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Winter Newsletter 2016

After experiencing a record-breaking hot and dry summer, Pretoria is currently going through another mild winter. A few rain showers during this traditionally dry period of the year have brought some relief to the dry landscape.

South Africa is a water scarce country, yet driving around Pretoria and the neighbourhoods bordering the Faerie Glen Nature Reserve (FGNR), the lush green exotic gardens seem out of touch with, not only the natural landscape, but also the reality of the country's water crisis.

The average annual rainfall for Pretoria is 686 mm and the natural environment is specifically adapted to this amount of rainfall. The FGNR and the Bronberg Ridge is classified as the Bronberg Mountain Bushveld ecosystem. It is also a transitional zone and includes Andesite Mountain Bushveld, Marikana Thornveld and Rand Highveld Grassland vegetation types. The geology forms part of the Pretoria Group of the Transvaal Sequence, estimated to be more than 2 billion years old. The Daspoort Formation which consists of quartzite, gives rise to the Bronberg Ridge.

In 2011, under the National Environmental Management: Biodiversity Act (NEMBA; Act 10 of 2004), the Bronberg Mountain Bushveld ecosystem was declared Critically Endangered (CR) and in need of protection by the Department of Environmental Affairs. Nineteen threatened plant and animal species occur in this vulnerable ecosystem, with only 1% of it formally protected within the FGNR. However, most sensitive areas fall outside of the FGNR, which is of great concern, as these areas are owned by private landowners, many of whom are unaware of the threatened status of the Bronberg.

Winter Nuusbrieff 2016

The Gauteng Department of Agriculture and Rural Development (GDARD), has listed the Bronberg Ridge as a class 2 ridge because it is no longer pristine, mainly due to housing development and encroaching alien vegetation, the biggest threat to the future of this ancient ridge and its inhabitants.

One of these inhabitants is Juliana's golden mole (*Neamblysomus julianae*), a primordial mammal species more closely related to the African elephant, rock hyrax (*klipdassie*) and aardvark than any mole. This tiny and elusive, subterranean insectivore occurs in only three areas of the country. The Bronberg subpopulation is believed to be genetically unique and is classified as CR according to the IUCN Red List of Threatened Species, which was reviewed last year by Dr S. Maree, a golden mole specialist from the University of Pretoria. The Bronberg subpopulation is confined to the sandy soil of the Bronberg, as the quartzite and sandstone weathers down to this medium.



Juliana's golden mole (*Neamblysomus julianae*),
photograph copyright of C.R. Jackson.



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South Africa and Adopt
Moreletaspruit Forum



Juliana's golden mole is highly specialised for the loose sandy pockets of the Bronberg, with a restricted range of about 10km². Its main threats include habitat loss and degradation and fragmentation of habitat due to urbanisation. Its entire distribution range has been segmented by two major roads, housing development as well as a quartzite mine obstructing an important east-west dispersal corridor. This is likely to lead to inbreeding, reduced genetic variability and risk of possible extinction in the long term.

It is concerning that this threatened animal is not protected under the Threatened or Protected Species Regulations of NEMBA, because the species is not directly utilised by humans. Juliana's golden mole is so sensitive to stress, that it is known to succumb when handled. Because it is not a strong burrower, it cannot cross roads and move between wall boundaries when 'blocked' in or out. It is up to all of us to preserve the habitat of this creature by not allowing further destruction of the Bronberg, through lobbying for the protection of this unique ecosystem and opposing urban development. Visit the Facebook page of the Friends of the Bronberg for updates: <https://www.facebook.com/Friends-of-The-Bronberg-1733785726844607/>

Die Vriende van die Faerie Glen Natuurreservaat (VFGNR) rus beslis nie op hul louere as dit kom by die uitroei van indringerplante nie. So plaas ons die Bronberg op die ekologiese herstelpad. Drie indringersessies was tussen Mei en Junie gehou en ons bedank die lede wat ons bygestaan het met hierdie belangrike taak.



Lede van VFGNR, Lighnton Venter en Petrus Beukes gebruik die Vriende se 'tree-popper' om die wortel van die kwaad by te kom.

Die fokus was op *Lantana camara*, 'n kategorie 1b indringer van Suid-Amerika. Hierdie struik wat eens populêr was onder meer vir trouerikers, het tot so 'n mate oor die land versprei (asook regoor die wêreld), dat dit nou ekonomiese impakte het op landbou- en bewaringsgebiede.



Hierdie entoesiastiese groep lede het uitgehelp tydens die indringersessie van 13 Julie.

Die VFGNR het 'n banier laat maak om die sigbaarheid van die Vriende te verbeter tydens ons indringersessies. Baie besoekers aan die reservaat is nie bewus van die VFGNR en die goeie werk wat ons doen nie.



Die VFGNR se banier word tydens indringersessies ten toon gestel vir bewusmaking.

Behalwe vir die lede wat hulle tyd opoffer om te help met indringers, is Simon die afgelope twee maande druk besig met die uitroei van luisboom (*Solanum Mauritianum*) en katteklouranker (*Dolichandra unguis-cati*), beide kategorie 1 indringers. Simon word gedeeltelik geborg deur Tony en Beverley Moore en hy werk drie dae van die week in FGNR. Vincent en Edwin van de Wiel is ook twee oggende van die week te sien in die reservaat waar hulle hul weeklikse oefening inkry met die Vriende se 'tree-poppers'.



Edwin (left) and Vincent (right) van de Wiel and Simon (centre), busy removing a *Crotalaria agatiflora* shrub, also known as canarybird bush, which is a category 1b invader.



Members of the Adopt Moreletaspruit Forum, Carol Martin (left) is busy with sampling, while Judy Scott-Goldman (right), is using the velocity plank to measure the depth and flow of the water.

On Mandela Day (18 July), the Water Research Commission (WRC), in collaboration with the Adopt Moreletaspruit Forum, FFGNR, City of Tshwane, Department of Water and Sanitation and Department of Environmental Affairs, hosted a river monitoring and clean-up event at FGNR. About 80 people attended the event and they were split into two groups to collect rubbish and to conduct MiniSASS (Stream Assessment Scoring System) on two different sections of the Moreletaspruit, within the FGNR. MiniSASS is a simple bio-monitoring technique that uses the presence of macro-invertebrates as indicators of the health of a river. Certain macro-invertebrates are more sensitive to pollution than others, thereby acting as indicators of poor river health if they are absent.



Bonani Madikizela, research manager from the WRC (left), Ntswaki Dithale from the WRC (middle) and Vincent van de Wiel from the FFGNR (right) identify the different invertebrates from the sample taken from the Moreletaspruit.

Unfortunately the score was once again around 4.5, much the same score as the MiniSASS carried out in March this year, indicating a very poor condition. We must remember that other life forms depend on clean water as much as we do to survive. It is up to us as citizens to make sure litter and sewage do not go down the storm water gutters and channels, as they are all connected to different sections of our local rivers.

Being a member of the FFGNR is not all hard work, with various recreational activities also on the menu. On Saturday 23 July Prof. Adam Bumby from the University of Pretoria once again offered his time and knowledge by conducting a geology walk with the FFGNR. The geology of the FGNR and the Bronberg is fascinating because it is so ancient, some features dating back to 2.3 billion years ago. In fact, this region of South Africa was part of the original



Louise Kritzing, FFGNR (left) and Carol Martin, Adopt Moreletaspruit Forum (right), stand next to the litter that was collected along the Moreletaspruit on Mandela Day by all the volunteers.



A crab caught in one of the MiniSASS samples.
Photograph by Diana van de Wiel.

African continent, when the continental crust making up the continent was very small and when there was very little continental crust existing on earth. Up to 100million years ago, all of today's continents were still part of one single continent known as Gondwana, before it started to split up and move around.

Approximately 2 billion years ago, there was a massive magmatic event that forced its way up and ponded into a magma chamber of about 400 × 200 km. As it cooled, it sank in the centre to become bowl-shaped. This tilt along the edges is evident in the way the Bronberg is sloped towards the north. This 10-20 degree tilt has lead to different geological layers being exposed. Over time the different layers have weathered down, each at a different pace, the soft shale for instance weathering much faster than the very hard quartzite. This phenomenon has given Pretoria its character of ridges and valleys.



Professor Adam Bumby (middle) with the group of people attending the walk, on top of the Struben Shale Formation on the southern side of the Bronberg Ridge.

UPCOMING EVENTS:

Invasive plant hacks:

- When:**
- Saturday 20 August at 08:30
 - Saturday 10 September at 08:00
 - Sunday 9 October at 08:00

Where: Meet on the lawn in front of the entrance building.

Bring along: Lopper/pruning shears, hand-saw, gloves, hat, working shoes, water.

*Please e-mail or sms if you plan on helping.

Arbour Day with the Dendrological Society:

When: Saturday 3 September at 09:00

Where: Meet on the lawn in front of the entrance building

Bring along: Hat, comfortable shoes, water.

Cost: Free

Guided Hike along the Moreletaspruit:

The 12km hike starts at the Moreletakloof Nature Reserve and ends in Murrayfield.

When: Saturday 17 September, 06:30 for 07:00

NOTE: more details to follow. Only people that have RSVP'd and filled in the necessary forms may participate.

Annual General Meeting:

When: October

NOTE: more details to follow

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