completely with limited resources and/or time, as a precautionary measure.

I spent many many hours, in many locations in the Adelaide Hills during the mid 1980's, looking for the species that are included in my book *Its Blue With Five Petals: Wildflowers of the Adelaide Region*. I did not see a single plant of *Monadenia bracteata* in the wild during those years. The first Herbarium record was lodged in 1988. So unless information to the contrary was forthcoming, I could reasonably assume that there were a few infestations of a limited size of this weed orchid and that eradication under the second option above was possible.

The methods used in the eradication program and ultimately the decision to undertake the program in the first instance were designed on the information available to ecologists.

The Realities

In locations where eradication work has been carried out for the last four years, I believe that the infestations have been contained, with 95% of plants being pulled or dug before seed set and a shift in plants found, from flowering specimens to juveniles. In these areas, the design of the campaign appears sound and indicates that volunteer time was generally well spent. The fight is being won in these areas.

The following numbers of plants have been dug or pulled. In the 1993 season - 55 267 plants, in 1994 - 51 522 plants, in 1995, 81 928 plants.

However, in 1995-96 over 500,000 plants of *Monadenia bracteata* were dug, pulled or sprayed in the Adelaide Hills. It is this year's work, in the end, which has made it apparent to me that the original information about the locations of the populations of *Monadenia*

bracteata, the number of infestations, and the size of the infestations available to the ecological community was not the same as the information available in other segments of the community. The infestations were more widespread and more established than outlined at the time the campaign was designed. NOSSA Vol 20(3), 1996 would appear to bear this out.

The Future

Let us assume that the fight against total eradication of *Monadenia bracteata* before it becomes established in South Australia has been lost.

What can we learn from this?

It is important that if other eradication campaigns against threats to native orchids are to succeed in the future, improved communication about ecological processes in one direction and improved transfer of information in the other will be needed.

Not understanding ecological processes and/or not caring about them guarantees that rare and endangered orchid species will continue to become extinct. Do you care? I do!

Editors Note

A recent letter from Jeff Jeanes, author of the book Orchids of Victoria confirms that *Monadenia bracteata* has already been found escaped from cultivation close to Melbourne. Lets hope this infestation can be quickly eradicated as it is at this stage small.

would.

ENDANGERED SPECIES RECOVERY PROJECT

by R. BATES

Caladenia behrii, *C. gladiolata* & *C. rigida*

Work done by NOSSA members in April 1996 includes:

1. Sowing bush collected seed at sites in Scott Creek Conservation Park and raking over sites to improve germination chances this season. (Project officer).
2. On April 28th tubers of all three species (which came from flask germinated seed) were planted in a private reserve at Cherry Gardens. This reserve once had *C. behrii* and *C. rigida* growing on it. A total of 40 tubers were planted at a site which can easily be managed by the landholder. (Kate Hoskins and Project officer).
3. Continued weed removal and management at the Millbrook *Caladenia rigida* sites. (Pat & Peter Clark).

AUSTRALIAN DENDROBIUM NO. 17

by MARK PHILIPS

Dendrobium linguiforme Sw

The name *linguiforme* means tongue-shaped in reference to the thick obovate leaves.

D. linguiforme is widespread and common all along the east coast of Australia from the Victorian border to Cairns, on trees, rock faces and outcrops. It occurs from sea level to the summits of coastal ranges and is most plentiful in the sandstone belt. It is tolerant of heat, drought and cold, no doubt the leathery leaves help it to withstand the elements. Leaves can desiccate in dry times then fill up with water quickly after rain.