

NEWSLETTER JUNE

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Dear clients,

We hope you stay warm during this current cold spell! Grab a coffee or tea, and enjoy reading our latest newsletter! In this edition we explain the interesting blood pressure of giraffes, and we discuss rabies once again. Several outbreaks in kudu/eland populations have been reported recently. Make sure you keep 21 July open for the Wildlife Ranching Info Day! Lastly, we are excited to let you know that we will present our Animal Crime Scene and Evidence Handling course 01-03 September at SAROA Safari Lodge. We hope you can join us! Kind regards, the Wildlife Vets Namibia team

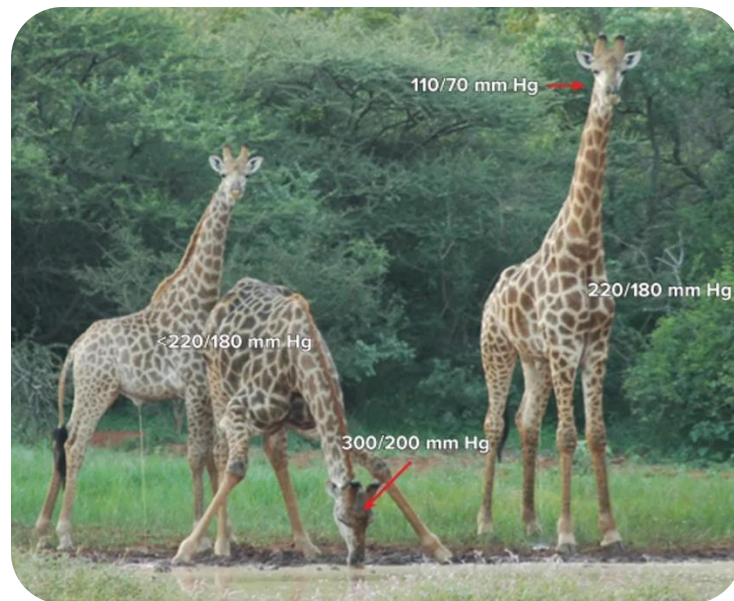
HIGH BLOOD PRESSURE IN GIRAFFES

A giraffe is a bit of an odd animal one might say, with their long necks and legs. This comes in handy while browsing trees, but these anatomic adaptations could pose challenges... How to get blood from the heart to the brain over a distance of about 2 meters?! Luckily, nature has a solution for everything!

To pump blood all over the giraffe's body, the giraffe has an incredibly high blood pressure. To maintain a blood pressure of about 110/70 mm Hg in the brain (average for large mammals), the giraffes' heart needs a blood pressure of about 220/180 mm Hg (to compare, an adult man's blood pressure should be less than 120/80 mm Hg).

In humans, a high blood pressure causes all kinds of problems, from swollen ankles to heart failure. Chronic high blood pressure causes the heart muscle to thicken. Part of the heart becomes stiffer (fibrosis) and will be less able to fill up with blood. In giraffes, the heart muscles are also thick, but fibrosis of the heart does not occur. It appears that giraffes have developed certain mutations in five different genes related to fibrosis. Besides these mutations, they also have specific gene variants related to cardiovascular development and the maintenance of blood pressure and circulation.

Then giraffes have another trick to avoid heart failure... They have a different electrical heart rhythm than other mammals. The filling-phase of the heart is extended, allowing the heart to pump more blood with each heartbeat. While the legs and ankles of humans can become swollen due to a high blood pressure, giraffe legs have built-in support stockings! Their legs consist of dense connective tissue, and the arteries have thick walls to withstand the high blood pressure.



Blood and arterial pressures of giraffes in different positions. © [Aalkjær & Wang](#)

A last big question remains... You know the feeling when you get up to quickly, you sometimes get dizzy? Knowing now that the giraffe has such high blood pressure, how come the giraffe does not faint when it has a drink and rises its head again?

We still don't have all the answers, but researchers found that giraffes can partly buffer the sudden change in blood pressure in the brain. During a study, several giraffes were immobilized and their heads were raised and lowered with ropes and pulleys. When the head was down, blood pooled in the big veins of the neck. Giraffes have specialized blood valves in their necks to counter 'gravity'. More than 1 litre could be stored in the neck, which temporarily reduced the amount of blood returning to the heart. As there was less blood in the heart, less pressure was generated per heartbeat. When the head was raised again, the stored blood flowed back to the heart. The heart responded with a strong high-pressure heartbeat to help getting blood back to the brain. Much more research still needs to be done to fully understand this mechanism.

The better we understand these kinds of special adaptations of animals, the greater the chances that we can come up with ideas to improve on human medicine! If you would like to read more about the special blood pressure adaptations of giraffes, have a look at the articles of [Petersen et al \(2013\)](#) and [Aalkjær & Wang \(2021\)](#).

WILDLIFE RANCHING NAMIBIA INFO DAY



**WRN
INFO DAY
21 JULY
2023**

“Unlocking the true potential of our Wildlife Industry”

Venue: Droombos, Windhoek
Registration: 08:30

Speakers: Dr Morné de la Rey
Richard York · Dr Ulf Tubbesing
Axel Cramer & more ...

Registration Fee: N\$150 per person
Refreshments & Lunch included

RSVP: 17 July 2023
Contact: Caren Winckler 081 211 7252
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WILDLIFE RANCHING NAMIBIA

An opportunity not to be missed!!!

Note down in your diary... The Wildlife Ranching Namibia Info Day is on **21 July 2023**, at [Droombos](#) in Windhoek. Various speakers will be there and it will be a great get together of (game)farmers from all over Namibia! You can register yourself via wildliferanchingnamibia@gmail.com. Hope to see you there!

RABIES

The Namibian kudu population recovered well the last few years. But unfortunately, that means that rabies outbreaks are also occurring more and more. We had several phone calls regarding suspected rabies cases in kudu, and rabies in jackals.

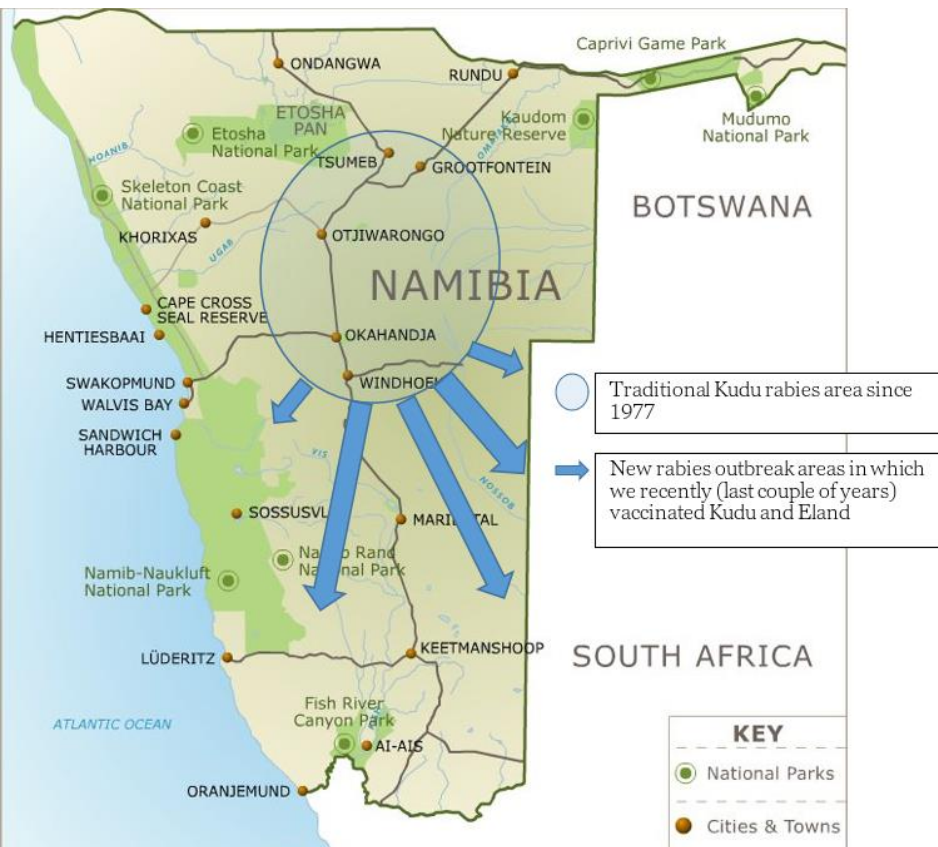
Rabies is known as a disease with a low morbidity (affecting few animals in a population) but high mortality (100% amongst infected animals). The Namibian rabies situation is unique in that the disease spreads from kudu to kudu (and eland to eland) and reaches epidemic proportions with devastating effects in these species. Typically, a rabies infection starts with an animal being bitten by an infected animal (jackal, yellow mongoose, dog etc.). The bite wound is contaminated with virus particles contained in the attacker's saliva. The virus will migrate through the body, and goes to the brain and salivary glands. By then, the saliva is highly infectious for other animals (and humans!).

Amongst wild herbivores, kudus appear to be most susceptible to rabies, likely followed by eland. How the transmission between kudu to kudu works, we still don't exactly understand. It might be that the social behaviour and browsing habit of kudus and eland will result in small wounds in and around the animal's mouth. These are ideal portals for infection. Once a kudu is infected, it leaves saliva on the leaves and other kudus come into contact with this saliva. The spread of infectious disease is easier and faster where susceptible animals are in close proximity to each other. The risk and incidence of rabies is thus increased in places and times where animals are concentrated in specific areas, e.g., large kudu population (as well as other species) converging around water sources in the dry (winter) seasons.



Kudus are social animals, and browse together on thorny bushes, leaving little cuts and scratches amongst the lips and mouth. © M. Bijsterbosch

Rabies is endemic to Namibia, (occurs commonly and widespread), and used to have a high prevalence in the central and northern regions. The first documented case of rabies in kudu in Namibia was in 1975, near Windhoek. A major outbreak followed from 1977 to the late '80s, whereby an estimated 30,000 to 50,000 kudus died of the disease. In 2002 another outbreak was reported, by 2003, an estimated 2,500 kudus had died ([Scott et al., 2012](#)). Why did so many animals die? These massive disease outbreaks usually follow an increase in the kudu population following a good rains, better protection and breeding for trophy hunting/tourism and a reduction in the number of predators on farms. A large unvaccinated population, is much more likely to get infected, and spread the disease than a vaccinated or small population.



In recent years, the disease started to occur in the southern and eastern parts of the country. A few months ago we received the concerning news that there was a rabies outbreak amongst kudus in North West Province in South-Africa.

Following recent game auction prices (breeding groups of kudus went between N\$ 7.000-21.000, bulls between N\$ 26.000-47.000, while eland breeding herds went between N\$ 9.000-14.000 and (Livingstone) bulls up to N\$ 63.500), it is worth protecting your populations. From a trophy hunting perspective, the Kudu bull is both one of the most wanted and slowest maturing (i.e. reaching trophy standards only after 8+ years) antelope. The decimation of the kudu population due to rabies, especially on game fenced farms, poses a severe and long-term threat to the farmer's income.

We believe that the most effective way to prevent rabies outbreaks amongst your kudu/eland populations is to dart vaccinate. Over the past few years we have repeatedly dart vaccinated against rabies on a number of game farms both during and following an outbreak. In all cases the farmers reported the outbreak stopped within 10-14 days of vaccination. Those farms who prophylactically vaccinate annually or biannually now support a thriving kudu population. Ideally one strives towards obtaining the highest possible percentage vaccine cover in the kudu/eland population.



Dart vaccination from the helicopter is the most cost-effective way of protecting entire populations. © M. Bijsterbosch

When you suspect a rabies case, **contact your veterinarian, and sent the head of the animal to the Central Veterinary Laboratory (CVL)** in Windhoek ASAP. Make sure the head is kept cool (not frozen), and label your package well. Click [here](#) for an example label that you can fill in on your computer, and print out.

IMPORTANT: If you considering rabies dart vaccination per helicopter on your farm, contact farms around you. The more farms that join in, the cheaper the transport- and ferry costs for all, and the more effective your kudu/eland population will be protected!

For people in the north (Tsumeb, Grootfontein, Outjo, Otjiwarongo), we have a special rabies WhatsApp group. We hope to soon plan a rabies vaccination trip together with Du Preez Wild. If you are interested, please contact us.

If you want to read more about the Namibian rabies situation, click [here](#) to go to the Article-section of our website. Here we have three articles about rabies:

- 🐾 Rabies in kudu and eland #1: Implications to the game industry
 - More background on the disease; how is it transmitted, what are the symptoms and what can you do to prevent it?
- 🐾 Rabies in kudu and eland #2: Herd immunity in rabies and COVID-19
 - What is herd immunity, and how is this achieved?
- 🐾 Rabies in kudu and eland #3: How vaccination leads to immunity
 - How does the immune system work, and how do animals and humans become immune to a disease after a vaccination and/or natural exposure?

Animal Crime Scene and Evidence Handling Course

ANIMAL CRIME SCENE AND EVIDENCE HANDLING COURSE



WHY THIS COURSE?

Poor investigative techniques, as well as errors in crime scene processing and evidence collection and handling are amongst the main causes for poor arrest and conviction rates for animal crimes such as poaching and stock theft.

There are two main problems...

First of all it is not always possible for the police to attend to a crime scene immediately. However, in outdoor crime scenes it is very important to rapidly and effectively protect the scene and its evidence.

Secondly, upon finding a crime scene, first-responders (farm owners, managers, APU personnel etc.) are tempted to immediately 'start investigating'; walking around and picking up possible evidence. This might lead to the accidental destruction of evidence (tracks, fingerprints etc.) and vital pieces of evidence may become contaminated and eventually lose their value in court. The better we all become in crime scene securing and handling, the better the chances are that the culprits are being caught.



FOR WHO?

In this 2.5 day course, meant for game/livestock farmers, managers, police reservists, rangers, APU and others who might deal with e.g. poaching and stock theft cases, we will discuss the proper approach to and handling of a crime scene and evidence.

The course is a mix of lectures and practical training, with lectures presented in the morning while the afternoons are reserved for practical training. On the final day everything comes together, where we investigate a 'crime scene' from A to Z.

COSTS?

Course fee, incl. 2 nights accommodation: N\$ 4900 p.p.

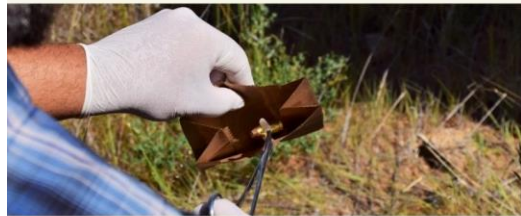
Prices are incl. VAT. The course fee is inclusive of lecture material (you will get the PPT's and extra useful material in a PDF form on a USB stick), the lectures itself, use of the facilities, and all materials for the practical training. The accommodation includes all meals. You are welcome to sleep over the night before the course starts.

We would like to invite you to join our Animal Crime Scene and Evidence Handling course, held at SAROA Lodge on 08-10 September 2023.

This 2.5-day course teaches you the correct approach to, and handling of a crime scene and its evidence. Whenever there is a poaching or stock theft case, it is very important that the right steps are taken – your case needs to stand up in court! We often see mistakes being made, even by police officers. The better everybody knows what to do, the better cooperation there will be, and the better the chances are that the culprits will be caught and prosecuted.

The course fee includes 2 nights of accommodation in the luxury lodge of SAROA, and is VAT included. For those that live close by, it is possible to only come during the day against a reduced price.

Feel free to contact us for more information 😊



WHEN?

08 - 10 Sep 2023
SAROA Lodge
(Nina district)



To receive the course outline with more information, contact us at:

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