CREW newsletter
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National CREW overview

DOMITILLA RAIMONDO

2016 – The year when El Niño dried up vegetation across the country! Would it be possible to monitor plants at all? The CREW team had, over the course of the year, many a worried conversation over the futility of doing fieldwork during the drought. Despite the drought, however, it is clear from reading the pages of this newsletter that the citizen scientists involved in the CREW programme were not deterred; they pushed on searching many new areas for our target species. In the pages of this newsletter, an amazing array of special plant finds is showcased.

The CREW programme has, in its 13th year, expanded once again; there are now 21 active volunteer groups. CREW started a new group in the spectacular grasslands of Wakkerstroom, an area with high numbers of endemic plant species and a vital gap area that now links our work in KwaZulu - Natal and Mpumalanga provinces. We welcome the Wakkerstroom group to the CREW programme and look forward to your contributions in monitoring the plants of your highly diverse region. CREW was also strengthened in the Limpopo region with support from the Botanical Society; a new CREW

CREW, the Custodians of Rare and Endangered Wildflowers, is a programme that involves volunteers from the public in the monitoring and conservation of South Africa's threatened plants. CREW aims to capacitate a network of volunteers from a range of socio-economic backgrounds to monitor and conserve South Africa's threatened plant species. The programme links volunteers with their local conservation agencies and particularly with local land stewardship initiatives to ensure the conservation of key sites for threatened plant species. Funded jointly by the Botanical Society of South Africa and the South African National Biodiversity Institute, CREW is an integral part of the work on monitoring Threatened Species for South Africa.

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co-ordinator, Mahlatse Mogale, has started to work within the Limpopo Department: Economic Development, Environment and Tourism. As shown by this example CREW is dedicated to working hand-in-hand with provincial conservation agencies. Our partnerships with conservation agencies ensure that plant monitoring data is used in the conservation plans, which prioritise biodiversity for input into the landuse decision-making processes and for protected area expansion. Data sharing agreements between SANBI's Threatened Species programme, the institutional home for the CREW programme, and the nine provincial conservation agencies are now in place, with annual updates on threatened species data feeding to the provincial conservation agencies.

The CREW programme continues to feed into a number of national level Strategic Environmental Assessments, the most recent one being the Shale Gas Development (SEA) for the Karoo that was developed during the course of 2016. Areas of the Karoo where restricted endemic plants occur have been highlighted in the SEA's spatial map of ecological and biodiversity sensitivity as being of the highest sensitivity. The associated landuse guideline for these areas is one of complete avoidance for the activities of shale gas development. Our citizen scientists and the Cape CREW node's team have been actively sampling the Karoo as part of the Karoo BioGaps Project funded by the Department of Science & Technology. It is heartening to witness government's investment in the systematic sampling of our species present in the Karoo before allowing any exploration of the Shale Gas resource to go ahead.

The Department of Environmental Affairs has recently requested that SANBI develop a land-use screening tool, which will become an integral part of the scoping process for Environmental Impact Assessments. CREW's data on threatened plants is being fed into this tool to ensure that no development happens in the critical habitats for highly restricted and threatened species.

As the manager of SANBI's Threatened Species Programme, responsible for feeding data on threatened species into policy, I am very proud of the work reflected in this newsletter; it shows that our community of plant citizen scientists grows ever stronger every year and continues to provide extremely valuable monitoring data for our rare and threatened plants species. At a time when government funds for conservation are highly limited and funds to conservation agencies to monitor biodiversity are being radically cut, the unrelenting commitment of CREW citizen scientists to monitoring the status of our plant diversity provides an immeasurable contribution to the conservation of South Africa's unique plant diversity.

CREW summer-rainfall region update 2017

SUVARNA PARBHOO

Having skipped a workshop in 2015 so that we could meet in the Drakensberg during peak flowering, the annual CREW summer-rainfall workshop was hosted in February 2016 with a full view of the grandiose Drakensberg's amphitheatre.

The workshop format was changed to maximise our time in this incredible region – we had a day and half of talks, identification courses and feedback presentations, a full day fieldtrip to Tugela Gorge in the Royal Natal National Park and a 4th day optional fieldtrip to Sentinel Peak. The workshop's plant focus kicked off with a brilliantly organised orchid course by Benny Bytebier, who presented key characteristics and then allowed us to enter the magical world under the microscope to examine the intricate parts of an orchid flower. Andrew Hankey juggled his various hats from Gauteng CREW champion to field specialist of *Ledebouria* as he entertained us on the diagnostic characteristics of this rather complicated genus. Pieter Bester concluded the workshop's identification courses with the fascinating genus *Schizoglossum*. Once again, the workshop provided the arena for our citizen scientists to showcase their astonishing knowledge about the special plants occurring in their respective areas.

We are thrilled to expand this project to Gauteng's four tertiary institutes in 2017 and will hopefully be able to engage with both Limpopo universities as well.

I previously reported on the KZN node collating data for the summer-rainfall region; and the past year saw us strengthening our support for the region. Together with each of the groups, we conducted planning meetings in Limpopo, Mpumalanga, Gauteng and KwaZulu-Natal. The productive meetings provided a space to analyse each group's needs and how

CREW summer-rainfall workshop participants with the majestic Amphitheatre in the background (photo by Graham Grieve).

Durban participants examining the various inflorescences during the Asteraceae course.

Brachystelma dyeri at Ongoye Nature Reserve, Zululand – the 1st record outside of Mpumalanga!

Asteraceae course participants getting to grips with the notes and microscope investigations at UKZN: PMB campus (photo by Alison Young).

best to provide for each group. Tony Rebelo journeyed up north to provide several iSpot workshops while Andrew Hankey initiated the Wakkerstroom group with a course on identifying plant families in the field. Paul Herman presented a comprehensive course on how to identify genera within the Asteraceae family in Durban and Pietermaritzburg by instructing attendees to interrogate the various inflorescences under the microscope that exposed the intricate structures making up an Asteraceae flower. We are grateful to the University of KwaZulu-Natal Westville and Pietermaritzburg campuses for allowing our citizen scientists to utilise their botany labs for this course.

The CREW Gauteng group continues to successfully find their target species; while the Limpopo group has fortuitously gained a closer partnership with their provincial conservation agency through Mahlatse returning to his home province. We are appreciative to the Mpumalanga Plant Specialist Group for introducing the CREW programme to Wakkerstroom during their exploration of this birding wonderland's high-altitude grasslands. We are proud to announce that the Wakkerstroom group is our newest addition to the CREW summer-rainfall network.

The CREW Underberg group are impressively finding their high altitude species of conservation concern, after collecting most of their low range species. We decided to team up the Midlands, Umvoti and Mkhambathini groups this field-season to allow for a bigger pool of citizen scientists to plan and attend the fieldtrips. This system worked well and the groups took ownership of fieldtrip sites closest to them. The Durban group retains their close collaboration with their local municipality while the Pondoland group continues to find new localities for their endemic

UKZN–PMB campus botany students with lecturer, Benny Bytebier.

species. Their regularly updated Pondoland CREW blog details the group's weekly adventures and is frequently shared on the CREW Facebook page.

I was excited to receive news from Sharon Louw (Ezemvelo KZN Wildlife Ecologist) of her finding the Barberton endemic, *Brachystelma dyeri* (VU), at Ongoye Nature Reserve, Zululand. Pieter Bester confirmed the species to be the 1st record outside of Mpumalanga! We headed out on the earliest date in January and found a healthy population of well over 200 plants. We have made much progress in the Maputaland region over the past year. While we shall continue working in this vast region, we would also begin focussing on the KZN Battlefields in the upcoming field season.

In the 2016 field season, the CREW summer-rainfall region obtained 244 records of plant species listed in the Red List Threatened categories (Critically Endangered, Endangered and Vulnerable). From this data, CREW has obtained records for 87 threatened plant species. Despite the drought conditions experienced last year, the data has still shown an increase as compared to the previous field season. Six Critically Endangered species have been recorded during this field-season – *Gladiolus cruentus*, *Brachystelma natalense* (both Durban CREW), *Euphorbia clivicola* (Limpopo CREW), *Brachycorythis conica* subsp. *transvaalensis* (Gauteng CREW), *Brunia trigyna* and *Riocreuxia flanaganii* var. *alexandrina* (both Pondoland CREW). Notably, records for plant species listed as Endangered have increased considerably. Already for 2017, 82 threatened plant species, mainly KZN species, were surveyed. We are confident that the data collected this year will once again supersede previous years.

I have delight in being involved in the CREW Human Capital Development project, whereby we emphasise on-the-ground plant conservation work to the University of KwaZulu Natal (PMB campus) botany students, as well as Durban University of Techology's horticulture students. We are thrilled to expand this project to Gauteng's four tertiary institutes in 2017 and will hopefully be able to engage with both Limpopo universities as well. Watch this space…

Seizing the moment, living each day like it's the first!

KAVEESHA NAICKER

When I was eleven, I had a dream; I wanted to make a difference in the world and I've spent my whole life searching for a way to accomplish that. Whether it is volunteering at the local children's home or helping out with community clean-ups as part of my high school environmental club, I've always felt the need to help people understand and to advocate for all earthlings. My time with CREW has allowed me the opportunity to do just this on a magnitude of platforms and fulfil a childhood goal.

The past 12 months have gone by in a flash; it seems like just last week ago I was an NRF intern and now I'm a project assistant with CREW summer-rainfall region. The year was filled with several interesting moments; too many to include in a mere 500-word article. The adrenalin rush was good; there have been many times when I've forgotten the day of the week, because we've been in and out of the field, rushing to meetings, attending conferences, conducting environmental activities, having my brain warped with data and trying to find the appropriate words to express the severity of threatened plant conservation – all in what seems like a space of three days.

My most memorable highlight of 2016 was definitely, by far, presenting at the Symposium of Contemporary Conservation Practice. From a scientific and conservation standpoint, it was really exciting to present the work we have done in Maputaland and showcase the interesting plants we've observed.

As part of my duties as a member of the BotSoc team, I hosted an Arbor Day celebration for a group of learners from schools in the greater Durban area. The event received a great turnout as the learners enthusiastically participated in environmental activities. It was truly a great experience sharing what I've learnt through the CREW programme with the learners, who were eager to learn about the different types of plants occurring in South Africa.

Arbor day celebrations at the Botanical gardens (photo by Suvarna Parbhoo).

I've always felt the need to help people understand and to advocate for all earthlings. My time with CREW has allowed me the opportunity to do just this on a magnitude of platforms and fulfil a childhood goal.

One of the major priorities for CREW KZN this past year was to survey eThekwini municipality sites for plants of conservation concern. The municipality had taken ownership of a number of grasslands in the greater Durban area and required the assistance of the CREW KZN to document the plants occurring at those sites. Obtaining data for these sites were of significant importance to CREW KZN, as the sites had not previously been surveyed. During the course of these trips, we have come across a number of plants of conservation concern, including the declining *Sandersonia aurantiaca*; this orange beauty was observed gracing the fields of Redcliff.

The work we do is mentally and physically exhausting; it's difficult to find that balance sometimes, but in the end the reward of knowing that you're contributing to a greater cause, a cause that's bigger than one person, makes everything all worth it.

The Christmas bells of eThekwini, *Sandersonia aurantiaca*..

Out in the fields of Assagai (photo by Suvrana Parbhoo).

CREW Maputaland expedition

HLENGIWE MTSHALI

Years seem to have gone by too fast since we began with our plant monitoring project in the Maputaland region. Maputaland is one of the biodiversity hotspots in southern Africa and knowledge about the distribution of its plants is deficient. Some of the major threats to the biodiversity of the region are over-harvesting of medicinal plants, grazing and droughts.

The past year has been filled with exciting discoveries and wonderful new interactions. CREW had the pleasure to visit the area with Hermenegildo Matimele (Mozambican associate), who was working on Red List assessments of the Maputaland endemic species. Our initial trip was very gloomy, as it was very hot and dry. We had little hope of finding the targeted plants or any flowers, but in spite of this a few were spotted, including the Vulnerable *Freesia laxa* subsp. *azurea*.

A few months later (in June) we ventured back with Prof. Kevin Balkwill from Wits University, along with his team. Our expedition started at Tembe Elephant Park where we rediscovered the Endangered *Dicliptera quintasii*, which was last collected by Kevin in the sand forest in 1985. Not only did we make a major rediscovery, a number of Maputaland endemics were also found. After a hot day in the field, we made our way to Sodwana Bay where accommodation for the next two nights had been arranged. The following morning we headed to the vast grasslands of Ozabeni, where we botanised and recorded every plant we happened upon. A highlight of this trip was when Sachin (CREW Research Assistant) called the team to see a plant that looked rare to him. While we were racing down the slope to see, Suvarna ven-

Some of the major threats to the biodiversity of the region are over-harvesting of medicinal plants, grazing and droughts.

CREW Maputaland Delegation (left to right: Kaveesha Naicker, Suvarna Parbhoo, Sachin Doarsamy, Marie-Claire and St John Field, Delia Oosthuizen, James Harrison, Kevin Balkwill, Hlengiwe Mtshali and Donald McCallum)

tured off course and made an interesting find of *Blepharis sericea*, listed as Critically Rare and only known from a collection made in St Lucia. Sachin's discovery turned out to be an undescribed *Justicia* species. Upon noticing that the area needed a lot more attention, we planned to visit the region at least every second month.

In August, we visited Ozabeni grasslands for a second time and had the privilege to be joined again by Kevin, as well as by members of the Pondoland CREW group, Kate and Graham Grieve. Although it was rather early in the season, with few flowering plants, we were treated to target species *Euphorbia flanaganii* and exposed tubers of *Raphionacme lucens*. The Ozabeni grasslands house a number interesting species, but sadly they are under threat due to grazing. Although the grassland is protected, game and livestock owned by the surrounding communities are permitted to graze in the reserve.

Pachycarpus concolor subsp. *arenicola* (VU).

Another very exciting highlight was on our last trip in 2016 with Kevin and the team when we targeted three of the Ezemvelo KZN Reserves, Jozini and the surrounding rural areas. While walking in the Ozabeni grasslands, I stumbled across a very strange Apocynaceae species, which remained on my mind all week as we travelled through northern KZN. I had collected a specimen and began the process of identification. After many days of literature searches, iSpot checks and the anticipation of waiting for a confirmation from the herbarium, I was delighted to discover on iSpot that it was the Vulnerable *Pachycarpus concolor* subsp. *arenicola*.

The region had received some rainfall and quite a number of Red List plants were in full bloom including *Crinum acaule*, *Crinum stuhlmannii* and *Synaptolepis oliveriana*. The trips are not easy as we rely mostly on old records to locate species of conservation concern. Despite all of that, we are managing to update data for a substantial number of species on our list, with much gratitude to Kevin and his team. I look forward to finding many more species of conservation concern in 2017.

Synaptolepis oliveriana (NT).

CREW Eastern Cape node: reflecting back and looking forward

VATHISWA ZIKISHE

Towards the end of 2015 we said good-bye to our 'Groenies', and after being in the Eastern Cape for three and a half years, 2016 finally presented me with the opportunity to focus and devote my time on building and shaping up the Eastern Cape Node. To kick-off the year, Domitilla Raimondo and Zaitoon Rabaney paid us a visit to give us an overview of the Threatened Species Programme as well as of the role that the Botanical Society has been playing to capacitate the CREW Programme. Following the discussions we had during their visit, we then conducted our planning meetings; identified sites for regular monitoring, and in June, Dr Tony Rebelo facilitated a workshop on iSpot; this aimed at our using the platform as a plant identification tool as this was identified as the potential major challenge when carrying out our monitoring activities. Building relationships with landowners was also our top priority for the year 2016, as we realised that most of our species are on privately owned lands, which are sometimes challenging to access; finding *Gasteria bicolor* var *liliputana* (Rare) is a beautiful example of what we achieved through this process.

Gasteria bicolor var. *liliputana*, full specimen (photo by Tracey Nowell).

When the year was drawing nearer to its end, the veld conditions had changed; it was unbelievably dry, but this didn't stop us from following our schedule.

Coming up with an exciting and realistic field trip schedule!

To draw a picture of my growth over the past nine years of working with CREW, I always use the Cape

Gasteria bicolor var. *liliputana* inflorescence (photo by Tracey Nowell).

as an analogy of how I perceived the way CREW operates. So my first five years of working with CREW have seen field season as the busiest time of the year, where each and every day there is a field trip, sometimes in different directions and weekends away from home; with this experience I never knew how to plan a 'realistic' field trip schedule, especially for one staff member with very limited availability of volunteers during the holiday season! I wanted to copy the usual picture of an ideal spring season from the Cape, but 2016 was very different and I was impressed with how realistic I came up with our field trip schedule and yet managed to call it exciting and successful in the end!

Despite of the very short-lived spring season we had, we still conducted quite a number of trips, in Grahamstown and surrounding areas, as well as in Port Elizabeth and its inland areas such as Red-house and Addo vicinity. We started off with the Mountain Drive Reserve near Grahamstown, where we found *Bobartia macrocarpa* (VU), *Albuca patersoniae* (DDD), which still requires expert's verification, as well as the Declining E*uphorbia bupleurifolia*. Mountain Drive is the site that the Grahamstown CREW group has selected to monitor on a monthly basis; this idea came about at the beginning of year after some deliberations on how to best adapt with the unique work context we are presented with in our part of the country. Other groups such as Bathurst and Kenton-on-Sea have also identified their sites to monitor regularly, but due to unforeseen circumstances these didn't work so well across all the groups, and we are planning to strengthen this aspect during the course of 2017.

Some of the iSpot workshop participants with Tony Rebelo (photo by Someleze Mgcuwa).

Joint field trip with the Port Elizabeth group

Other significant highlights of the year

When the year was drawing nearer to its end, the veld conditions had changed; it was unbelievably dry, but this didn't stop us from following our schedule. We did a combination of inland and coastal trips; in Port Elizabeth we started with Bluewater Bay where we found *Cotyledon adscendens* (EN) by the beach as well as *Euphorbia globosa* (EN), *Salvia obtusata* (VU) and *Cyrtanthus spiralis* (EN) on the Aloes Reserve. In the alternating fashion, we went back to the Grahamstown vicinity and did a trip to the Ecca Pass Reserve; in search of the Vulnerable *Brachystelma luteum*, following the footsteps of the first collector of this species. Unfortunately this search was not successful, but we were pleased to find *Apodolirion macowanii* (VU) and *Euphorbia meloformis* (NT) in abundance, although the Euphorbia was chowed and dug out in some patches.

To close our fantastic year, Adriaan Grobler, who is now our Research Assistant, organised a joint trip with the PE group to the Motherwell–Coega area to search for the Critically Endangered *Aloe bowiea*, amongst other species of conservation concern; this was Adriaan's official 'first day at work' trip! He organised and led many other trips as part of his CREW volunteer activities for the PE group, together with Merika Louw and Clayton Weatherhall-Thomas, see his introductory story on page… as he unpacks what he will be getting on with during his short period with us!

The power of collaboration

During the course of the year I lost Someleze Mgcuwa, whom I shared with the Schonland Herbarium to the Karoo Bio-gaps digitising project; this left me as the only CREW staff member to run the show! I was so determined to follow the field trip schedule even if it meant going solo, as most of our volunteers had either work or family commitments to fulfil this time of the year. Amongst the trips I had planned for the year, I can only recall two trips that I conducted alone! Dr Tracey Nowell and Someleze Mgcuwa were always willing to spend their spare time botanising with me. I'm truly grateful for how the Rhodes University: Botany Department collaboration has worked out for our programme and I wish to do everything in my capacity to keep this relationship going. I have also formed new partnerships with East Cape Parks and Tourism Agency (ECPTA) as well as South African National Parks (SANParks); I will report more on the results of these in my next newsletter contribution.

Ever since I took up the position of heading the CREW Programme in the Eastern Cape, I used 'reflective practise' as the key ingredient in coming up with creative ideas to any challenges I have met with; be it negative or positive, and this has helped me a great deal in shaping things the way they currently are. There is of course room for improvement, but I'm happy that I have finally found my feet and am looking forward to more learning adventures that 2017 has in store for our node.

Euphorbia bupleurifolia from the mountain drive (photo by Vathiswa Zikishe).

CREW CFR Node update 2017

ISMAIL EBRAHIM

I have strongly mixed feelings about the region. On the one hand it is fascinating with rustic charm, stunning landscapes and a tranquil atmosphere, but on the other it has a harsh climate, fairly homogenous vegetation, and, due to the remoteness, it is very challenging to travel through the area.

It is incredible to think about the amazing journey CREW has been on over the past 13 years. We faced some great challenges in the last year, especially with regards to the lack of rain and raging fires throughout the fynbos region. Despite the dry conditions we had an exceptional year of botanising.

Our major focus for the year was being involved in the Karoo BioGaps Project. This project is funded by the Foundational Biodiversity Information Programme (FBIP), which aims to mobilise foundational biodiversity data for use in decision making and conservation planning. There are two components to the Karoo BioGaps Project, namely: 1) Digitising existing species records from herbaria and museums, and 2) Conduct systematic surveys in 60 pentads (8 × 8 km) across the Karoo. Although we are involved in both components, our main focus is the new fieldwork. After spending some time in the Karoo, I have strongly mixed feelings about the region. On the one hand it is fascinating with rustic charm, stunning landscapes and a tranquil atmosphere, but on the other it has a harsh climate, fairly homogenous vegetation, and, due to the remoteness, it is very challenging to travel through the area. Our Karoo Biogaps journey started in April when we met up with colleagues from the National Herbarium, Pretoria in Middelburg to start off our fieldwork. We quickly realised that this fieldwork will not be easy and collecting every plant species in a one kilometre square was quite challenging. Later that evening (and into early the next morning) we found out the real challenge was pressing such huge

The long lost *Pollhillia ignota* (CRPE), found at last.

volumes of specimens. It was quite a new experience for most of us because we have never botanised the area so we were very excited about the new plants we were seeing. The trip was ended off with the official Bioblitz and launch of the Karoo BioGaps project in Matjiesfontein. This was a wonderful experience for us because we got to connect with high-level government officials, community members and fellow researchers to share the wonderful fieldwork we do.

Due to our Karoo work the CREW annual workshop had to be shifted to June and we stayed at the stunning Drie Kuilen Private Nature Reserve (http://www.driekuilen.co.za/) between Montagu and Touwsriver. Our programme started with a talk by Rebecca Karpaul about an experiment at Drie Kuilen where they are testing the sensitivity of rainfall seasonality on vegetation structure. This was followed by Dean Ferreira giving us a bird's eye view of the Nature

Conservation Corporation (NCC) and the multitude of projects and industries they are involved in. Gigi Laidler ended off the evening with an overview of the Karoo fieldwork and her journey to find all the landowners and getting permission for the sample plot sites of the Karoo BioGaps Project.

We had two great expert talks, the first being by Dr Peter Bruyns on the family Euphorbiaceae and the second by the young, but very talented, Brian du Preez, aka 'The Boy/Mr Fab' on the main genera in the family Fabaceae. Both talks were exceptional and the volunteers thoroughly enjoyed both presentations.

Despite the harsh weather conditions and drought we experienced, we had a phenomenal field season. It all started with yet another successful Marasmodes Day. Our target was relocating *Marasmodes macrocephala* (CR) from De Doorns and looking for new populations of *Marasmodes oubinae* (CR) around the Piketberg area. On the day of the field trip, we spilt into two groups and Rupert led a team to De Doorns where unfortunately they did not find any marasmodes, but discovered a population of *Amphithalea spinosa* (VU), which was a new record for CREW.

Aspalathus rectistyla (CR), a species that we have been searching for, for more than 10 years.

I led a team to Piketberg where we met up with Marius Wheeler of Cape Nature on the Piekinierskloof Pass. We visited the existing site to get a feel for the habitat of the species before visiting several other sites to look for more populations. We found one new population close to Eendekuil, which was very exciting. Before heading home we decided to visit one more site on the way to the N7, which was the best decision of the year because at the site we found a *Polhillia* that seemed to fit the description of the extinct *P. ignota*. We had to return in September to collect flowers to confirm the identification. This species was last collected in 1928 and was definitely the discovery of the year, if not the decade for some of us!

Due to the additional workload of the Karoo BioGaps project, we decided to incorporate our C-team field trips with CREW group field trips. We had an amazing field season and found a number of species that has eluded us for many years. The most exciting finds included *Geissorhiza lithicola* (VU) from the Gordons Bay area, *Pelargonium heterophyllum* (CR), which we found in Malmesbury, and *Aspalathus rectistyla* (CR),

Klattia stokoei (EN).

which was originally found by Nick Helme at a site in the northern Swartland, and which turned the day into a very special one for us, when we found it again at the same site. .

One of the most memorable trips was to Knolfontein farm in the Swartruggens Mountains. Dr Ivor Jardine was our guide for the weekend and took us to all corners of the farm to see all the wonderfully interesting plants he had found over the many years of doing fieldwork there. It was a very chilly weekend, but we got to see many rare and threatened plants and some amazing bushman paintings.

Our last trip of the year was an incredibly special treat. We met up with Ebrahim Hull of the Harold Porter National Botanical Garden, who guided us on a rather strenuous slog up the mountain to see *Klattia stokoei* (EN), *Protea stokoei* (EN) and an unidentified *Stylapterus* species. It was a long, hard day in the field, but once we got to those very special, moist, south-facing habitats, it was all worth it.

We spent most of December processing data and specimens from our Karoo field trips and I ended off the year working on an analysis to identify the most threatened and rare plants in the country. This information will be used to identify key areas of the country where our very restricted special plants occur. We hope that these areas will be declared as no-go areas for developments to ensure that we don't lose any of these highly restricted and threatened species. Relocating and monitoring these species will be the main focus of our fieldwork for 2017. All I can say is that we will need to get fit, because we will be heading for the mountains in 2017!

A Spanish exchange and the rejuvenation of my appreciation for South African environmental laws

DEWIDINE VAN DER COLFF

The year 2016 was filled with new challenges and I had to expand my knowledge to new taxonomic groups. I started my new position as Red List Scientist, employed by SANBI, and expanded my focus to other taxonomic groups needing Red List assessments. My first group of assessments was thankfully still plants, but not terrestrial ones. I conducted national assessments for all South African mangroves (six species) and worked with Dr Rajkaran from the University of the Western Cape (UWC) and Prof. Adams from the Nelson Mandela Metropolitan University (NMMU). Midyear took me further into the aquatic realm by having to assess the statuses of freshwater fish of South Africa; surprisingly, there were many familiarities. Large numbers of threatened freshwater fish can be found in the Cape Floristic Region (CFR), and the threats to these species are in some cases very similar to those of plants, specifically impacts of invasive alien species. During spring it was finally time for monitoring of *Euryops virgatus* (CR) in Nieuwoudtville. Unlike other years, it was very dry, like most places in South Africa during the drought period.

One of the more memorable moments of 2016 included a visit from Dr Maria Garcia, from the Conservation of Ecosystems of the Pyrenean Institute of Ecology (CSIC). She conducts research focused on plant demography in Spain and heard about CREW through the work of Domitilla Raimondo. Dr Garcia requested to spend a few days with the CREW team and our volunteers. I had the opportunity to host her at the Cape Town CREW office for the duration of her stay. During this time she was exposed to the basic operations of the CREW programme and experienced a typical CREW field trip. The Friends of Tygerberg CREW group were very generous to add another field day to their week with Rupert Koop-

man, CapeNature Regional Botanist, joining in on the fun. We took Dr Garcia to Briers Louw where she was amazed at its very small size, and particularly by the interest of the farmer, the local conservation agency (CapeNature) and CREW to conserve the site. For her it was astonishing how CREW (SANBI) works together with other government agencies, civil society and private land owners; as these relationships aren't always easy to foster in Spain. Dr Garcia presented her work on conducting demographic monitoring on plants growing on vertical slopes at a seminar talk held at the Kirstenbosch Research Centre. This kind of monitoring requires some manoeuvring and agile volunteers to collect their data.

We exchanged ideas about the way in which the two projects collect data and the differences in volunteer structure. She reminded me of how lucky we are to live in South Africa, with legislations such as the National Environmental Management: Biodiversity Act (NEM:BA) of 2004, which guides our conservation work. These are things we sometimes take for granted when we are confronted by challenges of land management and the impacts of threats. However, we need to appreciate the legislative backing we have and make use of it to the best of our ability. In the Western Cape we have CapeNature and similarly other provinces have their own conservation agencies, and we need to work with these entities to ensure all biodiversity is well protected. You as CREW volunteers are already making your contribution by submitting CREW forms, as the information layers that are used at the provincial and national levels are populated by your data. I'm grateful to be part of this network of people; it is truly a special kind of person that becomes a CREW volunteer.

Rupert giving some information about Briers Louw Nature Reserve.

Taking a break after hours in the summer sun.

Telling the BotSoc story: the past two decades and beyond

ZAITOON RABANEY, EXECUTIVE DIRECTOR, BOTANICAL SOCIETY OF SOUTH AFRICA

Over the past six years we have taken a stand to support and add value to programmes, conservation departments and institutions, etc., which have conservation as their core business.

This is a glimpse into a period of the history, from April 1996 to the end of 2016, of the Botanical Society of South Africa (BotSoc). I seek to highlight the rationale behind the proposed future for BotSoc's ongoing focus areas for the period 2017–2020. As the BotSoc Executive Director, I seek also to interrogate the way forward, firmly framed in terms of a sustainability model, and propose a path for BotSoc to tread during this demanding time. Relentless transformational-, institutional- and other challenges shape our responses within this ever-changing global environment, and the path ahead defines the long term success or failure of this society. The path ahead must also be informed by the successes and failures of our history and our experience, just as it must be informed and shaped by the best practice norms and standards for operating as a relevant and dynamic membership NGO in the 21st century.

Who are we?

BotSoc as an NGO came into being during 1913, and, for the past century, has fulfilled its mission of 'winning the hearts and minds and material support of people and organisations wherever they may be for the wise use, study, cultivation and conservation of the indigenous flora and vegetation of southern Africa'.

BotSoc has evolved from the humble beginnings of 'tea parties' to a more conservation- and action focused approach in alliance with strategically placed partners and implementation agents. The management and operational structures of the society cannot afford to elude the necessary transitions required to face, constructively and robustly, the mercurial environment in which it operates.

For long term sustainability, the BotSoc should remain first and foremost loyal to its broader membership, but also it must be relevant and provide useful service to the broader South African populace. This is presently achieved through the implementation of its programmes, projects and partnerships, in line with its mission and objectives and in pursuance of the three Ps: people, passion and partnerships.

The role of the BotSoc Council 2010–2016, in support of BotSoc conservation programmes

The BotSoc Council plays a crucial role in determining the state and the future of the society. Where the council deliberates and decides on policy, the BotSoc Head Office, under the Executive Director, provides strategies for review and ensures implementation of strategies and programmes.

The past six years have seen the role of the BotSoc Council evolve and consolidate. The council has supported the BotSoc Head Office and me as Executive Director in the manifold processes of identifying, isolating, problem-solving and then implementing many critically important actions and decisions. Some were long overdue while others were simply necessary then and now, to ensure relevance and compliance with best practice. There are many instances of these productive undertakings, illustrating progressive and constructive collaboration between Head Office and the council.

Over the past six years we have, for example:

- Taken a stand to support and add value to programmes, conservation departments and institutions, etc., which have conservation as their core business, rather than attempt to duplicate existing programmes and interventions. Since this is a time where funding resources are limited and the needs are extreme, BotSoc has taken a path to offer direct support to the Department of Environmen-

tal Affairs (DEA) and collaborate with a number of local and provincial authorities and institutions responsible for biodiversity and conservation management. In undertaking this we actively support SANBI's Threatened Species Programme, CREW, the National Plant Strategy, the Cycad Strategy, as well as support and nurture programmes and sectors in various conservation departments and institutions around the country that have conservation as their core business:

- Employed and up-skilled five previously unemployed individuals from previously marginalised communities (two matriculants and three graduates) under the Groen Sebenza programme, and subsequent to the programme, taken them on board as Botsoc staff. These individuals have grown and branched out to greater heights with three of the team now employed within various structures within SANBI, from Red Listing work to Herbaria support. BotSoc also seconded a botanist to the Limpopo Department of Economic Development, Environment and Tourism (LEDET), to assist with threatened plant and other conservation work supporting the local municipality. KZN summer-rainfall region also has BotSoc support with graduate support within the CREW office.

- Supported the Cape Peninsula University of Technology (CPUT) Nature Conservation students to augment the curricula learnings with outdoor classrooms and camps, which include important lessons not covered within the classroom, e.g. the use of GPS, taking photographs, snake handling courses, plant monitoring and plotting, and many others. The BotSoc support staff assists with the lessons and lectures presented to support tertiary institutions based in KZN and WC. Outreach to schools is also undertaken by the CREW team.

- Become directly involved with the National Strategy for Plant Conservation and working towards the management and outputs of the various targets. The CREW–BotSoc team are key players in the management of the strategy.

The above examples speaks to the BotSoc mission and objectives, and more importantly, the new focus on creating opportunities for younger individuals and volunteers to be given a space within the biodiversity conservation sector, and more specifically focussing on our special flora.

To this extent BotSoc creates opportunities for volunteerism and one such volunteer is Thaakira Samodien, a 25-year-old unemployed graduate who approached BotSoc to volunteer her services. Read more about her journey on Page 55.

Returning home to expand plant conservation

MAHLATSE MOGALE

The past year was a most exhilarating one for me. The Botanical Society (BotSoc) and the Limpopo Department of Economic Development, Environment and Tourism (LEDET) formed an agreement to allow me to return to my beloved home, the Limpopo Province. I am still part of the BotSoc (and CREW) family, but seconded to LEDET as the provincial botanist. Having spent three years with the Threatened Species Programme team at SANBI, Pretoria, I have gained an immeasurable amount of skill and knowledge, which I shall be applying at LEDET.

'I'm back home, Mum' – Suvarna Parbhoo and my mum, Sehlabnelo Mogale, celebrate my official move to LEDET (photo by Zaitoon Rabaney).

The move back was a great one in terms of botanical experience. The recent drought made things difficult; however, the Limpopo province always has something to offer by way of the remarkable plants in regions that are yet to be explored. The province is home to the Sekhukhuneland , Soutpansberg and the Wolkberg Centres of Plant Endemism; one can only imagine the vast array of unique plants waiting to be discovered.

Injection of youth to the CREW Limpopo group at the Kurisa Moya fieldtrip.

Being based in Limpopo has allowed my involvement with the CREW Limpopo group to be more hands-on. Thus far we have embarked on several field trips, with the Leolo mountain excursion being one of my all-time highlights. Camping in the mountain range 'survivor-style' reminded me of the reasons I developed a passion for the savanna biome. In addition to CREW activities, my newly adopted family introduced me to a new world that included fauna and riparian vegetation surveys. Currently we are doing extensive work in state-owned nature reserves where we are coming across unique plants and animals. LEDET has recently initiated a project around muthi market surveys, in which I have a deep interest. This project came about as a result of traditional healers voicing their concerns over the high rate of illegal traders that are exploiting the natural resources. This raises significant concern as the province's already scarce plants populations are being depleted, which affects traditional healers who require the resource to heal their community members.

LEDET duties – river monitoring in the Letaba River.

The Limpopo Province has a number of botanical issues that require immediate interventions. Threats of great concern influencing plant populations in Limpopo include the high levels of human activities, i.e. mining, urban development and unsustainable harvesting, which are threatening our environment. This offers a young botanist endless opportunity to have a positive impact in the province. With the combined support from the BotSoc, CREW and LEDET, I believe that there are great things ahead, and we as tree huggers can contribute to and build awareness in the province.

West Coast CREW

KOOS CLAASSENS

Diascia collina.

Wat die grond so besonders maak is dat dit baie groot graniet rotse het met nog natuurlike Saldanha Renosterveld en dan loop die Bokrivier ook deur die plaas.

Met die jaarlikse beplanningsvergadering word daar 'n lysie van skaars plante, of plante wat lanklaas waargeneem is, aan ons gegee. *Diascia collina* (VU) was op die lys. Hier in die Weskus is ek bewus van vier *Diascia* spesies wat elkeen op sy eie tipe grond voorkom, naamlik een op sand, twee op granietgrond en een op kalkgrond. Ons was nie seker van die spesies se name nie en het die nodige inligting na John Manning gestuur vir bevestiging. Die een wat 30 meter van my slaapkamer groei is toe *Diascia collina*, en kom redelik voor op die kalkgrond naby die see

Die groot graniet rotse by De Klip.

DeKlip is ‘n plaas teenaan Vredenburg. Die eienaar van die grond, Nickie Pienaar, laat ons toe om oral na plante te soek en is net so opgewonde as ons indien ‘n spesiale plantjie gekry is. Dit is wonderlik om sulke boere te hê. Wat die grond so besonders maak is dat dit baie groot graniet rotse het met nog natuurlike Saldanha Renosterveld en dan loop die Bokrivier ook deur die plaas. Daar is ook ‘n gedeelte sand strandveld wat ‘n pragtige verspreiding van plante het en wat ons beslis in 2017 heelwat sal besoek. Ons metode is om nie noodwendig te kyk hoeveel plekke ons kan besoek nie, maar as ons ‘n plek soos DeKlip kry waar daar baie besonderse habitat is, dit gereeld te besoek, om te sien wat daar werklik is, d.w.s. ten minste die heel jaar, want dit is al manier wat jy werklik al die plante kry.

Spesiale plante wat vanjaar op Deklip gekry is:

- *Aspalathus lotoides* subsp. *lagopus* (VU). Dit was ook op die lysie en ons het ‘n nuwe lokaliteit by DeKlip op graniet rotse gekry. Ek is bewus van twee ander lokaliteite in die Weskus, naamlik by St. Helenabaai en Jacobsbaai, almal by graniet rotse en nie een plek het meer as vyf plante gehad nie.

- *Lachenalia viridiflora* (CR). Oorspronklik is dié viooltjie by Vredenburg gekry, maar die laaste paar dekades kon dit nie weer daar gevind word nie, maar slegs by St. Helenabaai. Hierdie is nou die mees suidelike lokaliteit.

- *Wiborgia fusca* subsp. *macrocarpa* (EN). Eenkeer het ons een plant by St. Helenabaai gekry, maar was nie seker of dit wel subsp. *macrocarpa* was nie, want subsp. *fusca* lyk dieselfde, behalwe sy sade is kleiner. Ons het bevestiging by Dr. Stephen Boatwright gekry end nou kan ons die twee spesies se sade vergelyk.

- *Moraea saldanhensis* (CR): Die spesies is in 2010 gekry maar daar was slegs ses plante in blom en John Manning mog net een plant uithaal om die spesie te beskryf. Ek het belowe dat as ek meer kry sal ek die ekstra eksemplare voorsien. My vreugde was groot toe ons ten minste 1 000+ plante kry. Die plante is gemerk en daar is ook saad vir die Millenium Saad Bank (MSB) projek geoes.

- *Romulea saldanhensis* (CR): Die grootste bevolking van dié uiters skaars froetang op een eiendom. Beslis ‘n paar duisend.

Ons het ‘n goeie jaar in die veld beleef en sien uit na ‘n suksesvolle 2017.

Aspalathus lotoides subsp. *lago-*

Darling

HELEEN PRESTON

A good day at Rondeberg farm.

Pauridia canaliculata (EN) at Baarhuis farm

The year 2016 started well with all the usual autumn plants showing on time – almost as if the plants knew we were to have some better rainfall in the winter and were preparing for things to come.

Unfortunately I missed the workshop due to a broken wrist, but this did not prevent us from being out in the field soon afterwards. Early in June the first *Gladiolus griseus* (CR) started flowering in the Langebaan public open spaces, and the numbers increased steadily into July. A wonderful population was spotted near the Seeberg bird hide in the West Coast National Park, 50 m from the sea.

We were privileged to join the Blaauberg group on three outings to Ganzekraal to compile a plant list for Cape Nature and to locate and monitor species of conservation concern for CREW. The first trip was in July in the area west of the R27 in thick Sandveld vegetation. The second trip was to an area east of the R27 in October, which had been burnt two years before with wonderful Atlantis Sand Fynbos species and lots of specials. The last trip was in December to monitor this same site again to see what was flowering in summer.

Our group outings included visits to Tienie Versfeld Wildflower Reserve, the Yzerfontein public open spaces, both the Darling municipal reserves and a

wonderful walk at Rondeberg Private Nature Reserve, where the spring flowers were at its very best.

An early visit to Postberg Nature Reserve, the Waylands and Oude Post farm reserves and picking for Baarhuis farm was great preparation for the Darling Wildflower Show. Baarhuis is one of our favourite sites and one never fails to find something special there. At Oude Post we found small numbers of both *Senecio cadiscus* (CR) and *Aponogeton fugax* (EN). Our CREW walking group members all helped to prepare for the Darling Wildflower Show and the displays were of excellent quality due to good flowers being available. Our rains had been sufficient and regular, resulting in a spectacular specimen table display that drew great interest.

After many years of searching, Ismail finally found the one plant that has eluded us at Darling since CREW started. He found the *Pelargonium heterophyllum* at a site at Malmesbury on his way home after the Darling group had spent a very hot morning searching in vain in the Darling Renosterveld Reserve.

Apart from finding good numbers of our Darling specials like the *Geissorhiza darlingensis* (CR) and *Lachenalia purpureo-caerulea* (CR) the highlight was finding a new site for *Babiana pygmaea* at the Koperfontein siding near Hopefield in August.

I thank Ismail and the Kirstenbosch CREW for all their support and enthusiasm and the friends at Darling, Yzerfontein and Langebaan for enjoyable walks in the veld with Ray and me.

Geissorhiza eurystigma (EN) at Waylands farm

Blaauwberg Conservation Area (BCA) CREW Group

PETRA BRODDLE

The Blaauwberg Conservation Area (BCA) CREW Group is one of the recently formed groups and this year we gained significant momentum by conducting regular field trips and finding amazing plants in the areas where we work.

On the Blaauwberg Nature Reserve Hiking Trail, we added six new species of conservation concern to our growing list for this site. *Gladiolus griseus* (CR), *Lessertia tomentosa* (NT) and a new species of *Indigofera* (in publication) were some of the 'specials' we

Gladiolus griseus (photo by Richard Adcock).

recorded. It was also a good year for *Cotula duckittiae* (VU), *Psoralea repens* (NT), *Babiana nana* subsp. *nana* (EN) and *Babiana tubiflora* (Declining).

Sunset Beach is a regular haunt and we have done 10 visits to this site. We recorded 178 species of which nine species are listed as threatened. Highlights include finding the most southerly record of *Steirodiscus tagetes* (VU), large populations of *Babiana nana* subsp. *nana* (EN), and *Gladiolus griseus* (CR). One of the concerns we have is that *Passerina ericoides* (NT) is as close to the sea as can be, and with rising sea levels and increased erosion it might be on its way out. We think it would make a very interesting student project.

Both the Blaauwberg and Sunset Beach (Table Bay Nature Reserve) sites had us thinking about how we might involve local communities in monitoring sites. One of our aims has always been to make the locals aware of their indigenous plants through our regular monthly walks on the Blaauwberg Hiking Trail, and between 12 and 30 people turn up each time. Hopefully our efforts will result in the local community becoming more involved in CREW and conserving these amazing sites.

In October we joined the WWF Papenkuils BioBlitz near Worcester. It was organised by a group of students that are doing a rehabilitation project at the wetland and it was a great opportunity for us to see a different area and experience special species from other sites. We really enjoyed joint field trips with other groups, and apart from this one we also joined the Darling CREW groups for sampling at Ganzekraal, and the Swartland CREW group for monitoring the post-burn sites on the Porseleinberg in Riebeek West.

Petra Broddle & Kay Loubser with *Watsonia borbonica* (photo by Richard Adcock).

One of the most exciting sites we visited throughout the year was the Koeberg Nature Reserve burn sites. We recorded 159 species of which 10 are species of conservation concern. *Argyrolobium velutinum* (EN), *Aspalathus ternata* (NT), *Disa draconis* (EN) and *Nemesia strumosa* (NT) being some of the species we recorded. The most exciting find was *Caesia sabulosa* (VU), which was a range extension for the species and this is now the most southerly record of the species.

Babiana ringens (LC) at Silverstroom (photo by Richard Adcock).

Our favourite road verge for bulbs at Melkbosstrand was lost to a new bus stop in 2016. The tarred stop was eventually only about 2 metres wide, but the entire verge became a temporary construction site. Fortunately some bulbs are now appearing and although none are threatened we are considering talking to sympathetic businesses in the area and asking them to keep an eye on the site. Encouragingly, the bus drivers seem to know about the plants.

Special thanks to Jan Wicht for botanical rigour, Kay Loubser for organising visits and Richard Adcock for the wonderful photos.

Friends of **Tygerberg Hills**

HEDI STUMMER

At the request of Cape Nature we looked at the vegetation of Ruitersvlei Wine Farm. This farm borders on Paarl Mountain Nature Reserve, but there is also a small area to the west of the R44 with similar threatened vegetation to the J.N Briers-Louw Nature Reserve. Our aim was to survey these sites to record all the plant species and we found a phenomenal richness of plant species. During our three visits to the area we recorded 220 plant species of which 27 are threatened, including *Pauridia pygmaea* (EN), *Pauridia alba* (VU), *Oxalis falcatula* (EN) and a new locality for *Babiana blanda* (CR). We were also fortunate to see a geometric tortoise (CR), which was spotted by Melda Goets.

FOTH joined the newly formed Swartland CREW on outings to look at the vegetation on Klipkoppie in Malmesbury (35 threatened plants recorded in two visits), Rondeheuwel at Hermon (seven threatened plant species) and Rhenostervlei near Gouda (16 threatened plant species). A further outing to the recently burnt Vlakkerug Farm in Riebeek West was also rewarding with spectacular stands of *Codonorhiza elandsmontana* (Not Evaluated) and seeding Babiana odorata (EN).

We revisited the Rheinmetall Denel Munition (Pty) Ltd site near Wellington, which was last visited by FOTH in November 2014. It was great to see how the veld had recovered after the fires in 2013. We added a few more species to the list...

Klein Dassenberg in Atlantis was recently purchased by the City of Cape Town to buffer Riverlands Nature

Huge stand of *Aristea lugens*.

Lachenalia polyphylla found near Gouda.

Reserve and the Witzands Aquifer Nature Reserve. We found a huge new population of *Othonna linearifolia* (EN) and *Senecio foeniculoides* (CR), which both seems to thrive after the site burnt in late 2015. It's hard to believe that *Othonna linearifolia* was thought to be extinct a few years ago. It really shows the value of regular visits to sites throughout the year.

The N1–N7 Interchange in Goodwood, consisting of several islands with uninteresting looking vegetation, turned out to be a treasure trove of interesting plants. We found that each of these islands had some special plants growing on it. *Gnidia spicata* (VU) and *Agathosma corymbosa* (EN) was abundantly seen, as well as *Cliffortia ericifolia* (EN).

Close by at the Fort iKapa Military Base with its critically endangered Cape Flats Sand Fynbos, we recorded a new patch of *Diastella proteoides* (CR), which we thought had disappeared when channels for water pipelines were put in some years ago.

The whole Simonsberg area in Stellenbosch had a run-away fire at the beginning of the year, which affected 11 farms. Our first visit was to the Wiesenhof Farm where we were treated to a large stand of *Aristea lugens* (EN) bursting into flower in the post-fire environment. Our next visit to the site was equally exciting because we discovered a new population of *Oxalis strigosa* (EN), which we only have seen at three other localities.

We revisited the Rheinmetall Denel Munition (Pty) Ltd site near Wellington, which was last visited by FOTH in November 2014. It was great to see how the veld had recovered after the fires in 2013. We added a few more species to the list, which currently stands at over 400 species, and the highlight of the day was finding *Lachenalia polyphylla* (EN), a new record for the site.

In November 2013 we collected a strange *Senecio* in the Piketberg Mountains. We submitted a small specimen to Dr John Manning of the Compton Herbarium, and after close inspection he confirmed that is potentially an undescribed species and asked us to collect more material. We finally got a chance to go back and recollect the species and it will be described and published by John Manning.

The year ended on a high note at the Tygerberg Rotarians awards evening where the FOTH was acknowledged for our input into preserving the environment over the last decade. This was indeed a proud moment in the history of our CREW group.

FOTH CREW Rotary award. From left: Marcel Hoogebeen, president of the Rotary Club of Tygerberg, with Melda Goets (Parow), Kay Loubser (Milnerton), Veronica Straub (Kenridge), Sandra de Swardt (Panorama), Hedi Stummer (Monte Vista), Keith Breetzke (Pinelands), Jan Wicht (Durbanville), and Gurli Armbruster (Goodwood), all members of the FOTH (Friends of Tygerberg Hills) CREW.

Cape Peninsula CREW

GIGI LAIDLER

With so many fires occurring on the Peninsula in recent years, it was decided that we would survey a patch of mature fynbos, which has not burnt for over 20 years, in the Klaassenskop area on the back of Table Mountain

Volunteers on Klaasenskop monitoring the veld.

Cyperaceae field trip at KRCA with Muthama Muasya.

After an auspicious start to Peninsula CREW in 2015, starting off 2016 proved somewhat less productive due to the diversion caused by the Karoo BioGaps project that dominated CREW activities and demanded an inordinate amount of time and energy during 2016.

However, there was some more action for Peninsula CREW in the latter half of 2016, with Tony Rebello leading an iSpot workshop in July. It will be great if more of our volunteers can be more active in agreeing with IDs that are posted, and adding comments, in addition to posting their own observations. The iSpot plants community seems to be rather lax about 'Agreeing' with observations.

A couple of field trips to Lion's Head to search for *Polycarena silenoides* CR (PE) during August and September proved fruitless, however, *Erepsia patula* (VU) was found during one of these trips. It will be interesting to continue monitoring this area, as well as post-fire surveying of other areas of similar geology and habitat.

During October our attention turned to Cyperaceae, when we undertook a field trip to Kenilworth Racecourse focusing on sedges, accompanied by Prof. Muthama Muasya and his Post Doc student, Tammy Elliott, who is working on evolutionary ecology questions within the *Schoeneae* clade of sedges (*Tetraria*, *Schoenus*, *Epishoenus*, *Neesenbeckia*, *Capeobolus* and *Cyathocoma*). This field trip was followed by a mini workshop on identifying several species of *Tetraria*, so that CREW volunteers could assist Tammy's work by finding species of *Tetraria* in the field for her research.

With so many fires occurring on the Peninsula in recent years, it was decided that we would survey a patch of mature fynbos, which has not burnt for over 20 years, in the Klaassenskop area on the back of

Table Mountain, to serve as a record before a fire breaks out in this area, as we have missed this opportunity of pre-fire monitoring in many other areas. While not yielding much by way of exciting species, hopefully this record should prove interesting for comparison in the longer term.

Later, a second field trip was undertaken to Kenilworth Racecourse Conservation Area (KRCA), this time focusing on Fabaceae, as Brian Du Preez, aka 'Mr Fab' had finished his Honours year at Stellenbosch University, and the Conservation Manager at KRCA was requiring some assistance with identifying some of the peas he had been finding.

An interesting challenge came our way from the Red List programme, when we were asked to seek out the 'Lost Plants' of the Cape Peninsula. These are mainly extinct species, but also several others, which have not been recorded in recent times, or for which there is very little data available, and thus the 'Elusive Rarities of the Cape Peninsula Project' was launched. Doing post-fire surveys over the next year will hopefully produce some exciting results for this project.

CREW **Cape Flats**

ALEX LANSDOWNE

Cape Town is the only South African metropolitan city that has developed over Fynbos. After almost four centuries of permanent settlement there is still an incredible amount of biodiversity holding on, and much to explore.

One cannot visualise Cape Town without a sweeping background of blue-hued mountains. Often not pictured are the incredible pockets of biodiversity holding on between the urban sprawl. This is the Cape Flats – broadly defined as the lowlands between the Cape Peninsula and Hottentots Holland Mountain range. It is where most Capetonians live and work. If one looks closely, there are many threatened species all around.

What happens when plants meet urban development? CREW was also contacted by a development in Kommetjie, which needed assistance with a biodiversity Search and Rescue.

Relocation of *Lachenalia pallida*; Alex in action briefing volunteers.

In August of 2016 two Cape Flats trips were undertaken with CREW Tygerberg. At the N1/N7 interchange we found *Phylica harveyi* (VU) and *Gnidia spicata* (VU) growing amongst three other known threatened species. This intersection was disturbed by road works, and at a later date, on the advice of Cliff Dorse, I went back and found one remaining *Agathosma corymbosa* (EN) plant. Hopefully this population will recover after a fire.

We also visited Fort iKapa in Goodwood. There was much to see, but the highlight for me was the weird, Endangered *Diosma dichotoma*.

Compliments to the incredibly well-organised Hedi Stummer and her energetic team.

In late spring Clive McDowell, Caitlin von Witt and I undertook a golf-cart driven botanising trip to Royal Cape Golf Course. In the 1970s this is where Elsie Esterhuysen found *Erica turgida*, now Extinct in the Wild. Between the greens we found around 40 species including many *Lachenalia reflexa* (VU); as well as *Lampranthus reptans* (NT) and *Lampranthus filicaulis* (VU).

Nearby, on an empty field surrounded by houses, Stuart Hall and I have recorded over 130 species, of which 14 are listed as species of conservation concern. The star finds were *Diastella proteoides* (CR), *Aspalathus retroflexa* subsp. *bicolor* (CR), *Babiana villosula* (EN), *Aponogeton angustifolius* (VU) and *Moraea elsiae* (NT). A five minute walk from my home, in the heart of suburbia, this site was previously unknown! We will continue to explore it and record the plants we find on this site.

What happens when plants meet urban development? CREW was also contacted by a development in Kommetjie, which needed assistance with a biodiversity Search and Rescue. Together with local volunteers we managed to lift and remove, in three mornings' work, about 5 000 *Lachenalia pallida* (Declining). Luckily there is more than one receptor site for these geophytes. They will be transferred to in early autumn.

There is a long list of exciting, unprotected sites to visit within the City of Cape Town. We look forward to sharing them in future newsletters.

Lachenalia reflexa.

CREW Hottentots Holland

CARINA LOCHNER

At the time of writing, fire fighters were still struggling to bring the Helderberg fires under control. Wildfires, fanned by a strong southeaster, swept through many of the sites we normally visit and it will be interesting to see how the veld recovers. The Vergelegen and Lourensford estates make up a significant part of the Helderberg basin and during 2016 we made several visits to these farms.

In February, Sally Reece, conservation officer at Lourensford, took us on a tour of the farm with the intention of identifying sites for later visits. On this trip we saw a good stand of *Leucospermum gueinzii* (EN). Scattered pine trees are slowly creeping up the mountainside, but this site is earmarked for alien clearing. A spectacular stand of *Amaryllis belladonna* (LC) suggests that they prefer the openness of a firebreak. In May we found a good population of *Protea grandiceps* (NT) and the posting on iSpot led to Anne Lise Vlok visiting this site for study. According to the Redlist, this slow maturing species is easily destroyed by too frequent fire and we still need to see whether they survived the recent fire. We had learnt by now to recognise the restio-like leaves of *Protea scorzon-*

Leucospermum guenzii (EN).

CREW HH with CoCT staff in Steenbras Nature Reserve.

Protea scorzonerifolia at Lourensford.

Networking, learning from others and experiencing their enthusiasm is an inspiration and some of the joys of being a CREW volunteer.

erifolia (VU), but to see them growing in abundance and in full bloom in September was a real treat. Another beauty at the same site was *Aristea cantharophila* (VU), which also seemed to prefer the firebreak to the uncut vegetation.

At Vergelegen Estate we continued our documentation of species in a small remnant of Lourensford Alluvium Fynbos. *Gladiolus trichonemifolius* (VU) was recorded there for the first time this year. Two *Geissorhiza* species, possibly *G. setacea* (EN) and *G. imbricata* subsp. *imbricata* (NT) still need confirmation. A large area of old renosterveld on Schaapenberg has burnt and a visit in spring this year should be interesting.

Our project of monitoring threatened species in Somerset West public parks and interaction with the municipality about a mowing regime is still very much a work in progress. The effort bore fruit when *Ixia versicolor* (CR) flowered abundantly in 'Onse Jan' park this year. Education and community involvement will be crucial to success of this intervention.

Trips to the Steenbras Nature Reserve and Hans-se-Kop (Hottentots Holland Nature Reserve) yielded several observations of threatened species. On these trips we were accompanied by field rangers, who, with encouragement and training to use iSpot, may be able to make a valuable contribution towards data collection in the reserve.

As in the past, support from CREW head office has been invaluable. On a very windy day in October, Ismail Ebrahim led our small group up the steep slopes above Gordon's Bay where we found, to our delight, *Geissorhiza lithicola*, *Erica amidae* and *Serruria inconspicua*, all listed as Vulnerable.

Apart from our own outings we also enjoyed joining trips organised by other CREW groups. Networking, learning from others and experiencing their enthusiasm is an inspiration and some of the joys of being a CREW volunteer.

Worcester – 2016

DONOVAN KOTZE

As a small, very recently formed group on a steep learning curve, Worcester CREW enjoyed an exciting 2016. During the year we carried out eight field trips, a training day and three plant identification evenings. The field trips included Kruispad to a localised dolomite area between Worcester and Robertson, the Breede River near the Villiersdorp bridge where we looked for *Ixia pumilio* (EN), Jonaskop in the Riviersonderendberge, Wolseley common, Kluitjieskraal area near Wolseley, Altona hills above Worcester, Hex River valley and the Papenkuils wetland between Worcester and Rawsonville. We also continued to link closely with the Mountain Club of South Africa, Worcester Section, with this resulting in further 'unofficial' CREW outings, including those to Suurkloof, Botterkloof and Maleishoek.

One of the key highlights of 2016 was the rediscovery of *Gazania lanata* (DDD) at Kruispad by Robert McKenzie and Tom Jordaan. *Gazania lanata* is a Data Deficient species described in 2011, but known only from the type collection from 1997. About 50 plants of the *Gazania* were located on the property confined to a unique habitat over dolomite rock. This was only the second-ever collection!

On the Hex River field trip, we searched in vain for *Marasmodes macrocephala* (CR PE), but with some welcome help from Christna Steyn (Overberg CREW) and Nick Helme, who picked up Christna's posting on iSpot, the trip yielded two special finds namely *Relhania tricephala* (NT) and *Amphithalea spinosa* (VU). The Papenkuils field trip helped to improve our understanding of the extent of some of the known Red-Listed species occurring in the wetland such as *Aponogeton angustifolius* (VU) and *Lampranthus debilis* (EN), as well as yielding a new find, which was *Skiatophytum tripolium* (VU) spotted by one of a series of small sand dunes located within the wetland.

The training, kindly carried out by Marion Maclean and hosted by Graham Beck Wine Estate, focused on identifying key plant families that are characteristic of the Succulent Karoo. It was very successful and included 26 participants. We also did our best to promote conservation and awareness of the local flora and some of our Worcester specials. Foremost amongst these is the endemic *Polhillia obsolet*a (EN), which is very restricted in its distribution to a small area of Worcester between the shopping mall and the airfield. Juliana Tamsen has been a stalwart in promoting the conservation of this species. Another Worcester special, for which we tried to raise the flag in a new location we found in the Altona hills, was *Moraea worcesterensis* (CR).

One of the key highlights of 2016 was the rediscovery of* Gazania lanata *(DDD) at Kruispad by Robert McKenzie and Tom Jordaan.

Moraea worcesterensis.

In collaboration with Living Lands, we also worked to raise awareness with the landowners and broader community about the Papenkuils wetland and its importance for several different threatened wetland-dependent species. Here we guided a journalist from the local Worcester Standard newspaper to report on the importance of the wetland and the flora it supports in an article 'Vleiland koester dwerg waterblommetie', which focused on *Aponogeton angustifolius*.

Finally, we thank James Deacon, Lucille Krige, Dewidine van der Colff and Ismail Ebrahim for their spotting and plant identification help and for other support and encouragement to our group.

Polhillia obsoleta in seed.

Southern Overberg CREW

CHRISTNA STEYN, RHODA MCMASTER, WILLEMINA DE WET AND FLORA CAMERON

In 2016 members of the Swellendam, Napier and Agulhas CREW groups decided to join forces and establish an umbrella group that focuses on CREW activities for the Overberg region. By putting feet, eyes and heads together, we share knowledge, learn a lot and do not feel isolated.

Klattia partita from Marloth Nature Reserve.

This is one of the major challenges for us. These areas within Swellendam still have very important populations of plants and there is a lot of development still happening.

Three main regions will be covered by the Southern Overberg CREW. In the North we have Flora Cameron, Willemina de Wet, Jill Blignaught, Lennart Nelson, Jannie Groenewald and Barbara looking for special species in the Barrydale area and the Langeberg Mountains with a special focus on Marloth Nature Reserve. Jill has nearly completed her project to load all her photos of plants taken in the Langberg Mountains over the many years they have surveyed the area. These pictures are bring loaded onto iSpot and will serve as a valuable record of the flora of the Langeberg Mountains.

In December we did our annual monitoring of *Pachites adpressa* (Rare). We only found four plants this time and it has been interesting to observe how the population has decreased in numbers over a three year period. I suppose we will have to wait for the next fire to see it flower in all its glory again. It also makes us realise how fortunate we were to be able to see this species flower in the post-fire environment.

In the Marloth Nature Reserve the volunteers have been doing regular walks in the reserve to record populations of threatened plants. The most exciting finds included *Klattia partita* (NT) and *Mairia hirsuta* (Rare); both first sightings for our group. In other areas around Swellendam we had some very interesting finds, the most exciting being a possible new population of *Caesia sabulosa* (VU). We also found a lovely population of *Pelargonium fergusoniae* (EN) in the Swellendam industrial area. This is one of the major challenges for us. These areas within Swellendam still have very important populations of plants and there is a lot of development still happening.

Moving to the South, we had a very successful year and is picking up great momentum. Our year started with a trip to see the very rare *Cyrtanthus guthrieae* (CR) in the Bredasdorp reserve. We also joined the Outramps CREW group on two trips to Potberg. This area is crammed with threatened plants and it was great to spend time with the Outramps CREW. One of our highlights was seeing the stunning *Lobostemon sanguineus* (VU) in flower. We conducted a few trips to areas that burnt in the previous year's fires. Heidehof near Pearly Beach and Sandberg near Elim were two of the main areas we focused on.

In the Napier area one of our favourite sites to visit is the Haarwegskloof Renosterveld Nature Reserve and our local Napier Renosterveld Reserve. In spring we had a wonderful BioBlitz at the Napier Renosterveld Reserve. One of the main concerns we want to highlight is the plight of *Erica recurvata* (CR). This species is only known from one population of less than 50 plants. The area where these plants occur is seriously invaded with pines. We were extremely worried about the future of the species and Cameron McMaster approached the landowner to make him aware of the special plant that occurs on his land. The landowner has agreed to make an effort to clear the aliens from the site. Apart from monitoring plants, this interaction with landowners is also a critical part of the CREW programme.

For more information and updates on all our activities, visit our Facebook page and follow us on Twitter (Southern Overberg CREW), or send an email to southernoverbergcrew@gmail.com.

Critically Endangered *Cyrtanthus guthrieae*.

Erica recurvata, highly threatened by alien invasive pines.

Fourcade Botanical Group

CARYL LOGIE

The Fourcade Botanical Group Juniors learnt, amongst other things, the dangers of Rooikrans and Port Jackson Willow, and after the big fires at Cape St Francis, they helped eradicate Rooikrans seedlings. We arranged an outing on St Francis Links where they had to complete a questionnaire by searching for the answers on the numerous environmental information boards scattered throughout the golf course. They also hunted for small creatures and learnt about their place in the environment. Thanks to a most generous donation, we were able take the FBG juniors to the Addo Elephant National Park as their end of year excursion.

Trying to find specific locations in our area proved quite challenging in 2016. We searched for an *Elegia*, which is known from Rooipunt River and is listed as Vulnerable, but as there are several places of that name, it wasn't easy. In addition there is a multiplicity of Geelhout rivers, which is another site popular with previous collectors.

Another first for us was to find the little fern,* Marsilea macrocarpa *(LC) in an ancient elephant-wallow near Hankey.

However, we have had a very happy year exploring several new areas and have been delighted to find the following species for the first time:

- *Centella longifolia* listed as Rare.
- *Limonium linifolium*, Near Threatened, at two sites.
- *Indigofera hispida* and *Tulbaghia maritima* both Vulnerable
- *Corpuscularia lehmannii* listed as Critically Endangered.

As not all of our specimens have returned from Cape Town, we dropped off some of our recent collections with Tony Dold in Grahamstown at the end of

A happy busload returning from Addo.

January 2017. We are hopeful that there may still be some surprises waiting for us.

Another first for us was to find the little fern, *Marsilea macrocarpa* (LC) in an ancient elephant-wallow near Hankey. According to the distribution map these ferns are found countrywide, but not around our areas, so it may well be a new distribution.

Kruisfontein Tourist Trails is an exciting new venture between two townships that are rapidly expanding in Humansdorp. The new initiative is being started by residents of the townships, Arcadia and Kruisfontein, who are very keen to know more about their environment. We were asked to assist with the development of the trail and we were bowled over by their enthusiasm as we pointed out their special plants and trees.

We were also very pleased to be able to help Luvo Magoswana, who is based at Compton Herbarium, when he was looking for our *Othonna rufibarbis* (VU). Luvo is working on the taxonomy of the genus *Othonna* and thank goodness our special *Othonna* will now remain a species in its own right as a result of the specimens and DNA we collected for him.

Not everyone is as passionate about plants as we are, so it was heart warming to have a new population of *Satyrium hallackii* subsp. *hallackii* (EN) pointed out to us on St Francis Links by Simthembile Magwaca. To top it off he also found *Acrolophia cochlearis* (LC), which was a first record for The Links, which he recognised as being different from the *Acrolophia micrantha* (LC) we had been relocating from building sites.

Together with Wentzel Coetzer, of Conservation Outcomes, we continued to help facilitate the stewardship programmes that are starting to take off in the Kouga Area.

In May, after spending two days again hunting unsuccessfully for *Argyrolobium* and *Agathosma*, we spent a happy night together as a group near Hankey. Our final get together of the year was a very special few days in the mountains near Patensie and who knows what special plants are waiting in our presses!

The team busy with demographic monitoring.

Corpuscularia lehmannii.

Port Elizabeth CREW GROUP

ADRIAAN GROBLER

Holothrix pilosa & *Corpuscularia lehmanii* at Parsonsvlei.

The past year was an exciting one for the Port Elizabeth CREW group with a number of plant taxa being recorded for the first time. The year started off with one of our members coming across a large, but localised, population of the Vulnerable *Tulbaghia maritima* near the Storms River mouth. This taxon was formerly categorised as a variety of *T. violacea*, and has only recently been recognised as a separate and evidently threatened species. As such, it has flown under our radar for some time, but will be on our watch list for future ventures toward the western end of the Eastern Cape.

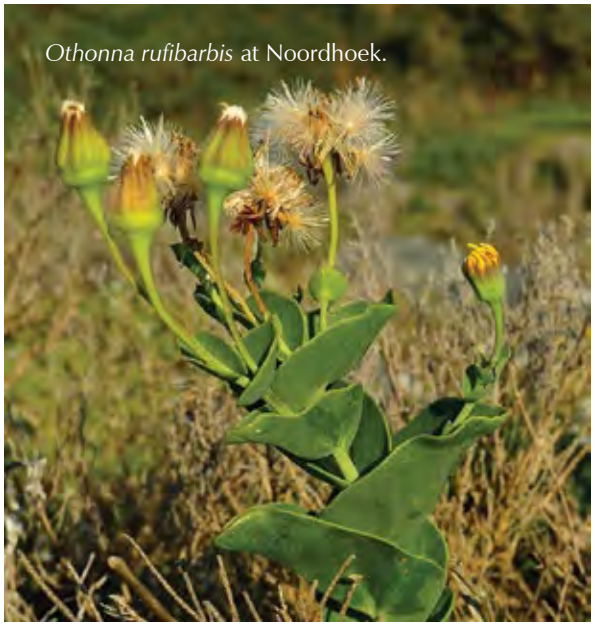
Domitilla Raimondo and Vathiswa Zikishe visited us during February for a survey of Parsonsvlei – one of Port Elizabeth's lowland fynbos areas most threatened by urban expansion. Here we found the Critically Endangered and local endemic vygie *Corpuscularia lehmannii* restricted to sandstone outcrops in the area. Growing together with *C. lehmanii* was the Near Threatened *Holothrix pilosa* – the first record of this species for our group.

BotSoc Adopt-a-Plot in Westering.

In April we teamed up with the local branch of the Botanical Society of South Africa to erect a signboard at a remnant of Rowallan Park Grassy Fynbos in the suburb of Westering. This is one of three plots of threatened fynbos ecosystems that has been adopted and maintained by the BotSoc branch. The plot in Westering hosts numerous plant taxa of conservation concern typical of Rowallan Park Grassy Fynbos, and the signboard will hopefully help to raise awareness about the importance of plant conservation among the local community members. We have since erected signboards at remnant plots of Colleen Glen Grassy Fynbos and Walmer Grassy Fynbos.

The month of May saw the first sighting of the narrow endemic *Aspalathus cliffortiifolia* (Critically Endangered) along calcrete outcrops in the Nelson Mandela Metropolitan University Private Nature Reserve. Previously discovered populations of this species have all been outside of well-managed protected areas, and this discovery has bolstered our hope for the survival of the species. We also found the Rare *Centella tridentata* var. *hermanniifolia* growing on sandy plains during the same survey, and at the onset of spring in September we encountered a number of new localities of *Hyobanche robusta* (EN) along the dunes in the reserve.

Another first for us during 2016 was the discovery of two populations of the poorly known *Othonna rufibarbis* (VU) along the southern coast of Nelson Mandela Bay – one at Noordhoek during May and one at Cape Recife during June. This plant shares its habitat here with a number of other threatened species, including *Erica chloroloma* (VU), *Rapanea gilliana* (EN), *Satyrium princeps* (VU) and *Syncarpha sordescens* (VU).


Othonna rufibarbis at Noordhoek.

During winter we spent most of our time in the Van Stadensberg Mountains. In June we joined the Friends of Van Stadens (FoVS) CREW group for a trip through the exquisite mountain fynbos in the Longmore State Forest. Here we found a recent Red List addition, *Agathosma hirta* (NT), as well as *Cullumia cirsioides* (VU) and *Leucadendron orientale* (EN). More first-time encounters for our group during this trip were two members of the pea family, *Argyrolobium trifoliatum* (Threatened) and *Otholobium heterosepalum* (Rare). Both of these species were subsequently recorded along the northern-most mountain slopes in the Lady Slipper Nature Reserve during July. We also came across an unknown and very sparsely distributed *Selago* at Longmore, which was later preliminarily identified as *Selago elsiae* (DDD). This species is currently only known from the type specimen collected by Elsie Esterhuysen on the Cockscomb in the Groot Winterhoek Mountains in 1957! In August we again teamed up with FoVS to explore the fynbos around the Lower Van Stadens Dam, where we found a small population of the Critically Endangered *Cyclopia longifolia* along the banks of the Van Stadens River.

One of our most exciting finds of the year was the chance discovery of *Disperis woodii* (Declining) in road verge fynbos along the N2 national road to the west of Port Elizabeth. This tiny orchid is currently only known from grasslands along the eastern coast of South Africa, from King William's Town eastward. The discovery of the Port Elizabeth population represents a significant range extension of over 230 km to the southeast, and is the first record of this species in the Fynbos Biome and Cape Floristic Region.

As most of our year was spent in the fynbos, we decided to end 2016 off by exploring some of the most threatened thicket ecosystems in our area. Surveys at Grassridge yielded new localities of *Argyrolobium barbatum* (VU), *Euryops ericifolius* (EN), *Rhombophyllum rhomboideum* (EN), *Syncarpha recurvata* (EN) and *Zygophyllum divaricatum* (EN). Some members of the Grahamstown CREW group joined us for our final excursion of the year in December when we visited Motherwell and Coega. Here we found a number of threatened succulent plants, including South Africa's most threatened aloe species, *Aloe bowiea* (CR), as well as *Bergeranthus addoensis* (VU), *Euphorbia meloformis* (NT), *Euphorbia globosa* (EN) and *Rhombophyllum rhomboideum* (EN), growing in open patches between thicket clumps.

We anticipate that 2017 will be another successful year for CREW in Port Elizabeth and hope to team up with our Eastern Cape companions from the Fourcades and Grahamstown groups to explore further afield. As always, a very big thank you to all our local volunteers for sacrificing their time and energy, and to the national CREW team and Botanical Society of South Africa for enabling and supporting our local efforts.

Pondoland CREW

GRAHAM GRIEVE

The highlight of the year for the Pondoland CREW group was the discovery of a new subpopulation of *Satyrium rhodanthum* (EN) near Ixopo, only the third known locality for this long sought-after species. Fortunately the site is on a private farm within a conservation area so there are very few threats to the plants. This farm also hosts a healthy subpopulation of *Riocreuxia flanaganii* var *alexandrina* (CR), monitored by the CREW group.

Although most of the weekly Pondoland CREW outings this year took place in the Umtamvuna Nature Reserve and Red Desert Nature Conservation Area, there were several trips further afield. Weza-Ngele Forest is a favourite destination, for special plants and spectacular views. Here we found another subpopulation of *Emplectanthus gerrardii* (VU) and we continue to monitor *Nerine bowdenii* subsp. *bowde-*

Nerine bowdenii subsp *bowdenii* (Rare).

The happy party.

nii (Rare) and *Xysmalobium* sp. nov. (a new species waiting for description). Two members of the group represent CREW on the advisory committee for the newly declared Weza-Ngele Forest stewardship site, covering the area between Weza and the boundary of the DAFF reserve.

A visit to the Mount Currie Reserve outside Kokstad led to our starting a plant list for the reserve – the higher-altitude plants present an interesting challenge. Another new site is a conservation area near Port Shepstone, an offset established as a condition of the mining license for Rossmin mine, where we are working with the horticulturist responsible for rehabilitation of the site.

There were a few trips to Pondoland – to Sigidi to monitor a thriving colony of *Leucospermum innovans* (EN) and to Mkhambathi Nature Reserve to add to the plant list, monitor special species and to collect more material for the botanists describing the two new species we found there. There was also a trip to Msikaba to identify plants for the nursery involved in rescuing species of conservation concern from the new N2 bridge sites on the north and south banks of the Msikaba River.

One of the advantages of working in the Pondoland area is that outings cover not only grasslands, but also include forested areas where we find many endemic trees of conservation concern, such as *Faurea macnaughtonii* (Rare), *Manilkara nicholsonii* (EN), *Rinorea domatiosa* (Rare), *Syzygium pondoense* (Rare), *Apodytes abbottii* (NT), *Grewia pondoense* (NT), *Pseudoscolopia polyantha* (NT), *Putterlickia retrospinosa* (NT), *Pseudosalacia streyi* (EN) and *Rhynchocalyx lawsonioides* (NT). In addition, there are Endangered and Near Threatened endemic *Eugenia* species, which we continue to monitor for rust.

Details on our outings and plant lists for the different areas can be found on the Pondoland CREW blog at https://pondolandcrew.blogspot.co.za.

Xysmalobium sp. nov.

Durban CREW REPORT 2016

JOCELYN SUTHERLAND

Last year has been a productive year for the Durban CREW group, largely due to the better spring rains and the interest and co-operation of eThekweni Municipality. I decided to be more organised and focused this year, and set aside Wednesdays for weekly field trips, which resulted in the group conducting in excess of 30 field-trips. Site choices have been largely helped by a productive meeting with Bongani Zungu (Working for Fire at eThekwini Municipality), during which he furnished us with a detailed map of the municipal-owned grassland sites and details about which of those had been burnt recently. Concentrating on these sites, we have built up a sizeable flowering plant list for each site.

Our first success of the year was a visit to Summerveld in Outer West Durban in May. This trip was instigated by an email I received from Herbert Stearker (co-author of *Orchids of South Africa: a field guide*), asking if I could look for *Disperis woodii* (Declining). Equipped with the GPS coordinates he supplied, a group of us went and when I spotted what I thought to be a likely site we stopped. While I was still faffing in the car, Hendrelien Pieters shouted 'I've found them!' And indeed she had, right next to the road on the shady south-facing verge cutting. We inspected this verge for about 100 metres and found in the region of 100 plants in various stages of flowering, with colours ranging from white to deep pink. It was extremely exciting to find such a large number of plants. Two days later, after receiving my news and jumping on the first plane from Austria, Herbert visited the site and found another, smaller colony further down the road. We returned to the site a month later to see whether any plants were still in flower and if seeds were present. To our absolute horror the verge had been brush cut and we found very few plants remaining – let alone in seed. I then contacted Richard Boone regarding the municipality's roadside management. This prompted his colleague, Lance Rasmussen, to put in place a management programme for verge cutting, which takes into account preservation of species of conservation concern. Incidentally the *Disperis woodii* that we found in 2013 at Umgeni Valley is being monitored yearly by Peter Warren who lives in the area, and who is also a dedicated member of the CREW Midlands group.

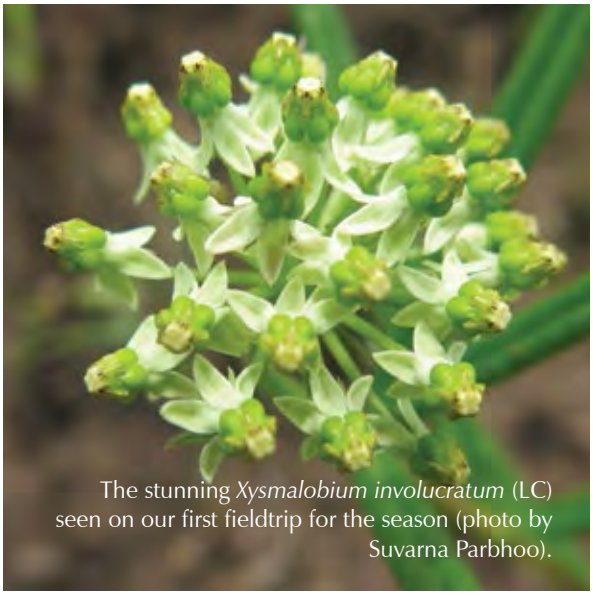
To our absolute horror the verge had been brush cut and we found very few plants remaining – let alone in seed.

At the end of June we returned to Inanda Mountain to revisit an *Erica aspalathifolia* var *aspalathifolia* (Declining) population, and noticed that the flowers were far fewer and flowering nearly over, possibly due to the drought. During the next few months we unsuccessfully searched for *Zeuxine africana* (listed as Endangered, but not endemic to South Africa) at Durban Bay, however, we did find numerous *Cyphostemma flaviflorum* (Near Threatened).

The team admiring the *Sandersonia aurantiaca* with Bongani Zungu at the Redcliff site (photo by Suvarna Parbhoo).

Notable finds were *Hermannia sandersonii* (VU) and *Sandersonia aurantiaca* (Declining) at Monteseel and Redcliff respectively. The Krantzview site was visited on a number of occasions, primarily to check on the *Brachystelma natalense* (CR) population, which was eventually found in December by Barry Lang, who made repeated visits to known sites to search for this species. Together with Trafford Peterson (also from eThekwini Municipality) the species was found at a new locality in Assagay.

We visited two school conservancies, namely Kearsney College, where we found both *Merwilla plumbea* (NT) and the declining *Boophone disticha*, and the Roseway Waldorf School, where a population of *Boophone disticha* was observed. We have made recommendations to these schools with regards to invasive alien plant management and look forward to working closer with them.



The stunning *Xysmalobium involucratum* (LC) seen on our first fieldtrip for the season (photo by Suvarna Parbhoo).

CREW **Mkhambathini**

ALISON YOUNG

CREW outings are the highlights of our year. Even when the target species have not been very forthcoming, most of us have delighted in the camaraderie, the amazing new landscapes and the plants new to us, although they may not be on our target lists. Even though the managing team reduced our target list to only four species this field season, I feel we still need to add these to a lengthening list of species we have been tracking from previous years.

Delosperma velutina habitat.

In August the Umvoti, Mkhambathini and Midlands groups combined to form the Midlands CREW and we now cover a much bigger area. This has meant learning new habitats and species groups as the geology and altitude are different. The attendance at these meetings is impressive and I hope this continues. The core group consists of Peter Warren from Midlands, Felix Middleton from Umvoti and me from Mkhambathini. Kathy Milford is also a regular on all group outings. The horticulturists from the KwaZulu-Natal National Botanical Garden join us, as do an impressive group of students from the University of KwaZulu-Natal Pietermaritzburg campus.

There were 13 site visits for which data was captured – 7 of these were return visits, 3 were new sites, and 4 of the sites were joint visits with other CREW groups. A visit to a gorge and grassland in Highflats produced a species list for a new area and recorded *Delosperma velutinum* (DDT). We visited Langefontein, a property between Richmond and Ixopo, to check on populations of *Begonia homonyma* (EN), *Haemanthus deformis* (VU) and *Stenoglottis molweniensis* (Rare). Although the site is quite degraded

there is no change from the previous visit in 2007. We joined a group on a monthly visit to Inanda Dam and found *Stenoglottis inandensis* (not assessed). An odd *Rhynchosia* found previously at Umlaas Road turned out to be a slightly out-of-range *Rhynchosia woodii* (LC), so *Rhynchosia connata* (DDD) is still outstanding.


Stenoglottis inandensi habitat.

In October this merged group ventured out to a wet and misty Lake Lyndhurst (New Forest) to investigate populations of *Moraea graminicola* subsp *graminicola* (NT). It is quite weedy at this site, but has never flowered at the time of our visits to collect specimens. In November we went to Kamberg. A long history of dairy farming in the region means that steep slopes and roadside verges are the only areas left of any interest. No target species were found here at this time of the year.

A special thank you to Peter Warren for his willingness to take on some of the admin for our group, like sending out emails, but more importantly, whose significant contributions to iSpot build up the database of plants for KwaZulu-Natal.

2016 **Umvoti** CREW activities

FELIX MIDDLETON

The Umvoti CREW group generally focuses on flowering grassland plant species. However, we every so often venture into indigenous forests and thorn veld in search of the lesser known plant families.

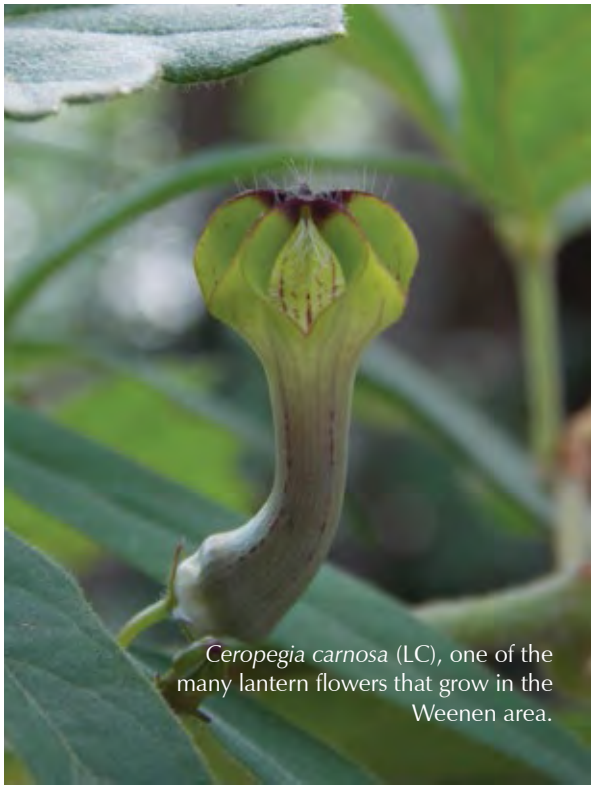
In 2015 the group visited the Muden area in search of the Vulnerable *Ceropegia cycniflora*. Although we did not find it, we established that there are many other members of this genus growing in the thorn thicket in this area. A similar environment was identified in 2016 on a commercial farm in the Weenen district. The landowner is conservation conscious and the natural thicket is still in a pristine condition. During our visits we observed at least three species of *Ceropegia*, which grow here undisturbed. It is incredible to see these seemingly fragile plants creeping up amongst the rugged thorn shrubs and euphorbias. The aim is to find and identify more woodland species in future, and hopefully this protected location will also shelter the elusive *C. cycniflora*.

Most of the grassland in the Umvoti district is dotted with small patches of indigenous forest. From the outside it merely looks like a few trees trying to survive in a small ravine. However, as soon as you enter these woody islands you appreciate that there is much more to these isolated environments. The diversity in species of *Streptocarpus*, *Plectranthus* and orchids alone is staggering. For example, one such small island in the Blinkwater Nature Reserve houses five different species of epiphytic orchids. Sampling and pressing plants from these forests for herbarium use has been more challenging than with the flowers collected from grasslands.

A concern to our group, as well as to other CREW groups, is the lack of interest among young people when it comes to conservation. Excursions out

into the field are apparently not as interesting as cell phone apps or mall expeditions. In an attempt to educate youngsters and hopefully spark interest in the CREW programme, we have contacted a local school who encourages nature conservation projects. We will network with the school's nature club and its activities during the 2017 academic year. The school has even set aside a strip of natural grassland to educate the learners on conservation. This strip of land, locally known as the Flower Patch, houses several grassland species of conservation concern. Unfortunately it is a continuous battle to keep roaming cattle out of the seemingly vacant land.

We find iSpot to be an excellent tool to stimulate interest among our technology addicted youth. Add to this the incentive to find a species that was last seen more than 30 years ago, and you create the stage to empower bored youngsters. To this end we will post pictures as well as short descriptions of plant species that are found in the Umvoti area at the school mentioned above. The school contributes towards a bursary for the best nature-minded scholar, and has a category of award where a scholar can attain colours in nature studies.



Ceropegia carnosa (LC), one of the many lantern flowers that grow in the Weenen area.

CREW **Central KZN**

PETER WARREN

The iSpot website has become an indispensable tool for me as a CREW citizen scientist.

CREW members in the central regions of KZN have been relatively active on iSpot with 450 observations being posted, of which the majority are unique species. By comparison there are 981 observations in KZN with only small numbers from the very active CREW groups situated in the Berg (4) and Pondoland (40). These figures are based upon a sample of 22 000 iSpot observations that were posted last year. These iSpot posts have recorded a number of species of conservation concern and this article showcases some of those species along with the stories that go with them.

These iSpot posts have recorded a number species of conservation concern and this article showcases some of those species along with the stories that go with them.

The Vulnerable *Alepidea amatymbica*, observed in the grasslands of Mbona Private Nature Reserve were documented in a large population. The species is known to be threatened by the muthi trade, but is relatively safe at Mbona where it is found on a steep slope. The voyage to this target species was a bit of challenge, and the SANBI/CREW staff had to utilise their 4×4 skills.

The next exciting visit was to the Grants' Sitamani property near Boston, which is host to a population of the Rare *Brunsvigia undulata*. The population consists of roughly 50 plants in an area of about a hectare. The seeds of this species are very shy to germinate, so if lost, the population will not regenerate. Therefore, the Grants have taken precautions to ensure the protection of the species by not permitting the collection of the plant.

There are many other bodies contributing to and playing an important role in conservation, and we as the Custodians of Rare and Endangered Wildflowers need to form partnerships with these organisations. Recently, we were fortunate to have Sarah Allen of the Midlands Conservancies lead one of our walks where we surveyed the Vulnerable *Senecio dregeanus*. The species only flowers in late summer when the botanists have gone away and the grasses are too long, so the plant is not always seen. On the expedition to Curry's Post Road, we came across 50 such plants in a narrow belt at Old Halliwel. We presume that this species may just be under reported.

Alepedea amatymbica, Mbona Private Nature Reserve (photo by Peter Warren).

In our aim to create communities that care for plants, we document all the flowering plants to identify those sites of outstanding beauty with rich floral diversity. The new thinking is to protect the habitats and the biodiversity will follow. Just a reminder that these outings are done by people and not just forms.

Brunsvigia undulata, Sitamani (photo by Peter Warren).

Lunching at Sitamani. We were privileged to have a visiting US academic, Glenn Adelson, along with the Johnsons, the Bowkers, Dave Raulstone, Kathy Milford, Sachin Doarsamy, Christeen Grant, Felix Middleton, Peter Warren, Richard Bates, the Geils, and Pauline Hourquebie join this outing (photo by Meyrick Bowker).

CREW **Underberg** progress report for the flowering season 2106/2017

ANSELL MATCHER

The season began with great expectations of a good flower year due to the rains we have had in the area. Our first field trip was to the Colford Nature Reserve where we hoped to find *Sisyranthus fanniniae* (VU). We were not successful in finding our target species, but we did find a number of other asclepiads such as *Asclepias cucullata* (LC), *A.gibba* (LC) and *A.stellifera* (LC), as well as *Schizoglossum hamatum* (LC). The day was not wasted!

Nymphoides thunbergiana.

On a hiking trip* Helichrysum drakensbergense *and* Senecio austromontanus*, both listed as Rare, were found in the Garden Castle area.

On a hiking trip *Helichrysum drakensbergense* and *Senecio austromontanus*, both listed as Rare, were found in the Garden Castle area. As both these can be confused with others, we will have to wait until we get the specimens down to the herbarium for identification.

Our next field trip was to target the Rare *Senecio mauricei*, which was said to grow in the gully behind the ranger's house at Garden Castle. With such a specific location we were sure we would find what

The tiny *Eucomis schijffii*.

we were looking for; sadly to no avail. This will now have to wait for the next flower season.

In a tarn at 2 000 m in the Cobham Nature Reserve, a pretty yellow water lily was found. It looked much like *Nymphoides thunbergiana* (LC), but was growing at a much higher altitude than expected. Could it possibly be *Nymphoides forbesiana*, which is classified as Data Deficient on the Red List? There was much excitement with emails and photos flying to experts and back. Carin van Ginkel, *Nymphoides* expert based in Pretoria, required a plant specimen to confirm the identification. Another 15 km hike was made, sample collected and kept alive in water until it could be delivered to Carin in Pretoria, in the middle of the festive season. To end the saga it was identified as the common *Nymphoides thunbergiana*. A bit of a let-down, but fun while it lasted.

The annual Wildlife and Environment Society of South Africa (WESSA) flower walk down Sani Pass took place at the end of January. The flowers were not spectacular, but some pretty specimens such as *Eucomis schijffii* (LC) and *Disperis wealei* (LC) were seen.

The main orchid flowering season is upon us, and they are going to be our next targets with a trip planned to the Bushman's Nek area.

Disperis wealei

CREW Newbies, **Wakkerstroom** CREW

JENNY MAXTED (with input from Penny Burchmore)

The one thing we all have in common is that we love flowers. This of course does not mean that we know what any are called, as we have only been photographing them, until we joined CREW – and now it's a big learning curve we enjoy! Having had our first introduction to the CREW programme with a Wild Flower Identification course presented by Andrew Hankey, and a load of info from Suvarna Parbhoo and her team, all squeezed into a day, we were ready to start our first outing in September 2016 to look for *Khadia alticola* (Rare) on a private farm in the area.

The rains had not started and the grassland was very dry and brown. We were driven up to almost the highest point on the farm, about 2 000 m, where we were shown *Sebaea thomasii* (LC), which were growing right on the edge of a mountain stream – and not many have had this privilege! A little further down the same stream we found *Cyrtanthus breviflorus* (LC). Neither were target species, but nevertheless, plants we had not seen before. Beside a dry stream bed and growing in the semi shade were some pretty red *Erica oatesii* var. *oatesii* (LC) in flower. Some of the group then walked further up the mountain towards the highest point, looking in rocky crevices and around rocky ledges for the target species. Eventually four plants of our target species were found, with two in flower. We then moved down the stream past a waterfall, but there were very few flowers seen, possibly due to the drought.

Another high-altitude outing was to Wonderhoogte at an altitude of over 2 200 m , where we found numerous *Khadia alticola* growing in scattered patches all over the rocky summit. Other species seen were *Euphorbia clavarioides* (LC), *Ornithogalum paludosum* (LC) and *Gazania krebsiana* (LC).

We were very excited that Barbara Turpin asked for us to be invited by the Plant Specialist Group (PSG). The great thing is that you get to go where most others never go. On the first trip, to Tafelkop,

The PSG group at Klingenberg farm (photo by Penny Burchmore).

Khadia alticola (photo by Jenny Maxted).

Durban CREW atop Ossewakop (photo by Jenny Maxted).

The one thing we all have in common is that we love flowers. This of course does not mean that we know what any are called, as we have only been photographing them, until we joined CREW – and now it's a big learning curve we enjoy!

they found a tiny, rare, high altitude habitat specialist orchid, *Holothrix majubensis* (Rare), known only from this location, but not threatened. On the second fieldtrip to Klingenberg's farm in Luneberg, they found *Disa stricta* (LC), which have not been seen here before. These two fieldtrips taught us so much and being total novices we enjoy all the input we can get. A day of the PSGers' enthusiasm and seeing how it all works in real life was helpful and inspiring. Even when it was rainy or thundering, and lightning was striking, you could not get them off the mountain! It would be truly awesome to have at least one person that is so knowledgeable on every fieldtrip, or at least once a month.

Tony Rebelo also taught us how to use iSpot, and this was not an easy task for him, as we have all shades and degrees of computer knowledge (or the lack thereof), and sometimes we promptly forget what we have been taught. It was very fortunate that Tony could spend some extra time and do a few short trips with us in and around the village, photographing and identifying plants. We often use iSpot, but not as much as Tony would like as signal, data and speed

are not any of the Wakkerstroom specialities. Nevertheless, we have started a Wakkerstroom Project, and are collecting some valuable info on our fauna and flora that we hope to get IDs for.

We met the Grieves from Pondoland CREW at last year's CREW Summer-Rainfall Workshop and they offered to stop over and do a daytrip in Wakkerstroom when they next passed through. Sadly I was away when they came, but they were an absolute mine of information, and we do hope that they get another opportunity to return soon.

We also had a delightful surprise quick visit from the Durban CREW, on their way to the Orchid Society Conference in Dullstroom. We took them up onto Ossewakop, the mountain in our village, and it was possibly the first time that it was a perfect day to be up there. While we shared a picnic, we managed to identify some plants. It saves so much time when there is someone along who recognises and can identify the plants, when it can take me a week to research it! I do agree that it is a good way to learn, but time is often an issue.

Similarly, Kaveesha Naicker and Hlengiwe Mtshalialso joined us on a fieldtrip to Goudhoek farm, in dire weather, and the girls had to use their 4×4 skills! It is difficult to explain, but it's like flower camaraderie! They are so happy to share their knowledge, help to look a plant up even after they have fallen in the muddy marsh, or to help sort out our challenges – some of which were pretty simple if you know the answers!

For instance, although shown how to capture the data at the planning meeting, we didn't have much practice in the field with the CREW team. Also, we were not told that we did not have to send in photos for every species we encountered, but how then do they know that I have made a correct identification? Once the data forms are sent in, no feedback is given as to whether the identifications are correct or not. It would be wonderful to have a list of 'specials' in our area, but we do understand that a list has not been done for many years, and may take some time to compile.

I do think it is amazing how much we have already learnt in a short period of time, and how many specials we have already found. We look forward to every fieldtrip, and more so when we have a specialist or two with us – no pressure Suvarna! A course on soil types would be beneficial to the group…hint ... hint.

Now a day of birding takes twice as long, as we have to stop and take photos of the flowers we see too, and always hoping to find a plant that has been 'lost' or one that may need protection! My personal aim is to compile a fold-out leaflet of the common flowers and their names that tourists may encounter in Wakkerstroom.

News from the **Gauteng** CREW

MICHELLE PRETORIUS

After a successful 2015 field season following the initiation of the group, the Gauteng CREW commenced field work in April 2016 by visiting the Vereeniging area to monitor *Delosperma macellum* (EN), a species known from only two locations and endemic to Gauteng. About 50 plants were recorded and we were pleased to report that this small population is healthy and thriving.

The group continued searching for various other interesting and scarce *Delosperma* species during the months of April and May when we visited the Linmeyer area, in the south of Johannesburg, and the eastern Magaliesberg near Wonderboom in the north of Pretoria. At these locations we respectively investigated the occurrence of *Delosperma purpureum* (EN), as well as *D. leendertziae* (NT) and *D. gautengense* (VU). At the Linmeyer location, which borders a residential area, alien invasive and garden ornamental plant species are sadly threatening to invade the quartzitic rock habitat in which *D. purpureum* occurs. A thorough search of the area however delivered a count of just over 500 individuals.

During the outing to the Wonderboom area, we were pleased to be joined by Friends of Magaliesberg, a volunteer group that puts in a lot of time and effort in managing and conserving the natural heritage of the mountain range, also maintaining the various hiking and mountain biking trails in the portion surveyed, making it easily accessible to plant enthusiasts and other visitors. Interestingly, according to Vin-

cent Carruthers, author of a comprehensive book on the Magaliesberg, the mountain is considered to be a hundred times older than Mount Everest and half the age of the Earth. The extent of the range has recently been declared a UNESCO Biosphere Reserve and is therefore well worth a visit.

The Endangered *Delosperma purpureum* growing in the south of Johannesburg.

Our July outing focused on *Khadia beswickii* (VU), another Gauteng endemic, known only from about ten locations, and the group was happy to report that the number of plants encountered far exceeded our expectations. We hoped to come across *Lithops* sp. as well, as the shallow gravelly soils at the investigation site provides ideal habitat for this species, but none were found.

After the extensive assessment of succulents done in the first half of the year, we decided to turn our attention to orchids as spring approached. According to Wild Orchids South Africa (WOSA), 57 orchid species have been recorded to date within the Gauteng Province, with several of these considered likely to be locally or entirely extinct, and of which eight species are currently listed as Threatened due to rapid urbanisation and resulting habitat loss in the province. One such species is the cryptic *Holothrix randii* (NT), known from only two locations in Johannesburg, which the group successfully monitored during September.

The group visited the scenic Jack Scott Private Nature Reserve near Lanseria, the natural beauty of which was a highlight on the 2016 calendar. The reserve boasts clear springs and rock pools, a waterfall, ar-

Members of the group during the June outing to the eastern Magaliesberg.

chaeological sites, a variety of wildlife and beautiful mountainous scenery. We spent much of the day there, had a picnic lunch in the shade and recorded another healthy population of *Delosperma leendertziae* against the steep cliffs, as well as *Xerophyta adendorfii*, a Vulnerable localised species with a limited distribution, and *Bowiea volubilis* subsp. *volubilis* (VU), which is threatened by over exploitation for medicinal use. We further had the opportunity to take a close look at *Cheilanthes deltiodea* subsp. *silicicola* (not assessed), a rare fern species occurring on rocky chert outcrops in the Gauteng and Limpopo provinces.

Gauteng CREW outing to the south of Johannesburg

Gauteng CREW's final outing for 2016 took place in December when the group was joined by members from the Botanical Society's Pretoria branch. We suspected that *Ceropegia decidua* subsp. *pretoriensis* (VU) may occur within our target area, located within the Bronberg, and it took several hours and a lot of walking to eventually discover a few individuals of this small species well hidden beneath the bushveld shrubs.

Gauteng CREW provides the volunteers, currently standing at just over 50 members, with the opportunity to see and explore the wild places of our province, which are often overlooked within our typical built-up landscapes. In 2017 we plan to venture slightly further afield to the far northern reaches of Gauteng and also extend our surveys into the North West Province, where no CREW group currently operates, in the hopes of discovering and recording some more interesting plant species with high conservation value.

Trekking through **Mpumalanga** with the Plant Specialist Group

MERVYN LOTTER, BARBARA TURPIN, JOHN BURROWS

The Plant Specialist Group's year is based around botanical excursions and biannual weekends of plant-related talks. On our outings, we explore areas of botanical interest to record flora for landowners, as well as to search for threatened and data-deficient species. In May and October each year, Buffelskloof Nature Reserve hosts a botanical weekend where, among other activities, different members present hour-long talks on a botanical subject that they have chosen and researched.

While only three PSG expeditions have taken place since March 2016, these trips proved to be rather interesting with some botanical surprises.

In April, the group were very privileged to be invited to survey the plants on farm Rietvaly near Lydenburg, an area consisting of forest and montane grasslands.

The trip planned for March was led by an enthusiastic group of PSG members, who gathered at Loskop Dam Nature Reserve for a pleasant weekend of botanising. The dry conditions did not hinder the group's eagerness to find botanical treasures within the reserve and while none of the species observed

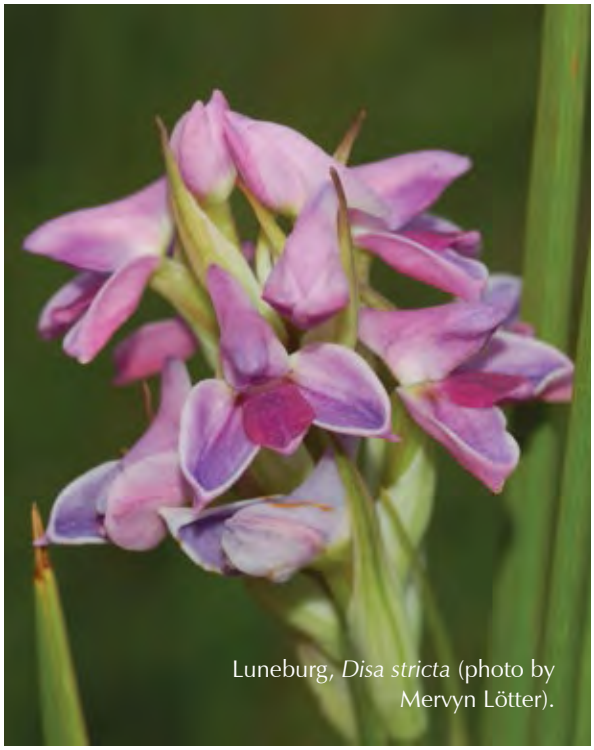
Loskop, *Barleria pretoriensis* (photo by John Burrows).

Rietvaly, *Streptocarpus* sp. nov. (photo by Mervyn Lötter).

are in the threatened categories, some are not often found. Plants that were of particular interest (all LC) included *Barleria pretoriensis* and *Vachellia montana* (syn. *Acacia theronii*), which are known to have limited distribution, as well as the mainly central African *Lannea gossweileri*, with Loskop being its most southerly distribution.

In April, the group were very privileged to be invited to survey the plants on farm Rietvaly near Lydenburg, an area consisting of forest and montane grasslands. On this expedition, the existing tree list was augmented and an inventory of 169 species of the shrubs and herbaceous flora was taken. During the exploration of the forest a new *Streptocarpus* species came to light, which was quite exciting, and on a quartzite ledge in the grassland, we found the tiny succulent, *Anacampseros subnuda* subsp. *subnuda* (LC).

It has long been a dream for the PSG to survey the remote and unexplored grasslands on the southern ridge of the Kwamandhlangampisi crater near Luneburg. Our dream was realised this past December when we joined the recently formed Wakkerstroom CREW group, along with local farmer and plant enthusiast, Horst Filter, who led us in a convoy of 4-wheel-drive vehicles, slowly climbing through the mist to altitudes around 2 100 m. The botany was really exciting, the company entertaining and the outing was thoroughly enjoyed by all. Several rare,



Luneburg, *Disa stricta* (photo by Mervyn Lötter).

unusual or range-restricted species were observed. Perhaps the most exciting was a new record for the Drakensburg endemic *Disa stricta* (LC) in Mpumalanga. Some of the highlights included a strange and attractive form of *Erica holtii* (LC), the tiny, summit-loving *Aspidoglossum demissum* (VU), and *Aspidonepsis reenensis* (LC), a new species for all of us. The shrub *Bowkeria citrina* (Rare) was frequently seen along the road, full of bright yellow flowers. Other plants of interest were *Calpurnia reflexa* (Rare), *Merwilla plumbea* (NT), *Streptocarpus pusillus* (LC), *Lotononis amajubica* (Rare), *Searsia dracomontana* (NT), *Searsia montana* (LC) and *Protea subvestita* (LC). Another miniscule plant that we found growing in abundance in the wetland was a *Cyphia*, which seems to resemble the Zimbabwe endemic *Cyphia alba* (LC).

The PSG's next outing will be to Mount Anderson near Lydenburg, a very botanically rich area which produced a new *Callilepis* a couple of years ago. There is a lot of interest in this excursion as we hope to locate new populations of the recently described *Disa staerkeriana*, which is currently listed as Critically Endangered.

CREW: **LIMPOPO** PROVINCE

BRONWYN EGAN

The Limpopo CREW group enjoyed four fieldtrips between August 2016 and February 2017. Despite the spectre of drought leering over our shoulders, we made some interesting finds and enjoyed learning new things about each environment we visited.

Kurisa Moya, a beautiful, private eco-lodge in the Koedoe River Valley, boasts grassland, forest and wetland communities. The neighbouring farm, Graceland, overlooks the valley and is managed as an eco-friendly establishment. These properties are located inside a Critical Biodiversity Area 1 (CBA1) conservation area.

Seventeen Limpopo CREW members visited the area after a request to comment on a granite mining application. Timing was delayed for the collection of specimens as we were at the peak of the dry season (August).

CREW specials, *Elaeodendron transvaalensis* (NT) and *Rapanea melanophloeos* (Declining) were found in the bushveld of Graceland. Due to extensive drought, very few forbs could be identified and it is probable that we missed a few specials. A full species list was sent to the landowners and recommendations against mining in the area were made. Ultimately the mining application was rejected by the provincial authorities and this site remains undisturbed.

By November, the effects of the drought were immense. Still, nine Limpopo CREW members revisited the remote Leolo Mountains in Sekhukhune, to follow-up from the 2014 visit. We found something similar to *Dioscorea sylvatica* (VU) growing amongst

Seventeen Limpopo CREW members visited the area after a request to comment on a granite mining application.

Seemannaralia gerrardi from Leolo Mountain

Koppies on the Leolo Mountain plateau

rocks on our Leolo visit, and because the leaves were shiny and deeply lobed, we await Kew's expert advice. Over-exploitation for the informal muthi trade has resulted in this species becoming Vulnerable. We came across an exciting find, a small Xyris-type plant that turned out to be the recently described species, *Prototulbaghia siebertii* (EN), which is restricted to norite soils. The species is Endangered and threatened by mining, overgrazing and road construction.

Tadhg Egan, Nyiko Mutileni and Aine Egan holding a flap-necked chamaeleon

Mid-December saw the much awaited downpour of rain, which we took advantage of to explore Potlake Nature Reserve, a little known Limpopo Department of Economic Development, Environment & Tourism (LEDET)–owned reserve in Sekhukhune. CREW joined Helena du Plessis in mapping the occurrence of plants on the norite koppies. Two individuals of *Balanites maughamii* (Declining) were observed with many small forbs awaiting identification.

Currently, three research projects are feeding data into the CREW Limpopo work. Sylvie Köhne is undertaking an M.Sc. project on the Endangered *Aloe lettyae*. Gift Mutileni is conducting research projects in Haenertsburg and Giyane, which will generate species checklist information and detailed information about CREW target species. All data obtained will be incorporated into SANBI's databases.

The 2016/2017 flowering season is nearing an end, but we hope to be active well into June after the late and long rains that have fallen over much of our desperately dry Limpopo Province.

Cape Citizen Science – Instructions for sampling a dying plant

JOEY HULBERT

Cape Citizen Science is a project to involve conservationists in research about plant disease in the Cape Floristic Region. The project focuses on a group of microscopic organisms called *Phytophthora*, which is responsible for root rot of many threatened Proteaceae plants. The researchers hypothesise there are many species of *Phytophthora* present in the region, many of which have never been discovered and a few that have been recently introduced.

Cape Citizen Science asks CREW members to participate by reporting or sampling dying plants, especially in areas that are heavily infested with many plants dying. Your help with this project could lead to new discoveries and provide a baseline of information beneficial to the conservation of many fynbos species. Instructions for sampling dying plants are below. Sampling the soil and roots directly below a dying plant is the easiest way to investigate whether *Phytophthora* is involved. To participate in the project, follow the following steps when you find a dying or dead plant:

1. **Find a dying plant**

   a. Samples can be collected from your backyard or anywhere you have permission.

   b. Target plants that are in the process of dying, or healthy plants that are next to a dead plant.

2. **Record GPS coordinates**

   a. Drop a pin in google maps and save the coordinates.

   b. Mark the spot with a GPS.

   c. Or mark the spot on a map and find the coordinates with google maps later.

3. Collect soil and roots

a. Soil and roots from nearby plants can be mixed into one sample.

b. Collect about 500 g (±1 litre) of soil and roots from under and around the dying plant.

c. Dig a few centimetres below the surface (avoid leaves and debris on surface).

4. Submit the sample

a. Browse to http://citsci.co.za/submit for additional instructions or arrange pickup with CapeCitSci@gmail.com.

b. Avoid letting the sample get too hot or too cold. Keep at room temperature with the lid/zip open. Keeping the lid/zip closed allows condensation to build up and the sample will get mouldy.

   i. The sample will stay fresh for up to two weeks if it is kept in this manner.

c. Submit the sample as soon as possible.

My CREW Journey

MIKHAILA GORDON & THAAKIRA SAMOEDIN

Mikhaila Gordon

On the 1st of April 2016, I joined the South African National Biodiversity Institute (SANBI) as an intern. I was introduced to my mentor, Tony Rebelo, who instantly informed me that I will be going on a week-long field trip to the Karoo, the very next week. I was then introduced to Ismail Ebrahim, Gigi Laidler and Anri Marais, staff of the Custodians of Rare and Endangered Wildflowers (CREW) as well as Nolufefe Mzondi (Tony Rebelo's other intern).

The trip to the Karoo was an experience for the books. I was totally unaware of what was to be done and what was expected of me. We travelled to the Eastern Cape and began plant surveys in different areas. Sadly my knowledge on plant vegetation, back then, was very poor, but luckily with help from Anri and Ismail, I began to become familiar with a number of different plant species.

The trip to the Karoo was an experience for the books. I was totally unaware of what was to be done and what was expected of me.

The week's trip ended in what is known as a Bio-Blitz; I had no clue what it was all about. As time had progressed, I learnt that the Karoo was under threat of having fracking activities, which would ultimately disrupt and destroy most of the ecosystem and water systems in the area. Initially, I saw the Karoo as a very hot, dry and very unexciting area when it came to vegetation. However, as each day progressed, I began to see some fascinating plants and insects, hiding away under the over grown dry shrubs. On the last day a BioBlitz was held, and I had met all different kinds of people, from expert scientists, high-level government officials, to members of the SANBI's Board. This was the first time I ever felt

a part of something big and something real that had a huge impact, not only in protecting the fauna and flora in the name of conservation, but also being involved in such a massive governmental decision.

During my time spent as an intern with SANBI, I've learnt how to collect, label and process specimens with CREW. I've been involved in winter school programmes in Nieuwoudtville, attended flower shows as well as CREW's strategic planning workshops. I've also assisted in an alien clearing workshop at Tokai with Tony Rebelo and discovered a silver tree seedling that hasn't been seen in that area for about 100 years. In addition, I've worked on a number of iSpot tasks that involved data clearing, taxonomy-based work, and I am currently working on an *Orthopteran Bayesian* key.

My time spent at SANBI has been extremely educational and nothing short of exciting! Not only was I given the opportunity to attend workshops to learn and develop new skills, but also to build great relationships with amazing people and expand my professional network. I feel very honoured and privileged to have worked closely with experts such as Ismail Ebrahim and Tony Rebelo.

Mikhaila with her newly discovered silvertree seedling.

Thaakirah in the Kokerboom forest.

Thaakirah Samoedien

I have always loved conservation and have always been environmentally conscious, and when I came across the Botanical Society of South Africa (BotSoc), I decided to reach out and ask if I could do voluntary work. I met with the Executive Director, Zaitoon Rabaney, and she introduced me to CREW where I started volunteering with Ismail Ebrahim who mentored me.

In my first few weeks I put on my hiking boots, and joined the CREW team and some of its volunteers on various field trips. We walked for hours to find special plants, which was an extraordinary experience. I also joined CREW on a trip to Nieuwoudtville, for the summer school programme with a group of children to teach them about the environment, specifically related to plants. This was a good experience for me because it was my first time in the Northern Cape and I was exposed to a whole new side of South Africa, and found out how plants and conservation works within that part of the country.

When I started with CREW I had minimal knowledge about plants, and within three months of working

with CREW, I now know many plant families, genera and species names. I have also learned a great deal about the different regions within South Africa where CREW volunteers are based and the importance of the work they do. I have a whole new outlook on conservation and plant studies, which has inspired me to continue working with CREW.

CREW has not only taught me about wildflowers, but a huge amount about me as well. I have been pushed to step out of my comfort zone, which has helped me a great deal when it comes to handling certain situations.

I recently started doing all BotSoc's social media; the Facebook page, Website, Instagram and Twitter, as well as writing creative blogs for BotSoc. The social media has connected me to many different followers and members that all love plants and enjoy nature and conservation. It has been a fulfilling task because it has pushed me to spread BotSoc's mission and objectives, which speak to people, passion and partnerships. Since I have taken over the social media, the numbers of followers that now interact with the BotSoc pages have increased exponentially.

My aim is to get the youth more involved with BotSoc and CREW and therefore get them interested in becoming members and spreading the mission of conservation, passion, people and partnerships, as well as becoming Custodians of Wildflowers by simply becoming aware of its importance and how it is relevant on a much larger scale. Furthermore I am grateful for the opportunities that I have received from BotSoc and CREW and I wish to continue learning from this experience.

CREW **Eastern Cape** Node: Research Assistant

ADRIAAN GROBLER

I was born in Port Elizabeth, and while I spent some of my formative years elsewhere, I returned to the Windy City just over a decade ago to further my education. I had always been interested in science, but even more so in nature, so a B.Sc. in Environmental Science with majors in Botany and Environmental Geography seemed like a good starting point. By the end of my bachelor's degree I had become fascinated by plants and their interactions with the environment, and wanted to know more about how we could go about safeguarding this intricate web. I completed a B.Sc. Honours in Botany with a focus on Conservation Biology, followed by an M.Sc. in Botany. As part of my Master's thesis, I developed a systematic conservation plan for one of Nelson Mandela Bay Municipality's conservation priority sites, the Baakens Valley. This plan utilised fine scale distribution data of threatened plant species, and aimed to highlight the importance of this type of data in local scale conservation plans. I am currently writing my Doctoral dissertation, which explores the conservation value of road verges in transformed landscapes of the eastern Fynbos Biome. Over the years I have also gained some practical experience working in the Ria Olivier Herbarium and as a freelance botanical consultant.

I am no stranger to the CREW programme as I have been a volunteer with the Port Elizabeth CREW group for eight years, and I am happy to be involved with the Eastern Cape node of the programme on a more formal basis. My role as research assistant to the CREW Eastern Cape node with Vathiswa Zikishe is to track some of the special plant species in our area that have eluded us over the years. We also plan to set up a monitoring project in one of our local nature reserves, which will be linked to an iSpot project. Thank you to SANBI and its CREW programme for this exciting opportunity to explore and document the botanical treasure that is the Eastern Cape!

Contact details
for CREW group champions

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