



OMBUTO

NEWSLETTER OF THE MILLENNIUM SEED BANK PROJECT IN NAMIBIA

August 2008

EDITORIAL

Six months have passed incredibly quickly and it is time again for another newsletter! The project has held its second southern African regional meeting in Malawi in June but we also report on the first meeting in Gaborone in November 2007. We have had a very busy but exciting collecting season this past summer and are gearing up for the "winter" collecting season in the south-west of the country. First reports indicate that some rain has fallen in the area and that we can expect to find some more treasures. A first for the Namibian MSBP has been the supply of succulent seed to the community run nursery in the little village of Aus. This will be our test case in community support. Rehabilitation work in the Sperrgebiet has been taken a step further with the first planting of *Juttadinteria albata* propagated by the National Botanic Garden. I hope you enjoy this newsletter and would appreciate any feedback or contributions for the next issue!

Herta Kolberg

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REGIONAL MEETINGS OF SOUTHERN AFRICAN PARTNERS

In November 2006 the project co-ordinators organised the first meeting of partners in southern Africa in Gaborone, Botswana. Project staff from the four partner countries, Botswana, Malawi, South Africa and Namibia as well as from the Millennium Seed Bank, UK, were present. The purpose of the meeting was to report on progress, discuss common issues, serve as an opportunity for informal training and touch on the subject of sustainability of the project, once the current phase of funding ends in 2010.

During the 5 days of the Botswana meeting, we all got to know each other and some fruitful discussions were held. All of us suddenly realised, that we were not alone in this and that everybody experienced the same or similar problems, frustrations but also joys! I think we left that meeting, feeling that we were part of a network that could make a difference and where help was only an email away.



Participants at the first southern African regional meeting, Gaborone.

At the Botswana meeting, it was decided that regular meetings of this kind would benefit the project. Thus a second meeting was held in Blantyre, Malawi from 2 to 7 June 2008. At this meeting participants from the 4 southern African partners again reported on progress made and raised any issues that needed discussion. MSB-UK staff briefed us on developments regarding continuation of the project post 2010. Following two days of formal meetings, a joint collecting expedition to Mount Mulanje, was organised.

SEED COLLECTING TRIPS 2008

The 2008 seed collecting season started very early in Namibia, with the first (short) trip already on 2 January to the Sesfontein area. According to records available to us, the cliff-dwelling *Aloe dewinteri* should have flowered there in November/December. We had identified a population that was both relatively easily accessible and large enough for seed collection near Sesfontein in 2007. From the many remains of inflorescences, it seemed that this population was a healthy one that flowered regularly. Early on 3 January we started our trek up the mountain, but were horribly disappointed, when not even one plant showed any signs of having flowered nor having any plans to flower soon.



Aloe dewinteri on cliffs near Sesfontein

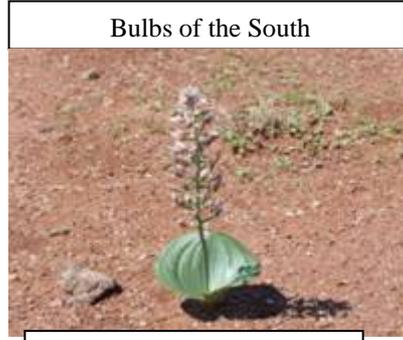


Trees (background), leaves and fruit of *Kirkia dewinteri*

Postponing our plans for seed collection of *Aloe dewinteri* for yet another year, we made a detour via Ongongo towards Beesvlakte and were lucky to still find some seed on the very localised endemic tree, *Kirkia dewinteri* (Kirkiaceae). We had found this population some years before, but never flowering or seeding. This time, with a lot of patience and some careful manoeuvring of a fruit picker around the very brittle fruit about 3m high up in the trees, we collected sufficient seed despite losing a number down the cracks of the very sharp dolomite rocks.



Orinthogalum tubiforme



Eriospermum roseum



Lapeirousia gracilis

The second seed collecting trip for 2008 was to the Sperrgebiet with the main aim to collect more seed for rehabilitation purposes at the Bogenfels mine site of Namdeb. By late February the south of Namibia had had wonderful rains and we came across a lot of bulbous plants in full flower – a great opportunity to mark these for later seed collection. We also collected seed of *Maerua gilgii* (Capparaceae), *Ectadium virgatum* (Apocynaceae), *Aloe perasonii* and several *Crassula* species, species that seem to flower “out of season” for this area, which receives most of its rain in winter, resulting in most plants flowering in spring (August/September) and seeding in October/November. For rehabilitation we collected more than 10 large bags of seed, mainly *Salsola nollothensis*, at Bogenfels.

Early in April we returned to the central-western south with the idea to get seed of those bulbs we saw flowering in February. We were just in time for some, while others were devoured by armoured crickets! Another reason for returning back south was that we were alerted by Dr Antje Burke, presently working at Oranjemund, that she saw *Polemanniopsis* (Apiaceae) flowering in February. This is an as yet undescribed species, because it had been collected only without flowers or fruit in the past. Description of this species is now in the pipeline. We found the population to be in all stages – from flowering to mature seed and collected a small amount of seed.



Polemanniopsis sp. nov.



Suessenguthiella caespitosa

On our return trip we saw that Aus had had some good rain (we were caught there in a tremendous rainstorm in February!) and again were able to collect some seed there and mark other populations for seed collecting later. The most notable find there was *Suessenguthiella caespitosa* (Molluginaceae), a species inhabiting cracks in the granite koppies of the area and which had not been collected since 1923.

In April we spent some time collecting in the central highlands around Windhoek. Many endemics are found here, but as one usually does, one rather goes further afield to the more “exotic” locations..... This time we collected the endemic *Crotalaria kurtii* (Fabaceae) and near-endemic *Selago kurtidinteri* (Scrophulariaceae) as well as some more widespread and common species, like *Arctotis venusta* (Asteraceae), which had for some strange reason not been collected by the MSBP partners.

In early May we yet again returned to the Maltahöhe and Aus area (central-western south). We picked up a number of the marked populations from a month earlier as well as some new collections, like the endemic *Calicorema squarrosa* (Amaranthaceae). But for seed of *Androcymbium melanthioides* (Colchicaceae), that we had spotted in April, we were STILL TOO EARLY. Such are the joys of seed collecting!



Androcymbium melanthioides also known as bobbejaanskoen (baboon shoe) in Afrikaans



Indigofera cunenensis



Late in May we took off for the Skeleton Coast – a long planned trip that was to include staff from the Ministry of Environment, but which did not turn out as expected because of other commitments on both the side of the MET and MSBP. After all the preparations we could, however, not let this opportunity go by completely. The area had had good rains and who knows if this will repeat itself in the near future. So even though the trip was only 5 days long instead of the planned 3 weeks, we did find most of the target species for the area plus some more: the grasses *Chloris flabellata*, *Brachiaria psammophila*, *Stipagrostis ramulosa*, *Stipagrostis hermannii*, the legumes *Indigofera cunenensis*, *Lotononis bracteosa* and *Merremia multisecta* (Convolvulaceae). We probably were a little early for most seed and it remains to be seen if what we collected was any good.

In June we set off for the Kaokoveld and north-central Namibia. Many target species remain to be collected in this area. The most western parts had very good rains and we did find a number of the desert species there that only show themselves once in a number of years after good rain – like *Kohautia angolensis* (Rubiaceae). Unfortunately for some species we were too early to find mature seed.



Spot the MSBP vehicle in the unusually lush plant growth of the Hartmann Valley, Kaokoveld



Sphaeranthus epigaeus

After the severe floods in north-central Namibia, we did not expect a lot of vegetation development because the water only receded once winter was almost upon us. We were pleasantly surprised and collected target species like *Bergia spathulata*, *Bergia glutinosa* (Elatinaceae) and *Sphaeranthus epigaeus* (Asteraceae). On our way to check up an a previously marked population of *Pteronia eenii* (Asteraceae) we stayed at Roy's Camp north of Grootfontein. Here we had the opportunity to get into the thick bush of the area and near some of the seasonally water-filled pans. Some real treasures presented themselves to us here! We found

Cromidon pusillum

(Scrophulariaceae), to date only

collected once from a locality about 220km east hereof and one collection from 1939 marked simply "Grootfontein". Both of these specimens are not at the National Herbarium of Namibia – we have now contributed the first 2 specimens to the national collection! In the now dry pans were also *Wahlenbergia densicaulis* (Campanulaceae) and *Lotononis schoenfelderi* (Fabaceae) that we had



Bergia spathulata

long been looking for. The conditions this year must have been ideal for *Androcymbiums*, because not only did we find them in the south (see above), but also a large population of *Androcymbium roseum* (Colchicaceae) on the Kunene river and again here, at Roy's Camp. The camp manager spontaneously named these "nagapieskoen" = bushbaby shoe, because of its much smaller size compared to the "bobbejaanskoen" of the south. The abundance of beautiful lilac flowers of *Lobelia angolensis* (Lobeliaceae), dark purple, delicate *Wahlenbergia ramosissima* (Campanulaceae) tempted me to stay there for good! Luckily, we will have to return there again soon to get seed of the species where this was not yet mature.



Androcymbium roseum



Lobelia angolensis



Wahlenbergia densicaulis

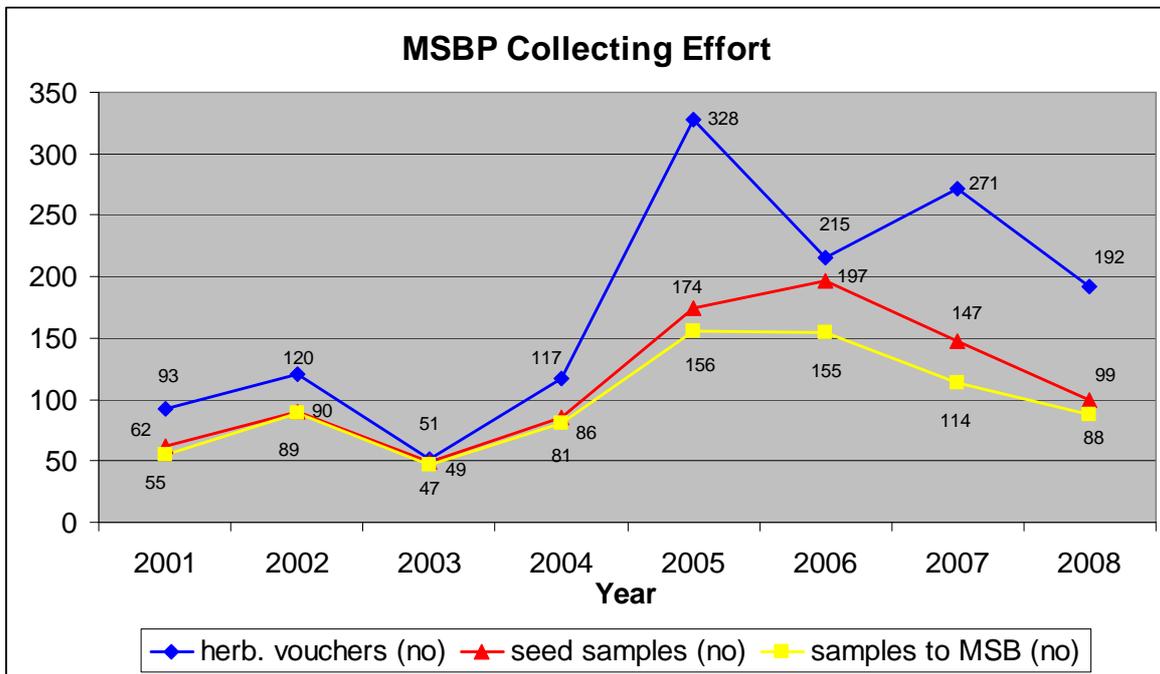
We started up the trusty MSBP vehicle again in July to search for species near to home (Windhoek). Despite the freezing cold that had set in two weeks earlier, we still found plants flowering, but we also realised, that the seed collecting season for the summer rainfall area was drawing to an end. We collected seed of *Galeomma stenolepis* (Asteraceae) plus some non-target species that were not yet represented at the MSB. Towards the east we

saw the very beautiful, tiny herb *Melanospermum foliosum* (Scrophulariaceae), where there is only one specimen from 1934 in the National Herbarium in Windhoek. Sadly there were only about 10 plants and these were all still in full flower – we could not collect any seed.



Melanospermum foliosum

The only seed collecting that remained for the period until August – what we consider our “summer season” – was to see if there was more seed on the *Polemanniopsis* and the *Androcymbium melanthioides* in the south-west and *Androcymbium roseum* and *Lotononis schoenfelderi* in the north.



SUPPORT TO COMMUNITY NURSERY

During our seed collecting activities in the south, we often stopped at the Aus Information Centre because they provide the most delicious lunches. The manager and co-owner of the centre, Claudia Baisitse was very interested in what we are doing and enquired if we could provide the community nursery at the centre with seed



Ranchia Kalus accepting the first batch of seed from Herta Kolberg

of indigenous succulents from the area. After some discussions with the relevant people to clear any legal requirements, it was decided, that this should take the form of a collaborative project with mutual benefit. The MSBP could provide any excess seed to the Aus Information Centre in exchange for information on germination and propagation requirements, what worked and what didn’t work – information that is scarce for Namibian

plants and could be used by the National Botanical Research Institute.

In May we handed over seed of 7 succulent species that we thought would easily sell in a nursery and of which seed was plentiful and quick to collect. Ms Ranchia Kalus accepted these on behalf of the community nursery. We also supplied general information from various sources on growing succulent plants as well as photos of the plants as they look in nature. During future visits we will monitor progress of this venture.



REHABILITATION WORK

The collaborative rehabilitation work with Namdeb Diamond Corporation is in its last year. We realised from the start, that the three years initially agreed to by Namdeb, would be far too short to test any methodologies for future rehabilitation of mined areas. Discussions are now underway to extend this support by Namdeb.

In February we collected another batch of seed for re-seeding at the Bogenfels site. The trials we have set up testing windbreaks and sheltered spots for seedling establishment of *Salsola nollothensis*, have not yet shown any results since no significant rains have fallen in the area over the last year. In the meantime, an environmental officer, Julien Cloete, has been employed by Namdeb at Bogenfels. She took the initiative to test removal, short-term storage and replanting of the existing perennial plants as soon as an area is mined. This was also started in February on the areas that are dry-mined and where the vegetation is somewhat different to the *Salsola* hummocks of the area where dredge-mining is employed. It remains to be seen, after the coming rainy season, how successful this is.

To support the re-establishment of *Salsola*, Rosemary Newton and her student, David Boyce, at the Millennium Seed Bank, UK, did some seed germination and viability studies. A first report by David indicates that there is no barrier to seed germination, but that the quality of the seed available is quite poor. Many of what looks like good seed to the naked eye are in fact empty shells. On top of that, rodents relish the seed, so that very little



Seaweed heaps to provide protection for *Salsola* establishment

viable seed is available in the environment for seedling establishment. Environmental conditions (erratic rainfall, strong winds, sand-blasting, burial by sand) seem to be the major factor contributing to the lack of seedling establishment in *Salsola nollothensis*. Studies are now underway to look at storage conditions and seed longevity but to improve *Salsola* establishment in this area, further trials on site would be necessary. In June Rosemary delivered a paper on this study at the 9th International Seed Scientists Society (ISSS) Conference in Poland.

At the end of July, Silke Rügheimer of the National Botanic Garden with the help of Antje Burke, Joyce Katjirua, Albertine Edward, Nandi Nickanor, James Alexander(Namdeb) and Tyrone Tholkes (MSBP) went to the

trial site at Sendelingsdrift to plant out *Juttadinteria albata* propagated at the botanic garden in Windhoek. This trial is testing various propagation methods and transplanting of whole plants using the type of soil that will be available once mining finishes. Several seedlings and plants propagated from cuttings were planted onto a trial site prepared with the waste material left after mining, while some were planted into a patch of natural soil. The plants were watered at planting, which is where the driver of the water truck, Daniel Kandjumbwa was the most important person. Joyce will keep on watering this trial until signs of establishment are seen. We hope that the area will also still receive some rain.



At least the sign's already up.....



.....and Daniel and his water truck have arrived



Antje and Silke planning the exercise...



First we need to prepare the planting area!



Joyce keeping a close eye on Antje's planting technique



Joyce doing the first watering

The MSBP has been approached by the Desert Research Foundation of Namibia (DRFN) to assist with testing methods for re-location of elephant's foot (*Adenia pechuelii*) at Valencia uranium mine. DRFN has been contracted by Valencia to do long-term environmental monitoring at this future mine which should also include an aspect of training of Namibian students. Under this contract, the MSBP will set up a trial in November to look at various methods of transplanting *Adenia*. We hope that at least some initial indications of best methods can be obtained before a large number of these special plants need to be moved to make space for mining. Students attached to the Gobabeb Training and Research Centre (under DRFN) will assist here. With this we hope to gain at least some experience in translocation of desert plants – information that is at present non-existent in Namibia.

INFORMATION PAMPHLET

Whenever we are out and about, collecting seed, or very conspicuously marked car attracts a lot of attention. Also farmers and local communities are very interested in what we are doing. To explain this a little better, we have produced a pamphlet that we distribute to whoever wants more information. This is also now available on the NBRI website (www.nbri.org.na).

MSBP – NAMIBIA ON THE WEB

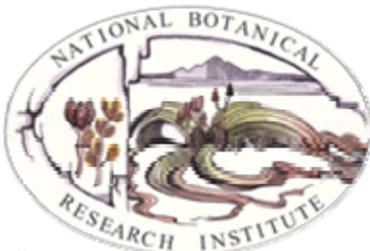
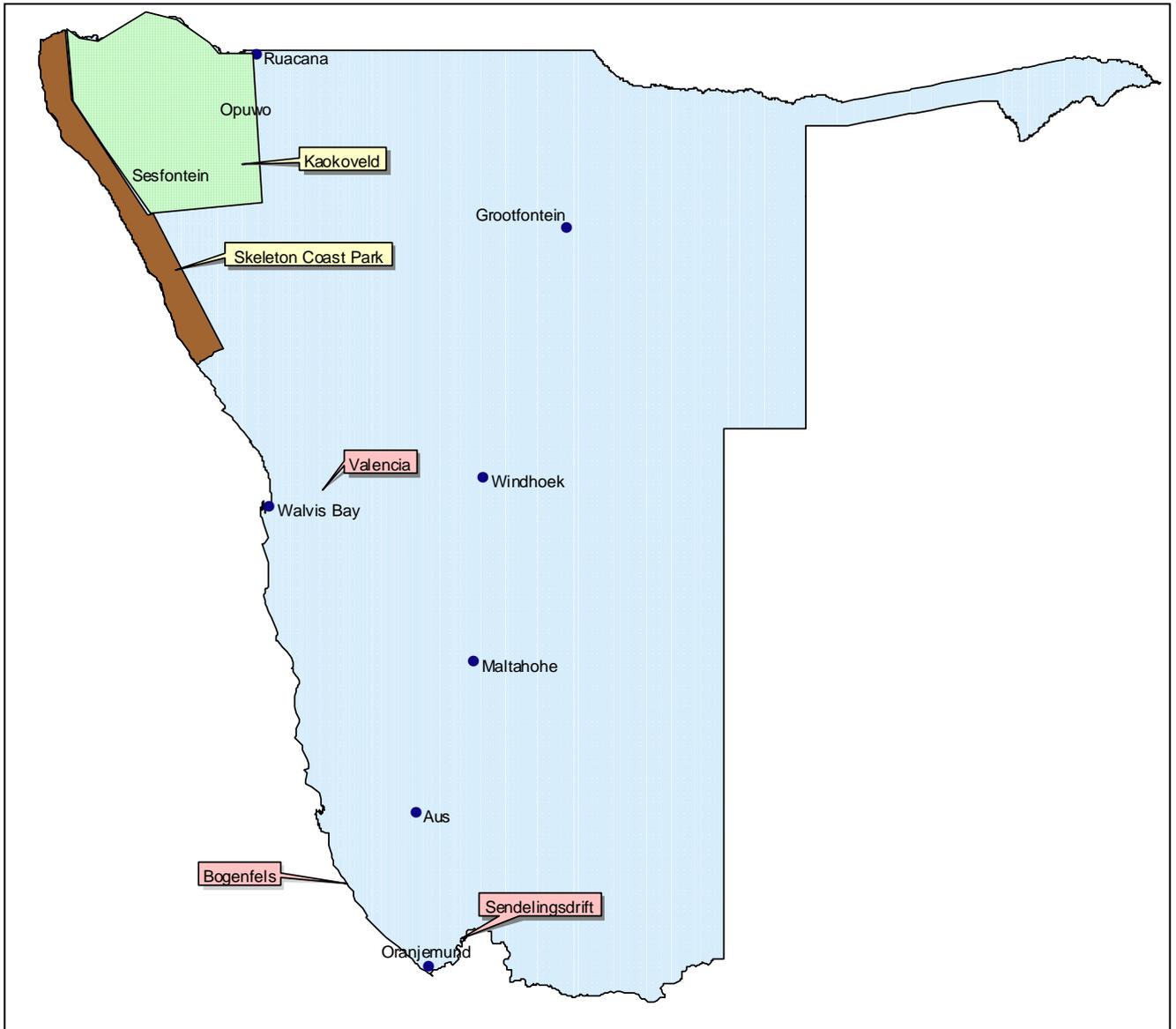
The MSBP-Namibia does not have its own website, but contributes to the website of the NBRI (www.nbri.org.na) and the MSBP-Kew website (www.kew.org/msbp/). On the former this newsletter, as well as the above information pamphlet is available. On the Kew website, general information on the global project as well as the Namibian partner can be found. Here we also post “special plant stories” about any unusual, rare, threatened or otherwise special plants that we collected seed of. The network newsletter, Samara, to which Namibia contributes regularly, can also be downloaded from this site.

PLANS FOR AUGUST 2008 TO FEBRUARY 2009

The summer seed collecting season for 2008 is over and we look forward to collecting in the winter rainfall area of south-western Namibia. A trip is planned in October to the mountains of the Sperrgebiet where the largest number of target species still to be collected, are concentrated. At the same time we will visit the rehabilitation sites at Bogenfels and Sendelingsdrift to monitor progress of our trials there. A presentation on our work in the Sperrgebiet will be made to the Oranjemund community as part of a programme to commemorate the 100th anniversary of the discovery of diamonds in Namibia. More seed collecting in the summer rainfall area may happen in the early months of 2009, but no definite plans have been made yet.

In November we will start our project at Valencia mine, re-locating Elephants Foot plants. At this stage this still seems a logistical nightmare to me, but with the help of many willing students and some big machinery provided through the mining company, we should manage to set up this experiment.

For three weeks in September we will visit the MSB at Wakehurst Place, UK for various discussions there. We will also undergo some training in use of the BRAHMS computer database to document our collections.



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