

Northwest Namibia – Quarterly Field Report

August - October 2017

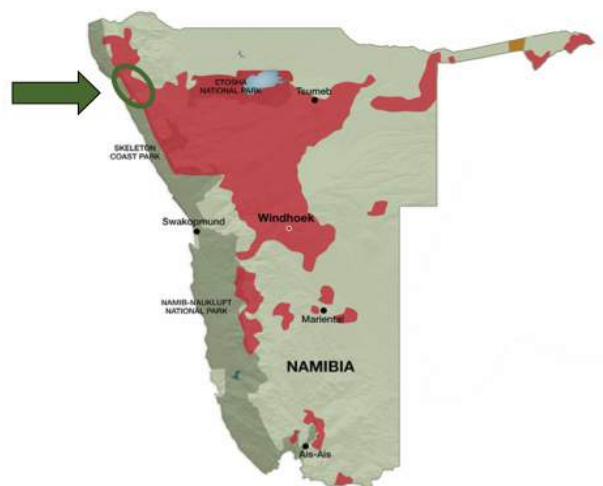


The Giraffe Conservation Foundation's (GCF) Northwest Namibia Programme is a long-term giraffe conservation effort that focusses on monitoring and supporting long-term conservation of giraffe in Northwest Namibia, working closely with local and international partners including community-based conservancies, NGOs, Universities and the Namibian government. As part of this collaborative effort we are investigating the movement patterns, social networks and genetic relatedness of free-roaming desert-dwelling giraffe in northwest Namibia. In partnership with University College Cork (UCD, Ireland) and the Namibian University of Science and Technology (NUST) we hope to (a) address a research deficit in our understanding of the long-term movement patterns of desert-dwelling giraffe and (b) work towards the first social network analysis of giraffe herd structure that includes a complete genetic pedigree of a wild population.

The past few months have seen some exciting developments in our Northwest Namibia Programme and we are excited to see what the future will hold.

Background

Namibia's desert-dwelling giraffe roam throughout the northern Namib Desert in the country's northwest. Our programme focusses on the ephemeral Hoanib and Hoarusib Rivers and covers an area of approx. 4,500km². The area extends from communal conservancies in the East, which support both wildlife and domestic livestock, into the Skeleton Coast National Park.



With only a few millimeters of annual rainfall, the programme area is arid to hyper-arid and wildlife is well adapted to this harsh environment. However, these conditions mean that many species survive at the very edge of their adaptive abilities and as such the ecosystem is fragile and easily disrupted. Grazing for cattle and other livestock, increasing tourism in the region and historically also poaching have led to some degradation of the environment and its wildlife. However, it remains one of the most beautiful and remote refuges for Africa's remaining megafauna.

This stark landscape of dunes and dry riverbeds, along with elephant, black rhino, lion, cheetah and numerous other species, is home to the desert-dwelling Angolan giraffe (*Giraffa giraffa angolensis*) – a subspecies of the

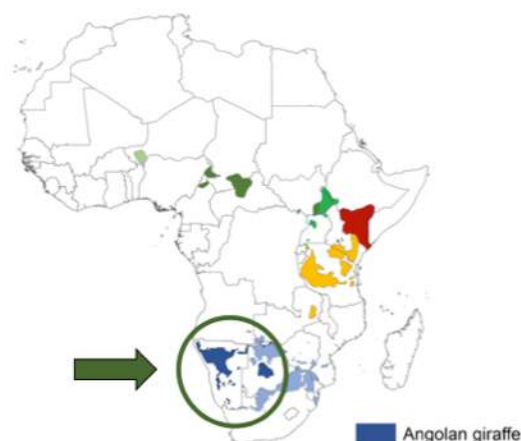
Southern giraffe (*G. giraffa*).

Angolan giraffe

Based on our work in Southern Africa, we estimate ~13,050 Angolan giraffe in the wild. To put this into perspective, the recent IUCN Red List assessment estimated the total giraffe population in Africa at less than 100,000 individuals, which shows a decline of almost 40% in the past 30 years. As such, Namibia is home to approx. 12% of the continent's entire giraffe population, highlighting its role as a key giraffe range State.

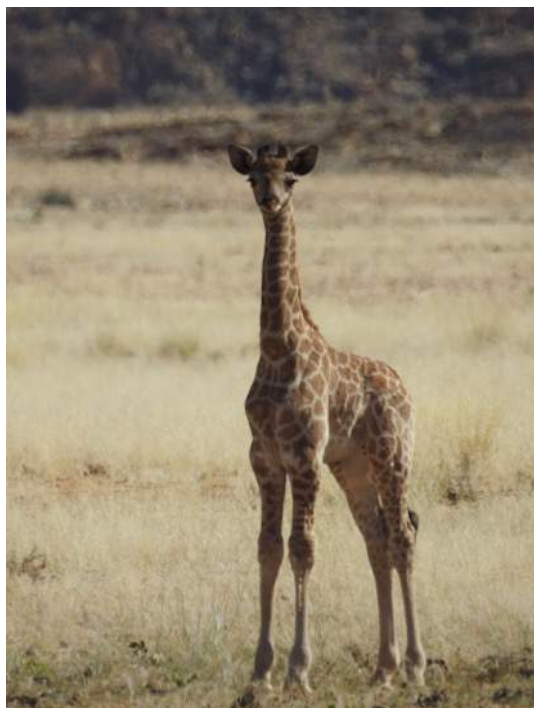
The majority of Namibia's giraffe population ranges across central and northern Namibia. Smaller populations exist throughout the remainder of the country, whilst populations of Angolan giraffe also occur in Angola (re-introductions), Botswana and Zimbabwe, and as extra-limital introductions in South Africa.

The Angolan giraffe in northwest Namibia are not genetically different from the other populations of the same subspecies, however, they likely have lived separated for many years. As part of our ongoing conservation research we investigate the adaptations that this population uses to thrive in a desert environment.



Study population

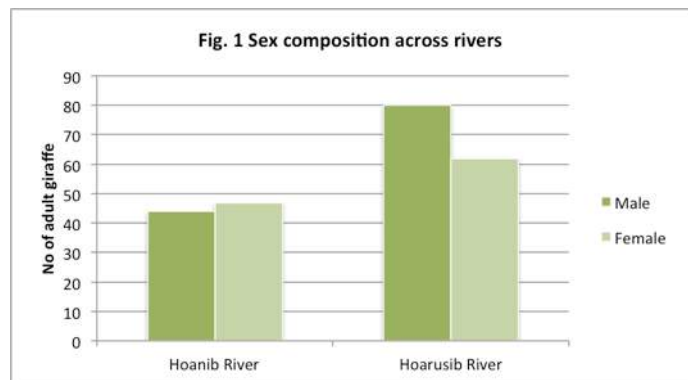
Conservation actions including translocations are critical tools aiding giraffe conservation and management throughout Africa, as too is the long-term monitoring of giraffe in northwest Namibia, which offers an important opportunity to better understand the environmental factors necessary to sustain a healthy population of giraffe. In time, we hope that this information can be used to predict



the success or failure of future conservation efforts and inform management actions and policy decisions accordingly.

The first detailed study of the giraffe population in northwest Namibia was conducted by GCF's Dr. Julian Fennessy in the late 1990s and early 2000s. During this period 139 individuals were observed in the Hoanib and Hoarusib River catchments. Today, the population has grown to a minimum of 263 individuals with a sex ratio of 1 female to 1.4 males (see Fig 1). Further analysis will help to elucidate the discrepancy in this sex ratio. Excitingly, just last month a GCF reconnaissance trip further north in the Namib Desert revealed more than 50 new individuals, suggesting that giraffe are continuing to make a come-back in the mountains and rivers stretching north towards the border with Angola.

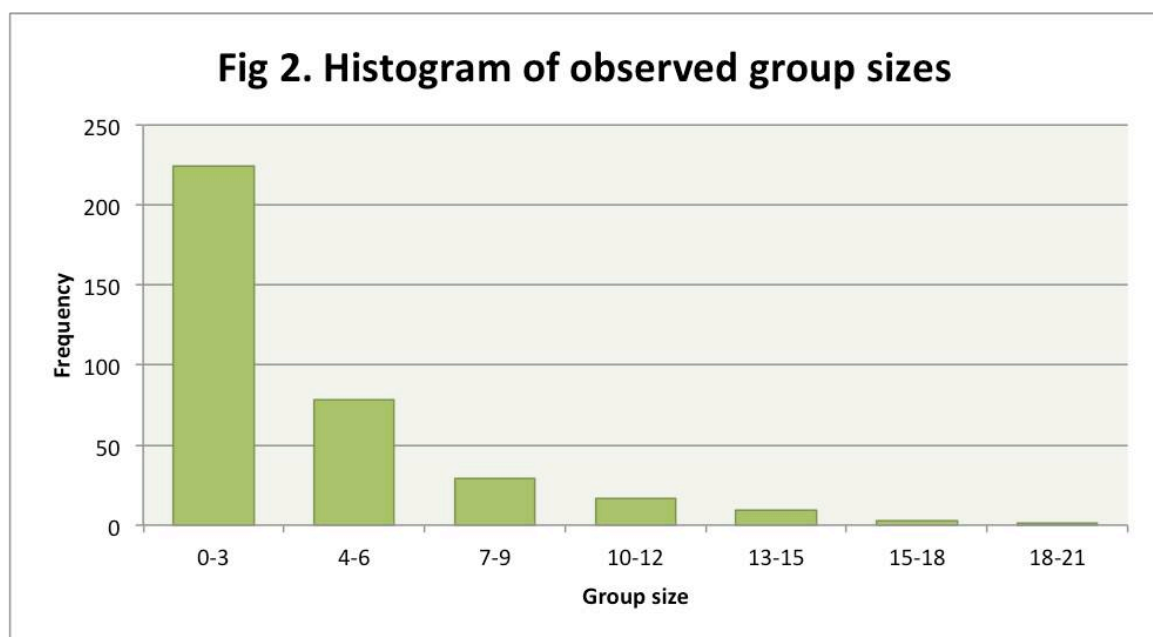
This year alone, Namibia's northwestern giraffe population has increased with 15 new juveniles recorded throughout the area. This positive population trend is particularly good news considering recent figures demonstrating that giraffe numbers are declining dramatically in most other parts of the African continent. It is possible that giraffe have benefitted from the declining lion population in the area as these had shown a preference for giraffe.



Considering these figures, the population in northwest Namibia represents one of the only remaining healthy, growing and free-roaming giraffe populations in Africa. Importantly, this long-term giraffe conservation programme offers a unique and valuable opportunity to better understand this threatened species, and provide conservation and management support for other populations in Africa.

Data collection

As part of our long-term programme we continue to gather a wide range data on this population including individual records for each giraffe, observational data on herd composition, genetic biopsy samples, range and movements, weather, browse, and vegetation including remote sensing of vegetation indices and ground-truthing of vegetation phenology.



In the last two years alone we have conducted over 16 fieldtrips for data collection and we are starting some preliminary analyses to assess trends. Our preliminary results show that group sizes are consistently smaller in this region than in many other areas inhabited by giraffe. The majority of groups here comprise on average less than six individuals (see Fig 2). This is not surprising as resource scarcity is likely causing giraffe to disperse more widely and it may offer evidence that giraffe adjust group size to adapt to changing environmental conditions as well as seasonal preferences.

New technologies

This data will build on the information we gathered during a previous data collection last year after when we fitted five female giraffe with different GPS tracking units. We have now mapped their movements over the period of a year (see map) and this data will be further analysed in terms of a variety of possible environmental predictors that may drive the movement. We are very excited to see the results, so watch this space!

Legend

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Educational opportunities

While the conservation research goals of the programme are paramount, we also provide valuable environmental educational and awareness opportunities for people living in the area or showing an interest in getting more involved in hands-on giraffe conservation. We offer education materials, equipment and support to local conservancies, as well as field-experience opportunities for Namibian University students, international professionals working with captive giraffe and a few lucky supporters.

Amazingly over the past 18 months we have been joined in the field by over 50 passionate conservation supporters from 13 countries. The majority of these were zoo professionals who were keen to gain first-hand knowledge and experience of leading-edge giraffe conservation in the field. Through seeing and discussing giraffe herd dynamics, daily activities, interactions with human and other species, as well as potential conflicts these supporters gain a deeper understanding of natural giraffe behaviours and how to promote giraffe welfare by emulating these in captive environments. These folks also disseminate what they have learned when they return to their respective countries, bringing home the key combination of knowledge, hands-on experience and enthusiasm necessary to raise awareness and support for the plight of giraffe in Africa. We hope to see many new faces (and a few returning ones!) in the coming months and years ahead!

Research vehicle

We also have a very special bit of news to report in this update. Sadly, the trusty Mazda Magnum research vehicle (a.k.a The Beast), which also starred in the Emmy nominated BBC/PBS documentary on the work of GCF, has come to the end of its working days and has



had to be retired from research duties! However, we are now delighted to say that thanks to the support and generosity of a number of sponsors we were able to secure a new second-hand vehicle to take over from The Beast! We would like to say a very, very special thank you to University College Dublin (UCD, Ireland) and to TOSCO, ATI Holidays, Ultimate Safaris, Matiti Safaris, Karibu Safari, Charlottenberg Arabians and 4x4 Safari Engineering (Namibia) whose generous contributions have allowed for the purchase of a new (second-hand!) Toyota Land Cruiser.

Looking Ahead

The next few months are set to be action packed (and hot!) as we enter the summer field season. We are excited to see where the giraffe with the new GPS satellite solar units are moving and in December we will get stuck into some preliminary genetic and statistical analyses to extract as much information as possible from this data.



in other exciting news GCF, with support from Natural Selection Safaris, is looking at establishing a small conservation base in Northwest Namibia in 2018. Stay tuned for more information a little later in the coming year.

All the best from the field and we are looking forward to keeping you updated.

Supporters



