

# NEWSLETTER OCTOBER

## In this newsletter:

- 🐾 [How do chameleons change colour?](#)
- 🐾 [Intervertebral disc disease \(IVDD\)](#)
- 🐾 [Game capture season](#)
- 🐾 [Farmers dealing with poaching](#)

Dear clients,

Some parts of Namibia already received some rain, much needed in especially those areas that suffered from veld fires! We hope the rains come soon and spread over the entire country; we can't wait to see Namibia green again! In this newsletter we explain how chameleons change their colour and we explain a condition that especially Dachshunds are prone to: Intervertebral Disc Disease. We briefly mention the end of the game capture season, and we give a link to a short teaser-video that was made about farmers dealing with poaching.

Kind regards, the Wildlife Vets Namibia team

## HOW DO CHAMELEONS CHANGE COLOUR?

We all know that chameleons are able to change their colour... In cartoons they change to blue, pink, green – any colour! That is not quite the case in the real world, but they do have an amazing ability to adjust their colour. How...? It's a bit of a difficult topic, but we try to explain it!

Chameleons change their colour for several reasons:

- 🐾 In response to mood, temperature and other environmental conditions
- 🐾 When there is a need to camouflage against enemies
- 🐾 For communicating and displaying to other chameleons

Chameleons are able to change their colour quickly based on cues being sent from their eyes. While octopuses change their colour by moving around the pigment in their cells, chameleons have specialized cells called 'iridophores'. These cells contain tiny nanocrystals and pigments, which reflect light of different wavelengths. The nanocrystals are ordered in a certain arrangement, which normally causes them to reflect one colour of light, such as green. When they want to change their colour (e.g. because another male enters their territory), they can excite or relax their skin, thereby changing the density of the upper layer of the *iridophores*. To figure out how this works, researchers studied a panther chameleon (*Furcifer pardalis*) in detail.

The uppermost layer of the chameleon's skin consists of cells that contain a yellow (*xanthophores*) and a red (*erythrophores*) pigment. Under this layer lie the *iridophores*, which reflect different wavelengths of light, depending on how they are packed and ordered. The last layer of skin consists of *melanophores*, which have extensions that reach the uppermost layer of the skin.

When the chameleon is relaxed, the nanocrystals in the skin are close to each other and reflect shorter wavelengths, such as blue. When the chameleon gets excited, the distance between the nanocrystals increases, and they reflect longer wavelengths, such as red and yellow. In a neutral state green comes on top, which is the result of yellow and blue wavelengths. When the chameleon needs to hide, the skin turns into darker shades, as the *melanophores* disperse the pigment to the upper layers via their extensions.

Click [here](#) to read the article: [Photonic crystals cause active colour change in chameleons](#) by Teyssier *et al* (2015). When you scroll all the way down to 'Supplementary information', you can download and watch five short videos of a panther chameleon changing its colour.

Colour change in two panther chameleon males. When they are excited, the background skin colour shifts from the baseline green state to yellow/orang, while the vertical bars and horizontal stipe shifts from blue to white © [Teyssier et al \(2015\)](#)



## INTERVERTEBRAL DISC DISEASE (IVDD)

Besides wildlife work, we also spend quite some time at [Rhino Park Veterinary Clinic](#). Here, Ulf does mainly do orthopaedic surgeries and referral cases. One of the surgeries are spinal operations on dogs that have become paralyzed. In this article we briefly explain what happens in these dogs.

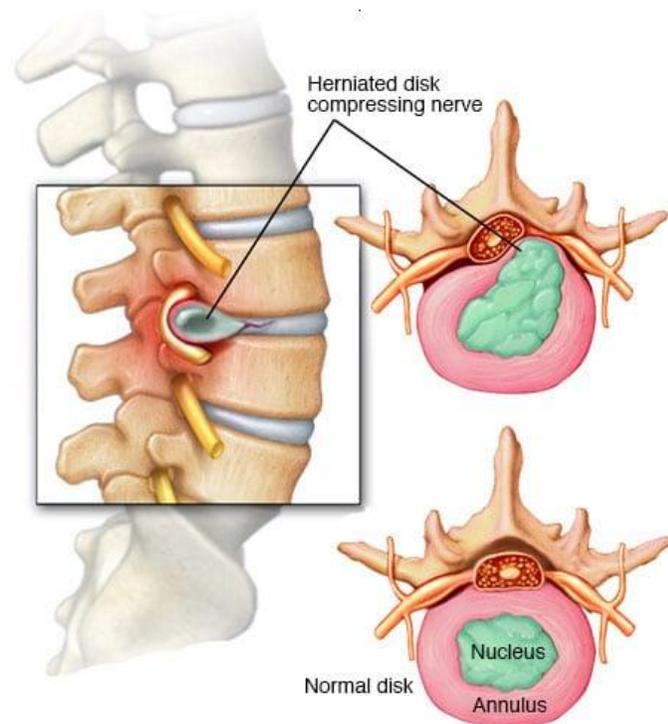
When you think of a hernia, you might think of back pain. In between the vertebrae we have intervertebral disks, and these flat and round disks are basically shock absorbers. On the outside they are tough and flexible, on the inside there is a soft, jelly-like centre.

Sometimes it happens that the soft jelly-like centre pushes against the outside of the disk, this causes pain. In more severe cases, the jelly-like centre can push all the way through the outside of the disk – this is a herniated disk, by the lay public also called slipped disk.

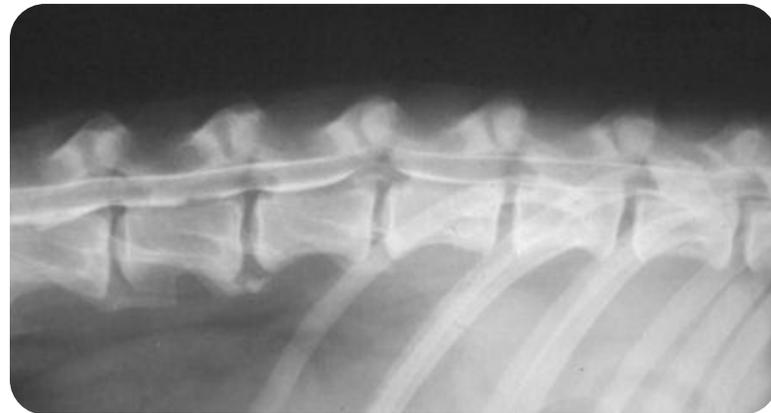
In animals we call such a condition that involves a slipped disk 'Intervertebral Disc Disease (IVDD)'. This condition is common in humans but can happen in any animal, but especially in dachshunds, with their short legs and long spines, it's quite common (about 1 on 4 dachshunds suffer of some degree of IVDD). The most common sign is spinal pain, then loss of coordination, weakness, paralysis, incontinence and loss of sensation on one or more legs.

When the clinic receives a dog with such symptoms, they will first examine him or her, take X-rays (preferably a myelography, which is an X-ray taken after the injection of dye around the spinal cord) or an MRI scan. In most cases the dog unfortunately will need surgery, whereby Ulf then removes the disk material that herniated through. The quicker the surgery is done, the better the chances of healing. Not an easy surgery, as one is operating right down to the spinal cord – one mistake and the dog remains paralyzed!

After surgery the dog stays in the clinic for a while to recover. The first few days they often have difficulties urinating, and the bladder has to be emptied manually, and we give them physiotherapy. If all goes well, slowly but surely the dog starts standing and walking again!



*The disks that lie between the vertebrae in the spine have a soft jelly-like center (nucleus), and a tougher outer-part (annulus). A hernia is when part of the nucleus pushes through a crack/hole in the annulus. If this presses onto a nerve, it can cause (severe) pain, and even paralyze an animal. © [Mayo foundation for medical education and research](#)*



*Here you see a clear myelogram on a dog with IVDD where the contrast (parallel white lines) is pushed up; clearly demonstrating how the protruding disc material is pinching the spinal cord (substance between the white lines) © [Björn P. Meij](#)*



*Ulf performing a spinal operation at Rhino Park Veterinary Clinic © RPVC*



## GAME CAPTURE SEASON

In Namibia we are bound to a game capture season, where animals may only be captured and translocated from February (north)/March (south) until the end of September (north)/October (south). In some cases an extension can be arranged at the Ministry of Environment, Forestry and Tourism (MEFT).

For us this means our busy season is over, but it also means we have more time for our clients 😊. We can still assist you with jobs within your farm boundaries (preferably early mornings when it is a bit cooler for the animals), and we have more time for consultation work. We can advise you on various topics, such as game- veld- and disease management, what species to introduce, genetics etc. Do not hesitate to contact us! You can find our contact details on the last page of this newsletter.

If you apply for a new game capture permit (catch, keep and sell) for next year, consider putting as many species on as possible, and hand in your management plan so you can get an 'export' option on your animals. This way it's easier for game dealers to buy your animals for export purposes.



Oryx herd in the Kalahari © M. Bijsterbosch

## FARMERS DEALING WITH POACHING CRIME SCENES – SHORT VIDEO



Documentary film makers and storytellers Flo Lemonnier and Mélane Thiriet from France joined us during our Animal Crime Scene and Evidence Handling course at Kifaru Bush Camp earlier this year.

Their aim is to raise awareness about poaching and stock theft issues in Namibia. Especially the western world thinks poaching = rhino poaching. But poaching (and stock theft) is much bigger than just rhinos, many game species and livestock are affected. Their short video is now online! Next year they hope to release an extended version.

Visit their website <https://www.escape-productions.com/> to see more about their projects.

Click [here](#) to watch the short video.



DR ULF TUBBESING  
P.O. BOX 50533, BACHBRECHT,  
WINDHOEK  
+264 (0) 81 128 3050  
[ULFT@AFRICAONLINE.COM.NA](mailto:ULFT@AFRICAONLINE.COM.NA)

MARISKA BIJSTERBOSCH  
+264 (0) 81 382 8473  
+31 (0)6 4369 3095 (WHATSAPP)  
[MARISKA@WILDLIFEVETSNAMIBIA.COM](mailto:MARISKA@WILDLIFEVETSNAMIBIA.COM)

[WWW.WILDLIFEVETSNAMIBIA.COM](http://WWW.WILDLIFEVETSNAMIBIA.COM)  
FACEBOOK: [WILDLIFE VETS NAMIBIA](#)  
INSTAGRAM: [WILDLIFE VETS NAMIBIA](#)  
YOUTUBE: [WILDLIFE VETS NAMIBIA](#)

