

NEWSLETTER MAY



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Dear clients,

On the last day of the month, we present you are latest newsletter! Despite their vast difference, dassies and elephants are more alike than you might think! We are seeing a high mortality rate amongst our Namibian giraffes. We will give you an update on what we know so far – which is not much! We desperately need more samples, and we need farmers to fill in [our survey](#). Lastly, we give an overview of the interesting camouflage techniques animals use. Kind regards, Wildlife Vets Namibia team

UNEXPECTED RELATIVES

The Dassie, or Rock Hyrax, is a small furry mammal that weighs between 2-5 kg. The African elephant is the biggest land mammal on Earth, with a weight up to 6800 kg (and they are certainly non-furry...)! They may seem totally different, but they are each other's closest relatives! Now how does this work?

Dassies and elephants (as well as manatees and dugongs), come from the same ancient family, called *paenungulates*; a group of mammals that evolved from a shared ancestor. Over millions of years, this family split into different evolutionary paths; elephants evolved into large animals with trunks (*Proboscidea* order) and dassies into small mammals (*Hyracoidea* order).

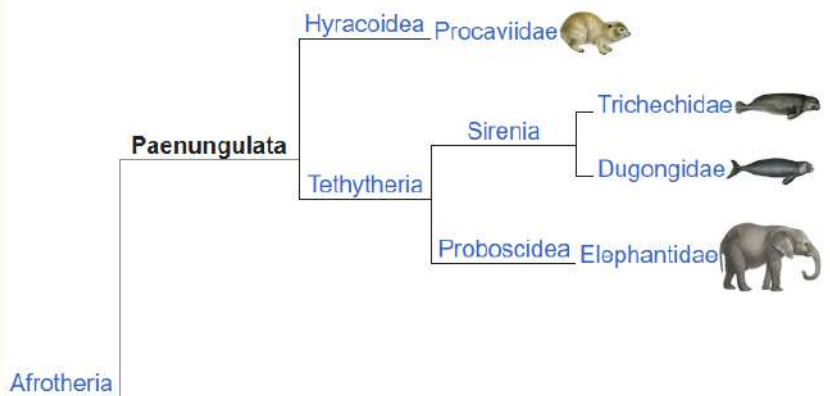
If you look closer, the dassie and elephant actually do have quite a few things in common. Dassies have tusk-like incisors that grow throughout their lives. Same as for elephants, their tusks are basically enlarged and modified incisor teeth which also keep on growing. In most mammals (e.g. pigs, hippos), tusks actually grow from the canines, not from the incisors. The dassie and elephant also have a common toe shape, whereby they both have hoof-like nails on their toes.

Just like in elephant bulls, the testicles of male dassies are tucked away in the abdomen next to the kidneys. Both thus do not have a scrotum visible on the outside. Female dassies and elephants both have their teats near their armpits of the front legs.

So despite their massive size difference, dassies and elephants are distant cousins, and have more in common than you maybe thought!



A family group of dassies and an elephant bull
© M. Bijsterbosch



This evolutionary tree dates back more than 60 million years, and shows how seemingly different animals share a distant common ancestor. Proboscidea (elephants) evolved into large land mammals, while Hyracoidea (dassies) remained small rodent-like creatures, and Sirenia (manatees and dugongs) adapted to an aquatic life. © [Wikipedia](#), based on [Tabuce, Rodolphe; Asher, Robert J.; Lehmann, Thomas \(2008\)](#)

GIRAFFE MORTALITIES

Since mid-April we have received many phone calls and messages from concerned farmers about an unusual high giraffe mortality on their farms. With this article, we would like to update you on what we know so far.

Symptoms

Many farmers report finding dead giraffes, with some noting that only adult individuals are affected, while others observe cases amongst young females.

Some farmers have observed giraffes being sick, or showing abnormal behaviour. Observations of the sick giraffes have been from a few hours to 7 days.

- 🐾 Physical signs: many farmers that observed sick giraffes report drooping/hanging ears. A few observed excessive drooling, discharge from the eyes, and some reported that the giraffe seemed blind. Two giraffes had skin lesions, which looked like Lumpy Skin Disease (this might be a coincidence).
- 🐾 Lethargy: giraffe stand motionless in the bush, showing no response to approaching vehicles or people.
- 🐾 Ataxia: giraffe appears to be 'drunk', stumbling over bushes and fences. Some indicate a staggered gait.

We have compiled a video of several sick giraffes, if you would like to receive it per WhatsApp or email, please contact us.



Screenshot from a video, showing 'hanging ears' © Martina Küsters, Programme Officer Etosha Heights Conservation Centre, Giraffe Conservation Foundation

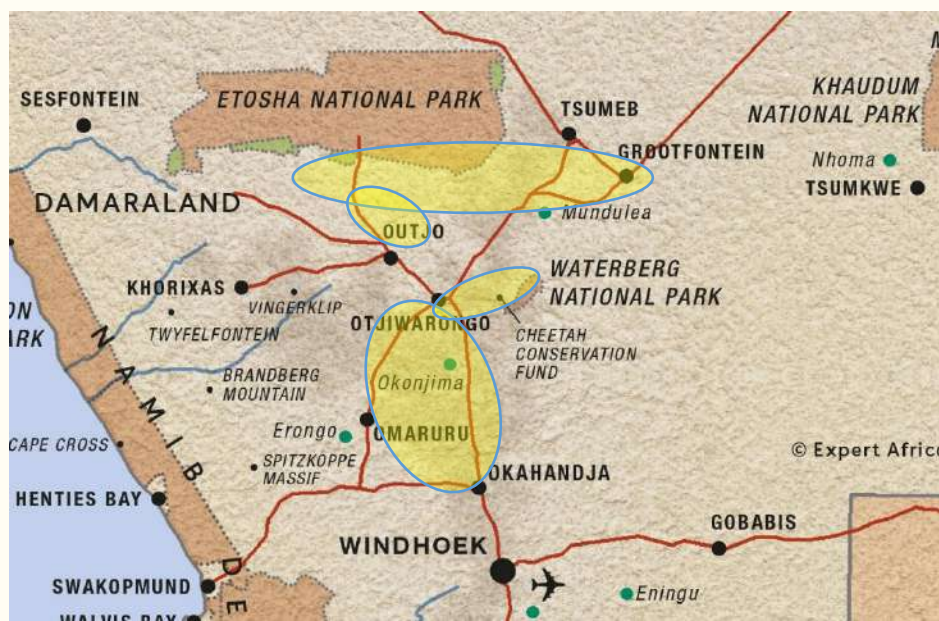


Young heifer displaying lethargy and discharge from the eyes. It seems she was blind. We have seen three giraffes now with a food bolus stuck in the mouth. © Karen Codling, AfriCat Foundation.

Range

Reports indicate that the affected area is extensive; we have received reports of mortalities from west and north of Okahandja, extending to the Omaruru area and Waterberg area.

We also received several reports from farms southwest, south and east of Okaukuejo (Etosha NP), Outjo, and extending towards Maroelaboom. We have heard rumours of giraffe mortalities inside Etosha NP as well.



We believe the high number of giraffe mortalities and their widespread occurrence is concerning! Some farms report more than 15-20 carcasses. Just on the few farms north of Okahandja an estimated 20-25 giraffes have been found dead. The actual number might very well be higher as not all carcasses are discovered, and not every loss is reported.

What can you do?

We need your help to figure out why these giraffes are dying - you are the ears and eyes on the ground! We please ask you to assist us in the following:

- ✓ In case you find a **sick giraffe, or a fresh carcass (<12h dead), phone us!** If possible and not too far away, we will come out and do a post-mortem examination. We are ideally looking for sick giraffe which we would want to dart, collect blood samples and then euthanize it. This will assist in us getting fresh samples to be submitted to Onderstepoort for a range of tests. We will do this free of charge.
 - If we cannot come out, we will try to organize a colleague vet to come out.
 - If no vet can come out for a post-mortem, we will ask you to for the following:
 - Put on gloves 😊 Take photos of the carcass, do you see anything abnormal?
 - In case of a fresh carcass; open up the carcass and take photos. Again, do you see anything abnormal?
 - Check the rumen for bones
 - In case of a fresh carcass; cut of the head, and send it to Windhoek on ice (NOT frozen!). Speak to your vet about this.
- ✓ Take **photos and videos** of giraffes displaying abnormal behaviour, or from the carcass. Ideally, also send a GPS point, or indicate the approx. location.
- ✓ **Fill in our survey**. Even if you have already reported your findings, we kindly ask you to fill it in, as gathering consistent data across all reports will help us identify patterns. Feel free to share this form around.

Have you seen sick or dead giraffes on your farm?

Please assist us by filling in this short survey:

<https://forms.gle/o3CYeA3rCqC4FZiw9>

What will we do?

Our goal is to collect and gather as many samples as possible, to understand the cause of these deaths. So far, we have conducted three post-mortem examinations. We also have received samples from the Giraffe Conservation Foundation.

Our 1st post-mortem examination did not reveal much, other than an abscess in the heart. Our 2nd case was a sick giraffe heifer. She displayed several of the typical symptoms, such as standing in bushes, not scared of people, discharge from the eyes (it seemed she was blind), uncoordinated. We immobilized her, took blood, and euthanized her. The PM examination revealed several interesting findings, such as the opaque eyes, some skin lesions (which could be suggestive of Lumpy Skin Disease), she had no fat reserves and lumps on the lungs. The 3rd case was a giraffe bull who was sick for a while (lethargic, teary eyes, skinny), but we are not sure if this case is related. The bull had a swollen carpal joint, severe lung pathology and several lesions around the aorta. Two other veterinarians have conducted post-mortems, whereby one reported a case that resembled a clostridial infection (rooiderm), and the other case showed lung abnormalities and small intestine issues.

Three giraffes have been tested for rabies, all were negative. As you will understand, getting more samples is essential to determine a diagnosis and to identify any potential common pathology among these cases!

We urgently need sick giraffes or carcasses that have died within 12 hours. If you encounter one, please contact us immediately!

Some samples that we will receive we will send to the Central Veterinary Lab in Windhoek, but most samples will be send to a specialist pathologist at Onderstepoort. We are very grateful that the Giraffe Conservation Foundation is willing to help to cover the lab costs.

Potential impact

Any unexplained deaths, especially in such large numbers and across such a widespread area, should be seen as a serious concern! At this stage, this condition seems to only affect giraffes. However, since the underlying cause is unknown, we cannot rule out transmission to other species (e.g., from giraffes to predators consuming the meat or to other antelope species like kudu and sable).

Farmers and veterinarians must work together, if you as a farmer spots a sick giraffe, or a fresh carcass, please call us, or your local vet immediately. We ask you to be vigilant when you are in the field, and keep a close eye on your giraffes. We also urge you to fill in the survey – it will not take long but it will help us a great deal.

Please fill in this short survey if you have seen sick and/or dead giraffes on your farm:

<https://forms.gle/o3CYeA3rCqC4FZiw9>

ANIMALS AND CAMOUFLAGE

Unlike many animals, humans are not really known for their natural camouflage skills! Several factors determine if an animal can use camouflage. One are the physical characteristics; animals with a fur use different tactics than animals with feathers or scales, who can shed and change colours quicker. For instance, furry animals, like the Arctic fox, typically changes its coat only twice a year, from white in winter to gray-brown in summer.

Social structure also plays a role. Animals that live in groups use collective camouflage tactics, such as zebras, whose striped patterns create visual confusion when they cluster together, making it harder for predators to single out an individual. It also depends on the physical traits of the animal's predator; when the predator is colour-blind, the prey does not have to blend in with its environment. An example is the colour-blind lion, who's main prey are zebras. The zebra therefore does not need to blend into the savanna environment.

There are various forms of camouflage, which mainly try to avoid detection and to enhance survival. The word "camouflage" itself comes from the French term *camoufler*, meaning "to disguise."



Concealing colouration or background matching

This is the most common form of camouflage, whereby the body colour of the animal is more or less the same as the environmental substrate (soil, grass etc.) where it lives.

Examples: roans and lions that blend in with the grasslands.



Disguise

When the animal physically (its shape) looks like something non-living from its environment, as well as being the same colour.

Examples: stick insect, grass-hopper that looks like a stone.



Counter-shading

The back and belly have different colours, which are used to conceal the animal when viewed from above or below. There are usually darker on top, and lighter at the bottom.

Examples: sharks, whales, penguins.

Disruptive colouration

Many species use spots, stripes or other patterns on the coat to 'break up' their body outline. These patterns form false edges which disguises the shape of the body. Because most mammals only have black-and-white vision, they rely on movement and shape. When the shape is broken up, this can be an effective tactic.

Examples: cheetah, tiger, zebra, kudu.



Batesian Mimic
(parasitic benefit)



Deceptive signal
Hoverfly harmless

Müllerian Mimics
(mutual benefit)



Honest signal
Wasp can sting



Honest signal
Bee can sting

Mimicry

This is when the animal physically looks like another animal (colour or/and body form). There are 2 forms of mimicry:

- 🐾 **Batesian mimicry:** a non-dangerous species mimics a dangerous/venomous species.
Examples: Monarch butterfly, some snake species (e.g. harmless scarlet king snake vs. deadly coral snake in the USA)
- 🐾 **Müllerian mimicry:** 2 unrelated well-defended (foul-tasting/venomous/poisonous) species mimic each other to strengthen their danger message towards predators.
Examples: *Acraea* butterfly (Reds), bees, wasps

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