

THE BARKING GECKO

August 2021

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ORIGIN OF FAIRY CIRCLES

GREETINGS FROM THE CEO

WORD FROM THE WARDEN

NEWS FROM THE SOUTH

THE ARID EDEN PROJECT

NEWS @ NaDEET

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*“Heaven is under our feet
as well as over our heads.”*
- Henry David Thoreau,







Chantell Verwey

EDITOR'S INPUT

As this year has continued, as we have forged ahead as best we can with what we all have currently, I am as ever reminded of how fast time has moved. What happened to January – June 2021? How have we got to August and how are we still dealing with Covid-19 and the never ending consequences.

We have been so fortunate to be able to avoid towns, crowds and the fear of the physical disease to stay safe. Living as remotely as we have done for so long, has allowed us to be used to self-isolation. Fortunately the NamibRand community is a strong one, dedicated to the passionate pursuit of our vacations, as well as committed to the cause. Many members of the team got vaccinated in an effort to keep each other and themselves safe in May

and June. This was a huge effort by the Hardap Regional government and one we supported whole heartedly. Along with getting vaccinated we have all taken huge precautions to ensure our safety.

While staying safe in the desert we have watched the desert change yet again, from the lush green it was in March 2021, to the slightly drier, yellow and gold grass land we now it to be now. Wildlife is still moving freely and there are many spots still covered in grass. The rains at the beginning of the year really gave the desert an abundance!

We hope you enjoy this edition of the Barking Gecko, a little late due to unforeseen circumstances, for which we apologise.

Lee Tindall



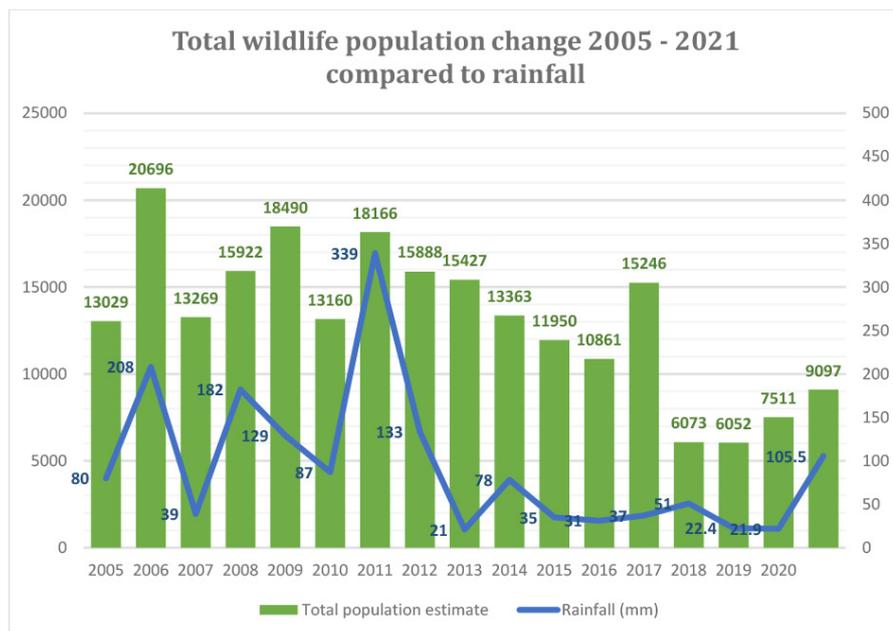
A WORD FROM THE WARDEN

The 17th annual game count was conducted on the Reserve at the end of May. It should come as no surprise that following the incredible rains that were experienced in January and the subsequent growth of a large amount of grass that the numbers of animals seen in 2021 were significantly higher than the

previous year. Oryx numbers increased by close to 200% to the current estimate of 6323!

It would appear that the springbok population also took advantage of the improved conditions, and while the numbers seen during the game count were not that high there are quite a high number of

lambs accompanying the groups scattered across the Reserve, and given the amount of grass to hide in there is a good chance of high survival rates moving forward. Quite a number of oryx cows are also showing definite signs of being pregnant, but given their longer gestation period we will probably only start to see the calves in November.



Unfortunately, while the drought has broken and there is in all likelihood enough grazing on the Reserve to last another year or two, not all populations made it through unscathed. The small groups of red hartebeest that occurred on the Reserve in the past have all but disappeared and there are now only very occasional sightings of two individuals in the Keerweder area. It is still unclear what the fate of the other hartebeest was, as there are very few carcasses around that would indicate they all died. Indeed, there are now reports of sightings of red hartebeest on the farm Nubib.



AGM at Kwessi

GREETINGS FROM THE CEO

Warm greetings from a chilly Namibia. It's hard to fathom that more than half the year is over.

Our NamibRand Annual General Meeting (AGM) took place on the 21st of May and this was, as usual, well attended by members of the Association and by interested stakeholders. The AGM was held at the new Kwessi Dunes Lodge and many members of the NamibRand community were able to have their first look at this stunning new tourism establishment. Kwessi Dunes Lodge opened its doors on the 1st of March last year, only to have to shut its doors two weeks later as the first COVID-19 mitigation measures forced a national-wide lockdown. Since the restrictions have been lifted, the lodge has been operating with success. Some international guests and a special for locals ensured that the establishment was running at a good occupancy and the lodge is quickly establishing a reputation for a quality destination. For more information, see <https://naturalselection.travel/camps/kwessi-dunes/>

Our annual game count also took place on the 22nd of May and the results show that the good rains we received this year resulted in a boost to the local wildlife population. For more details, please refer to the "Message from the Warden" article later in this newsletter.

The impact of the COVID-19 pandemic is still being painfully felt in the tourism sector and as a result, the privately-protected conservation community. Income that we normally collect from visitors who pay a park fee has practically vanished as very few international tourists come to NamibRand and fees collected from the few locals that visit are limited. The Reserve has been relying on its financial reserves, accumulated over the last 15 years, to meet its obligations. However, these funds have now been exhausted and the Reserve has had to take up loans in order to keep things going. It is important to note that as an Association not for Gain, we purposefully do not focus on making profits, but rather try to take in enough income to cover

our costs and a contingency for unforeseen challenges. We did not accumulate a large nest egg to see us through these troubled financial times like now.

We do hope that tourism will slowly recover in the coming months as people are getting vaccinated and life hopefully and gradually returns to normal. No one could have predicted the devastating and long-term impact that COVID-19 would have on our finances. **We need your help** to overcome this crisis - please consider making a contribution, however big or small, towards the ongoing environmental conservation efforts of the NamibRand Nature Reserve. If you'd like to help please get in touch with me at info@namibrand.org

Thanking you in advance.

Yours in conservation,

Nils Odendaal
Chief Executive Officer

GREETINGS FROM THE SOUTH

Martin Verwey

Due to good rains on Dina, Aandstêr, Gorases, Springbokvlakte and Safier at the biggining of the year, the grass is looking much better on this side of the reserve. We could say that the grass is looking greener on this side of the fence but thanks to no fencing in the reserve, nobody could be jealous.

Herds of oryx, up to a 100 in a group, are moving around. In the South of the Reserve, we noticed a new born giraffe in the first quarter of the year. Springbuck numbers has also raised well. Zebras can be seen all over the South in large groups.

At the homestead, things are also changing for the good. We are watering our garden with a

pressure pump which is getting power from its own solar system. At the moment we have reduced our carbon footprint by running the generator only once a week for only four hours.

We also built a new greenhouse which started to produce vegetables. The goal is to be self-sustainable with vegetables on the long run here at Aandstêr, with no chemicals involved. Some of NaDEET's Staff helped to process tomatoes. It was a learning experience for them to know how they can preserve excess vegetables that they produce.

To keep Aandstêr the oasis in the Namib, we have changed the face of Aandstêr's house by planting more plants and putting



Helping NaDEET to preserve tomatoes if the garden produces more than you can use.

in a water feature at the front of the house. This is drawing a lot of birds which are now thriving around the house.

What a blessing to live in the Namib desert.



The front of Aandstêr's house



Birds enjoying the running water



New baby giraffe

ORIGIN OF FAIRY CIRCLES EUPHORBIA HYPOTHESIS DISPROVED



A vital *Euphorbia damarana* shrub growing at the edge of a much larger fairy circle in the Brandberg region. The size distribution of the dead shrubs did not match the sizes of the fairy circles in the study.

Researchers led by Göttingen University examine the long-term results of an experiment from more than 40 years ago

The fairy circles of the Namib are one of nature's greatest mysteries. Millions of these circular barren patches extend over vast areas along the margins of the desert in Namibia. In 1979, G.K. Theron published the first research about their origin. His hypothesis was that poisonous substances from *Euphorbia damarana* leaves induced fairy circles. As part of a new study, scientists from the University of Göttingen and the Gobabeb Namib Research Institute located the original euphorbia plants that were part of Theron's study. Four decades later, the researchers are now able to conclusively disprove Theron's original hypothesis. Their results were published in the journal *BMC Ecology and Evolution*.

In the late 1970s, South African botanist Theron noticed several dying and decomposing shrubs of euphorbia in the Giribes area of north-western Namibia. He therefore proposed that poisonous substances from the leaves of this plant could kill the grasses and induce fairy circles and his hypothesis was published in 1979. As part of the current study, scientists went back to this same area and managed to locate the original metal pins that marked the plants. In 2020, the research team documented these remote sites in detail for the first time, using ground-based photography as well as high-resolution drone imagery and historic satellite images.

The researchers show that none of the marked euphorbia locations developed into a fairy circle. Instead, long-lived grass tussocks were growing around all the

metal pins. This runs contrary to the hypothesis that poisons from euphorbia inhibited the growth of other plants because these grasses survived. Given that the euphorbia hypothesis proposes that only dead and decaying shrubs would induce a barren patch, the researchers also measured the sizes of the dying euphorbias and compared them to the sizes of fairy circles in the same study plots. As well as in Giribes, this second part of the study was also carried out at Brandberg. In both regions, the diameters of decaying euphorbias could not explain the sizes of the much smaller or the larger fairy circles. In a third part of the study, the spatial patterns of the fairy circles were directly compared to the patterns of euphorbias within the same areas to investigate a potential link between both distributions in the regions Giribes, Brandberg and Garub. However, the patterns of shrubs and circles did not match: in four out of five plots the patterns differed significantly, with the circles being regularly distributed while the euphorbias were predominantly clustered. Hence the process that creates the pattern of fairy circles is different from the process that creates the pattern of the euphorbias.

Dr Stephan Getzin, Department of Ecosystem Modelling at the University of Göttingen, summarizes, "When Theron published his original euphorbia hypothesis more than four decades ago, he was a pioneer in fairy-circle research: almost nothing was known about them at that time. Today, however, we see the long-term outcome of his

early experiment and – based on our detailed field observations – we have to reject the euphorbia hypothesis." Getzin explains, "Disproving hypotheses about the origin of fairy circles is an important step in solving their mystery because it helps advance our scientific understanding. It enables us to identify more probable mechanisms which explain these stunning formations as well as other fascinating biological phenomena."

This project was possible thanks to funding from the German Research Foundation (DFG).

*Original publication: Getzin, S., Nambwandja, A., Holch, S. & Wiegand, K. (2021) Revisiting Theron's hypothesis on the origin of fairy circles after four decades: Euphorbias are not the cause. *BMC Ecology and Evolution*, 21, 102. [DOI: 10.1186/s12862-021-01834-5](https://doi.org/10.1186/s12862-021-01834-5)*



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NEWS FROM NADEET

Written by: Viktoria Keding

We have more than enough to do; we just wish that we could be at our Centres with visitors!

NaDEET Centre

At NaDEET Centre we did have some visiting school classes at the beginning of the year when COVID-19 numbers were low. Here are a few snapshots from their visit:



Desert Yoga in the dunes



Catch and Release Trapping for Nocturnal Animals

Unfortunately, many groups that had planned to come earlier in the year did still cancel due to transportation and needing the time to catch up on previously missed school time. With start of the third wave and the more contagious Delta variant, government schools went on an additional winter holiday. The NaDEET Centre is exploring ways for us to adapt even more to COVID-19 to get visitors back full time.

Teach for ESD

In the meantime, we have been working on developing our new teacher professional development programme, Teach for ESD. Close to 1000 teachers applied for the 240 spaces available- giving us a resounding affirmation that this programme is needed. Teachers have now received their first



The whole NaDEET team in Swakopmund prepared the boxes for teachers!

learning materials via courier instead of at the initial workshop. Now with schools opening again, we hope that these workshops will take place in the second half of the year. The feedback from the teachers has already been very favourable: "Good day, thank you so much for the time, commitment and efforts you put into this programme. We really appreciate it. I have received my package, let's pray for the situation to go to normal for us to fully participate as anticipated."

NaDEET Base on Die Duine

The technical team led by Andreas and Jonah has made tremendous strides to modernise and upgrade the NaDEET facilities. The project started several years ago with a generous grant for us to start a sustainable gardening project. The latest development has been the renovation of old buildings into the food pantry, garden kitchen, arts and crafts room and some storage rooms. With a generous grant from the German Embassy, we were also able to construct a new office. The last step is now the information area for visitors.

Tree Planting

Our COVID- Carbon project in 2020 was to plant 1000 trees on the NamibRand Nature Reserve using the Cocoon tree planter. So far, we have managed just over 600 trees and have several hundred young saplings waiting to be planted when it is again springtime. More on this in future newsletters!



View of NaDEET Base on Die Duine from the water tower

WOLWEDANS VISION 2030

THE ARID EDEN PROJECT



July 2020 marked Wolwedans' Jubilee year – 25 years since its first tents were pitched atop the dunes of the Namib Desert. They had a strategy to launch into the next 25 years better than ever before and were optimistic about the future. Then COVID struck... and everything came to a grinding halt.

Although Wolwedans was certainly not spared from this unprecedented disruption, it did provide the luxury of time to reflect, rethink, reboot and open a new chapter. For them, this new chapter is based on a rethink of how tourism works, who it works for, and how success is defined. It is driven by the pressing reality that each of us must step up and do our best to effect a paradigm shift – away from the depleting yet dominant economic models of the past, and towards a more positive, balanced dynamic that respects the interconnectedness between business, natural resources, and people. As humanity, the time is now to stop talking and start walking.

Wolwedans has accepted its role in this and has developed a practical framework – The AridEden Project – Wolwedans

Vision 2030 – to bring its concept of sustainability to life and to showcase that “business for good” can indeed work. Based on its past achievements and philosophy of “business in balance” (adopted in 2017), Wolwedans intends to use its operational base as a ‘testing ground’ to do things differently and find solutions to sustainability challenges that enable all to thrive.

To achieve this Vision, they will continue to be guided by the “Cs”: previously Conservation, Community, Culture, and Commerce, and now with the addition of “Consciousness” to ensure that they maintain a mindful awareness of balancing people, planet, and profit. For each of the 5Cs Wolwedans has defined activity areas, i.e. projects and programmes, resulting in a 5 x 5 matrix, or “Matrix | 25” as they call it. All “Cs” and project areas are interconnected, resulting in greater resilience and more robust systems. Underpinning all of this is the necessary pursuit of happiness for people (including guests, team and community), the environment, and their financial bottom line.



The AridEden Project logo mirrors the pentagon shape of the resilient, endemic flower of the hoodia plant, corresponding with the 5Cs that frame our sustainability efforts

Wolwedans has also committed to sharing its journey, including challenges experienced along the way, lessons learned, and successes enjoyed through its team's efforts. It is their hope that this will inspire others to act and advance our collective progress towards a more balanced and resilient existence. In so doing, The AridEden Project could even become a blueprint and lighthouse project in Namibia and perhaps even globally!

Some AridEden Project initiatives already under way include how Wolwedans will improve its waste management and contribute



to the 'regeneration' of depleted natural systems. These include the new waste management facility (to be known as the "Trash-2-Treasure Temple"), water bottling plant, and tree nursery.

The waste management facility makes use of "bottle bricks" in some of its construction. These ("waste") plastic bottles filled with sand not only reduce the number of conventional bricks used, but also introduce the concept of turning "trash to treasure" to the team; in other words, that these materials still have value and can be used again. The facility will enable them to sort waste better so that they can more efficiently identify "trash" items for re-use and repurposing, not only keeping these out of the waste stream but also inspiring creativity within the team.

In future, the number of bottle bricks at their disposal won't be so abundant since a priority for Wolwedans is to reduce how much waste it generates in the



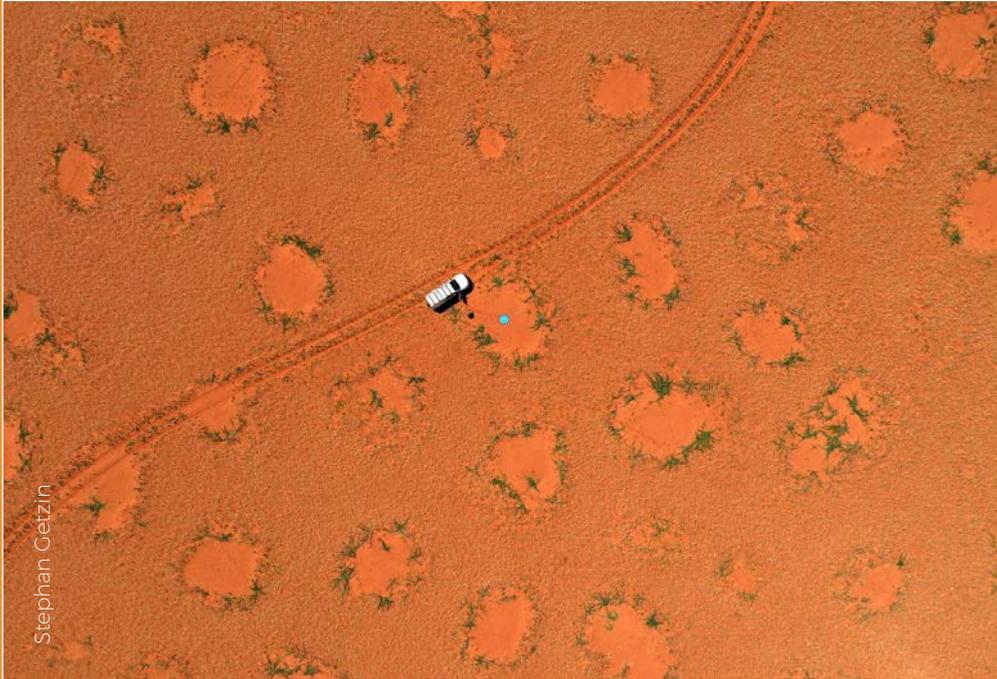
first place. Replacing these plastic bottles (usually water bottles) with refillable glass alternatives will help them achieve this. Their water bottling plant is, therefore, well on its way to being operational – looking crisp and fresh, just like the water that will be bottled there. Wolwedans' carbon footprint will also be reduced as the need to transport plastic bottled water to site will be eliminated.



In recognition of the need to take responsibility for its contribution to climate change, Wolwedans' commitment to achieve "net zero" carbon emissions as soon as possible is being addressed by a number of AridEden Project initiatives. One of these is the tree nursery, which will house tree and plant seedlings. These "CO2 sponges" will initially be planted around the Wolwedans Village (watered with recycled grey water) and thereafter form part of their Desert-based Economy activities whereby "tree entrepreneurs" will be able to sell them in the surrounding area.

For more information about these initiatives and many others being conceptualised, visit www.arideden.org or follow on Instagram and Facebook (@thearidedenproject). Should you wish to collaborate on relevant projects or support their inspiring efforts, email them on info@arideden.org with your ideas!

Wolwedans



Thanks to all the contributors for their contributions to this edition of the Barking Gecko. Thank you to Vicky Human for the assistance with this and lending her talent and skill to this newsletter.

As this is a newsletter for you, our readers, friends and colleagues of NamibRand Nature Reserve, we welcome feedback, ideas and input.

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