

A selection of international programme activities

Australia

Botanic Gardens of Adelaide meet conservation milestone – Port Lincoln speedwell (*Veronica parrkalliana*)

A recent seed collection from the Port Lincoln speedwell (*Veronica parrkalliana*) has seen an international collaborative conservation project between the Botanic Gardens of Adelaide and MSBP pass its target milestone of collecting and storing seed from over 1,000 of South Australia's native plant species.

The Port Lincoln speedwell is a small erect herb that grows up to 40 cm in height. It produces small pale blue to white flowers with four petals during early spring, and occurs in sclerophyll forest or rocky sites under mallee vegetation. This little plant is considered endangered in its natural environment, and is found only in South Australia.

Originally discovered near Port Lincoln (South Australia) in 1909, the Port Lincoln speedwell was thought to be extinct, until it was rediscovered in the 1980s in the southern Flinders ranges by a plant enthusiast.

Although considered a perennial species, its life cycle appears closely linked to fire events within its natural environment, whereby it appears shortly after fire and persists until competition from other plant species becomes too great. With this in mind, the window of opportunity to collect and store seed for this plant is very narrow.

In October this year Dan Duval (Botanic Gardens of Adelaide Seed Collector) and Kieran Brewer (Native Vegetation Consultant) embarked on a field expedition to locate the plant in Mount Remarkable National Park (3 hours drive north of Adelaide). An intensive search was undertaken in an area that was burnt in late 2007. After much searching, an extremely localised population of approximately 1,000 plants was discovered. Seeds from these plants have since been collected and will be stored at both the Botanic Gardens of Adelaide and the MSB. Research will be undertaken by scientists at the Botanic Gardens of Adelaide to understand its seed biology, and the population will be monitored to determine its persistence and survivorship under natural field conditions.



Central Asia

Seed collecting in the Kyrgyz Republic

2008 was the first year of the formal collecting collaboration between the MSBP and organisations in the Kyrgyz Republic. This is an exciting new partnership for the MSBP, and our first in Central Asia. The collaboration is managed by the Institute of Biotechnology of the National Academy of Sciences of the Kyrgyz Republic, which has developed the first seed bank for wild species in the country. Collecting is carried out by colleagues in the Institute of Botany, Biology and Pedology, also part of the Academy of Sciences.

Despite a heavy drought in summer 2008, the team managed to make 122 seed collections, the majority of which are new to the MSBP.

In September, Clare Trivedi and Keith Manger from the MSBP visited the team for the first time. During the trip a freezer was purchased which will provide long-term storage for the collections held in-country. Clare and Keith also gave technical advice on all aspects of their work.



Mexico and Chile

Exchange of expertise in seed banking

The MSBP Chile team at INIA's base seed bank hosted a useful technical visit by two researchers from the National Autonomous University of Mexico (UNAM). Isela Rodríguez and Lilia García are responsible for seed processing and data management at the FES-Iztacala seed bank, UNAM. In order to provide a robust introduction to seed banking procedures and management, a two week visit was arranged to Chile in January 2007 to work with INIA's staff who have extensive experience in seed banking and propagation. During their stay the visitors learnt about seed bank management and reviewed each of the critical activities including participating in seed collecting, seed cleaning, and setting up and monitoring germination tests. The visit resulted in an interesting exchange of expertise allowing improvements to be made in procedures used by both teams. In addition to continuing communication, INIA and UNAM are cooperating in the regional cactus seed research programme.



Namibia

Highlights – January to October 2008

The 2008 seed collecting season started very early in Namibia, with the first trip on 2nd January. We aimed to collect the cliff-dwelling *Aloe dewinteri*, but were horribly disappointed, when not even one plant in the target population showed any signs of having flowered, nor of flowering soon. However, we were lucky to find some seed still on the highly localised endemic tree, *Kirkia dewinteri* (Kirkiaceae).

By late February the South of Namibia had received wonderful rains and we came across a lot of geophytes in full flower. Early in April we returned to get seed. We were just in time for some, while others were devoured by armoured crickets! We also found *Suessenguthiella caespitosa* (Molluginaceae), a species inhabiting cracks in the granite hills of the area, which had not been collected since 1923.



Clare Trivedi and Keith Manger with the Kyrgyz Seed Bank team



Suessenguthiella caespitosa

PHOTO: HERTA KOLBERG

In June we had the opportunity to get into the thick bush near some seasonally flooded pans in north-central Namibia. Some real treasures presented themselves to us here! We found *Cromidon pusillum* (Scrophulariaceae), to date only collected once from a locality about 220 km east, and another from 1939 marked simply "Grootfontein". We have now contributed the first specimens of these species to the National Herbarium of Namibia!

During our seed collecting activities in the south, we often stopped at the Aus Information Centre because they provide the most delicious lunches. They asked if we could provide their community nursery with seed of indigenous succulents. It was decided that this should take the form of a collaborative project: MSBP could provide any excess seed to the Aus Information Centre in exchange for information on germination and propagation requirements; information that is scarce for Namibian plants and

China

The expansion of seed conservation in China

Seed conservation activities are growing in China from the subtropical southwest to the temperate northeast region. Another 12 new collecting partners joined the National Seed Conservation Network by the end of July; five of them from the northern provinces of China which are the home for many endemic species and highly valued medicinal plants such as *Panax ginseng*, *Taxus cuspidata* and *Xanthoceras sorbifolia*. They will aim to safeguard the northern China flora and some coastal species against habitat loss and over-exploitation. The visit of Beverly Maynard of the MSBP Curation team in 2007 also reinforced the seed processing capacity in Kunming, helping us to deal with the massive collections from the current large-scale collecting programme in China.

China's National Seed Conservation Network was initiated and is maintained by the MSBP partner, the Germplasm Bank of Wild Species (GBWS) at Kunming Institute of Botany. With training and technology transfer from the MSBP, the network has contributed to the conservation of ca. 14,200 collections and 3,200 Chinese species so far, including 40% on the red data list (96 species). Under the agreement between the Royal Botanic Gardens, Kew and the Chinese Academy of Sciences, 4,000 threatened and endemic plant species from China are being targeted for conservation in the GBWS by 2010.

Paul Smith, Simon Linington, Robin Probert, Hugh Pritchard and John Dickie formed a MSBP delegation to Kunming to attend the international launch of the GBWS in 2008, China's largest seed bank for wild plant species. As part of the celebration, Paul Smith lodged seeds from 204 UK species at the new facility.

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Euptelea pleiosperma

PHOTO: JIE CAI



Team collecting field data
PHOTO: JIE CAI

could be used by the National Botanical Research Institute. In May we handed over seed of seven succulent species that we thought would easily sell in a nursery and of which seed was plentiful and quick to collect. We also supplied general information on growing succulent plants, as well as photos of the species in their natural habitat.

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Handing over seed to the
Aus community nursery
PHOTO: HERTA KOLBERG

