



## McGregor Museum Kimberley

### Botany Department: Research Projects

We are involved in the following research projects that contribute to the conservation of our natural heritage:



#### **Plant Collecting In Under-Collected Areas Of The Northern Cape**

Plants and associated ecological data are collected in areas (quarter degree squares) for which no plant specimens and data exist in the KMG Herbarium and our databases. Data on rare and threatened species are collected in the process. Fieldtrips are undertaken to these areas whenever sufficient funds are available. Recent collecting trips focussed on two-quarter degree squares in the central Kalahari and various

squares in Namaqualand during the recent good flowering season.

#### **Identifying Natural Heritage Sites In Priority Areas Of The Northern Cape**

Once funding is available we will be studying the Griqualand West Centre of Endemism (GWC) to identify areas that should be declared Natural Heritage Sites or conserved under Stewardship programmes. The GWC is considered a priority in the Northern Cape, as the number of threats to the area is increasing rapidly and it has been little researched and is poorly understood. Furthermore, this centre of endemism is extremely poorly conserved, and is a national conservation priority. The Ghaap Plateau and Asbestos Hills within this centre have been identified by the Department of Tourism, Environment and Conservation as a priority for conservation in the Northern Cape, and can thus be considered as areas of high conservation value. The sustainable economic development of the area through promoting and developing tourism in parts of this centre is another important priority to which this project can contribute. A centre of plant endemism is an area with high concentrations of plant species with very restricted distributions, known as endemics. Centres of endemism are important because it is these areas, which if conserved, would safeguard the greatest number of plant species. They are extremely vulnerable; relatively small disturbances in a centre of endemism may easily pose a serious threat to its many range-restricted species. The GWC is one of the 84 African centres of endemism and one of 14 centres in southern Africa, and these centres are of global conservation significance. This centre of endemism covers the Ghaap plateau, Asbestos

hills, Kuruman hills and Langeberg. We have just started with collecting and drawing up checklists within the GWC, as well as trying to determine threatened habitats in highly transformed areas. We plan to record the plant species composition, determine threats, and determine areas of high biodiversity and conservation worthy areas to prevent the loss of the biodiversity of this wonderful natural heritage. The final product should include GIS mapping of zones with different conservation statuses, which will inform planning, appropriate development and sustainable use of our natural resources.



#### **Kathu Camel Thorn Forest**

We, in collaboration with WESSA NC, have recently motivated for the formal conservation of the Kathu Camel Thorn Forest under the National Forests Act or Protected Areas Act. This was as a result of a development boom in and around the town of Kathu, placing the forest and its ecosystem services under threat. We called on the Department of Water Affairs and Forestry to declare the Kathu forest protected under the emergency clause for protection in section 14 of the act, to afford it some protection while essential specialist studies are completed. The Kathu Forest Working Group was established after the initial meeting to discuss its protection in April 2006, and the process is now moving forward.

#### **Threatened Plants Research**

This is an ongoing project that was started in 1992. Rare plants occurring around Kimberley, Warrenton and Prieska were first studied, as these developmental nodes of the Northern Cape were considered priority areas for research. Ecological and population data on each population of the critically rare taxa were collected. As a result, 37 taxa were allocated IUCN conservation statuses. These data were incorporated into the Red Data List of Southern African Plants and the 1997 IUCN Red List of Threatened Plants. This year we contributed to the Threatened Plant Species Programme by digitizing and geo-referencing our Red Data species, which was provided to SANBI. Once funding is available this research will be extended into new areas, in particular along the Orange River, in endangered ecosystems and in centres of plant endemism.



#### **Plant Checklist And Wildlife Course At Tswalu Kalahari Reserve**

We have recently started a project to compile a plant checklist for Tswalu Kalahari Reserve and assist with the Wildlife 301 course presented by Prof. Ed Granger and Dr Trevor Hill of the University of Kwazulu-Natal. During this course research priorities for the reserve are determined and several research projects are completed to solve specific problems and to develop management tools. It is envisaged that to compile a complete checklist will take several years and surveys during all seasons and in different rainfall regimes.



### **White-Backed Vulture Research**

Our department assists ornithologist Mark D. Anderson of the Scientific Services section of the Department of Tourism, Environment and Conservation with this project. Populations of some species of African vultures are dropping sharply. “Vultures are at the top of the food chain, so if their numbers are declining, it is a sign that something is off balance,” says Mark Anderson. There are many current threats to white-backed vultures and understanding their population dynamics, dispersal and

movement patterns contributes towards conserving these much reviled but mystical and intelligent birds.



### **Medicinal Plant Database Development**

Currently we have one volunteer assistant (partner) collecting information on plant uses and in particular their medicinal uses in the Frances Baard district. We have started a medicinal plant database for this information, which may be used for further research in future. As our botany department does not have a resident ethno-botanist and we do not have the appropriate qualifications to do such research, we rely on able volunteers

to converse with knowledgeable community members and gather indigenous knowledge. We provide the database support and accurate plant identifications of plant species from photos or specimens collected in the process. Any more volunteers for this project will be most welcome!!

### **Monitoring Environmental Impact Assessments**

One of the staff of our department fills the conservation portfolio of the Wildlife and Environment Society Northern Cape Region (WESSA NC). Part of this voluntary responsibility is to review and comment on environmental impact assessments and environmental management plans. This contributes towards improving the quality of these documents and checking that the loss of biodiversity is avoided or minimised, in compliance with the National Environmental Management Act (1998). There are few individuals playing this watchdog role in the Northern Cape.

