

Acacia whibleyana and Brachycome muelleri: Conservation Biology Reports for two Endangered Species from South Australia's Eyre Peninsula

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Both *Brachycome muelleri* and *Acacia whibleyana* are listed as nationally endangered, and endemic to small areas on South Australia's Eyre Peninsula. Black Hill Flora Centre have recently published two reports on these species as part of the Australian National Parks and Wildlife Service Endangered Species Program; Conservation Biology of *Acacia whibleyana* by Manfred Jusaitis and Birgitte Sorensen, and Conservation Biology of *Brachycome muelleri*, by Jusaitis, Sorensen and Lesley Polomka. These reports focus on the ecology and biology, threatening factors, propagation and management recommendations of each species.

Acacia whibleyana

The Whibley Wattle is a dense shrub which grows to 2.5 metres in height and 4 metres in diameter. While inconspicuous for much of the year, during the spring flowering season it is covered with golden spherical inflorescences typical of the *Acacia* genus. This species has a very restricted distribution, located only in an area near Tumby Bay on South Australia's Eyre Peninsula. It has been rated by IUCN — The World Conservation Union criteria (1994) as being Critically Endangered.

Surveys undertaken as part of this project located a total of 322 plants in two separate populations. Most of these individuals were in somewhat disturbed areas, including roadside verges, a disused quarry and on grazed land. Study methods included vehicle-based surveys, soil collection, description and measurement of plant growth, flowering, seed production and dispersal. In addition, photopoints were established, plots seeded and seedling translocation techniques trialed. As a result of the presence of plants located near a salt lake, salt tolerance was also studied.

It was found that the populations were threatened by human interference, as well as by weed invasion. Weeds reduced both the germination and growth rates of *A. whibleyana*.

Flowering and seed production were quite variable, while the soil seed bank was fairly poor,



Acacia whibleyana, drawn by B. Chandler.

possibly due to seed predation. Seeds were dispersed by ants, attracted by the fatty aril attached to the seed. Germination trials suggested that scarification of the seeds using a sharp blade or boiling water were effective treatments in achieving high rates of germination. During this study conservation activities included fencing of the main population, spraying of weeds and translocation of plants. Plans for future conservation activities include the control of weeds, and plant translocations to connect roadside populations, together with the establishment of an ex situ seed bank. Community involvement and education were also been identified as playing important roles in the protection of this very localised species.

Brachycome muelleri

The Corunna Daisy is another critically endangered plant species with a very restricted distribution on the Eyre Peninsula. While early collections were made in several South Australian locations, including the Para River near Gawler and on the Yorke Peninsula, recent collections indicate that the pastoral property Corunna, on the upper Eyre Peninsula, now has the only remaining stand of the species. The plant grows on steep south-facing cliff-foot slopes of the Baxter Hills, approximately 5 km from Iron Knob.

The plant is an annual, germinating after autumn rains. It grows leaves in a rosette



Brachycome muelleri drawn by Gilbert Doshorst.

arrangement and reaches a height of up to 20 centimetres when in flower. *Brachycome muelleri* flowers from late winter to spring, with white florets held above the rosette of leaves. This plant would appear to be in a precarious situation, due to its very restricted distribution, rendering it vulnerable to catastrophic events. Grazing by domestic stock, as well as feral goats and rabbits also constitute potential threats, and the species is not represented in conservation parks. The land manager has instigated an ongoing program of goat control and kangaroo culling.

As part of this study, a second population of *B. muelleri* was translocated to a suitable new site on the western edge of the Baxter Hills. This translocation appears to have been successful, with natural regeneration occurring at the site after one year. The report recommended further targeted surveys and translocations be undertaken, and that weed and animal effects on the original and new populations continue to be monitored to ensure populations remain sustainable. However, because of the extremely delicate nature of the soil substrate at the population sites, it was recommended that recovery actions be handled by small teams of hand-picked experienced people.

References

IUCN (1994). IUCN Red List categories. IUCN Species Survival Commission. Gland, Switzerland.

A new International Agenda for Botanic Gardens in Conservation

Dr Peter S. Wyse Jackson, Secretary General,
Botanic Gardens Conservation International
(Article edited by Jean-Marc Porigoneaux)

Botanic Gardens Conservation International (BGCI) invites you to help revise and update the Botanic Gardens Conservation Strategy.

In 1989 the Botanic Gardens Conservation Strategy was published by BGCI, IUCN and WWF to outline the ways in which botanic gardens worldwide can contribute to the implementation of the World Conservation Strategy. Since then the Strategy has been influential and widely used to help promote and guide the development of plant conservation programs and priorities of many botanic gardens. The Strategy has also been published in seven languages (Bahasa Indonesia, Chinese, English, Italian, Portuguese, Russian, Spanish).

Although the Strategy is still an extremely important and useful document, for some time BGCI has been concerned that it needs to be re-evaluated, updated and strengthened. So much has changed in the world during the last decade and the practice of plant conservation itself has moved forward considerably. In the 1980s the botanic garden community was much less well organised, motivated and coordinated than it is today and BGCI itself had only just been established. There were also relatively few national and regional botanic garden and plant conservation organisations operating effectively.

Today, botanic gardens increasingly recognise that they share a common purpose and can play a great range of diverse roles in conservation and environmental education. Such roles are now well acknowledged, and should be linked to the implementation of international instruments such as the Conventions on Biodiversity, Desertification and Climate Change Conventions, CITES and Agenda 21, as well as to national biodiversity conservation strategies and action plans that are being developed in so many parts of the world.

BGCI recently began to give thought to how the Strategy should be renewed. We considered that it would be a mistake simply to rewrite and redraft the existing text — rather a fundamental revision involving many partners throughout the world should be undertaken. We also believed that it is important to begin an initiative whereby the botanic garden community itself drives the



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process of renewing the Strategy to ensure that it is relevant and applicable in all parts of the world.

We would like the new Strategy to become an action-based document, outlining priorities for botanic gardens in the implementation of specific tasks, as well as in defining general principles. It needs to incorporate botanic garden commitments to the implementation of, for example, the new international Conventions and play an enhanced role in national sustainable development and environmental sustainability. We also hope that it can become a document that individual botanic gardens can formally accept and ratify. In this way we will be able to:

- measure whether we are being successful,
- measure what institutions are involved, active and effective and
- judge whether these actions are sufficient to stem the loss of biodiversity throughout the world.

Ultimately we hope that through the ratification of such a Strategy, individual botanic gardens cannot only gain the benefit of being part of the implementation of a clearly defined international plan but also find new direction through accepting real commitments and sharing new responsibilities.

We invite you, your garden and your network organisations to become an active participant in this process.

We have prepared an outline of the questions that you may wish to consider in preparing a response and to guide your deliberations. We will also keep in contact with you as the process continues so that you will have an opportunity to comment on a draft of the new Strategy. We also urge you to consult with non-botanic garden partners and other sectors so that this process involves as wide a consultation as possible and to ensure that the new Strategy helps the botanic garden community to find its most effective role in meeting global priorities in conservation and sustainability.

The questions cover a range of topics including:

- role review;
- public policy framework;
- institutional development/capacity building;
- conservation;
- networking;
- sustainable development;
- sustainability;
- education and culture;
- research;
- resource review; and
- implementing and monitoring the national agenda.

Copies of this information pack on the International Agenda for Botanic Gardens in Conservation can also be sent to you by email or on a diskette, on request. A special email address has been set up to receive your comments and suggestions and responses:

Strategy@bgci.rbgkew.org.uk

You may also write directly to me, Peter Wyse Jackson, at Botanic Gardens Conservation International, Descanso House, 199 Kew Road, Richmond, Surrey TW9 3BW, U.K.
Fax: +44 (0) 181 332 5956

It is our aim to complete the new Strategy according to an ambitious and tight deadline over the next 15 months before the next international botanic gardens congress meets in Asheville, North Carolina, U.S.A. in June, 2000.

Please note that we wish to receive all draft responses from you no later than 30th June, 1999.

We look forward to having your collaboration in this important and exciting initiative.

Please see insert for further information.

Conservation in Hong Kong and the ANPC Plant Conservation Techniques Course from an International Perspective

*Tony Chan, Agriculture & Fisheries Department,
Hong Kong*

Time passes swiftly. It has been about one and a half months since I returned from Hobart where I had my first trip in Australia. I was sent by the Agriculture and Fisheries Department (AFD) of the Government of the Hong Kong Special Administration Region to attend the Plant Conservation Technique Course organised by Australian Network for Plant Conservation and Parks and Wildlife Service Tasmania. In this dynamic world, new conservation techniques keep on evolving to cope with the changing environment. In order to keep track with changing needs, AFD, the conservation authority in Hong Kong regularly sends staff to attend various training courses to acquire conservation experience from local or overseas experts. To me, it is a very good opportunity to meet conservation experts and frontier workers from Australia, and New Zealand, to learn their invaluable knowledge and experiences.

The program of the Plant Conservation Technique Course was very well designed. People with various backgrounds were invited to give seminars. This course presented comprehensive



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