

# NEWSLETTER MARCH

Dear clients,

In this newsletter the mystery about why zebras have stripes is unraveled, and we explain why it is important to vaccinate your (high-value) game in these difficult and dry times. We are busy planning dates and venues for the PM-courses, so should you be interested let us know.

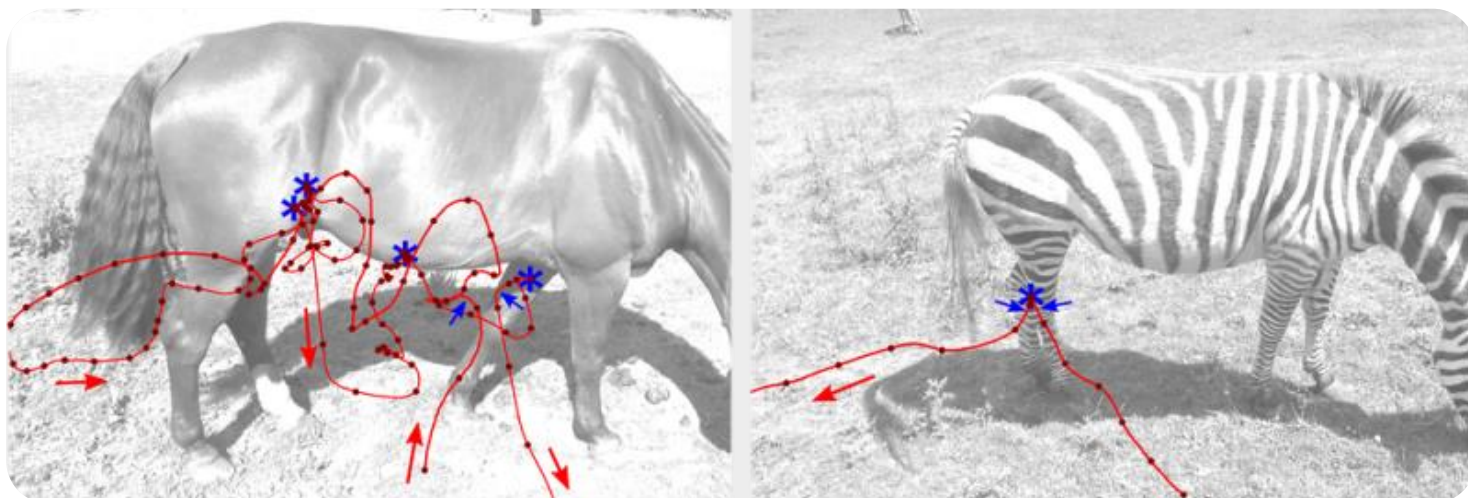
Take care!

Kind regards, Ulf and Mariska

## ZEBRA STRIPES

The zebra is known for its unique stripes, but why do they have them? Even Darwin himself discussed this question 150 years ago, and so far scientists have come up with as many as 18 theories of the possible functions of the stripes. To name a few: to evade/confuse predators, to keep them cool, they are used as a social function and to avoid insects.

A recent study by the University of Bristol supports the anti-insect theory; the zebra's stripes probably act as a deterrent towards flies and other blood-sucking parasites, as the stripes confuse and discourage them to land and bite. The researchers watched and videoed the behaviour of tanabids (horseflies) among horses and (habituated) zebras in the UK. They found that both horses and zebras received the same amount of fly approaches, but the zebras had fewer landings of these flies. When the flies approached the zebras, they did not slowdown in speed (which is needed to successfully land), but they flew over, or even bumped into them. In horses the flies reduced their speed when approaching the horse, and thus are able to land properly. The stripes thus may reduce the ability to land on the zebras during the flies' final moments of approach. Why this exactly is the case, is unknown.



Uniformly coloured horses received more approaches and landings of flies than zebras. The red line indicates the flight path, the dark dots show position at 0.1 sec intervals. The red arrows indicate the flight direction, and blue stars show contact or landings. Blue arrows show the end position of the approach and start position of the leave phases of flight. Pictures © Caro *et al* (2019)

To make sure it was not the smell or anything else that caused a difference between the fly landings on horses and zebras, the researchers gave the horses striped coats, and the flies had less landings on these coats. The flies did still land on their heads, showing that the stripes have an effect from up close, but not from a distance.

There is also a difference in how horses and zebras get rid of flies. Zebras constantly swish their tail and sometimes even ran away, where horses show higher rates of skin twitching.

In Africa, horse flies can carry dangerous diseases such as African horse sickness and trypanosomiasis (sleeping sickness). As zebras have short cropped coats, they would be particularly vulnerable to bites of these flies and the advantage of having stripes has likely evolved onto future generations.

To read the whole article '*Benefits of zebra stripes: Behaviour of tabanid flies around zebras and horses*' by Caro *et al* click [here](#).



The researchers gave horses coats with zebra stripes. Again, there was no difference in the number of flies going to the animal, but the landing rate was much less on the striped coats than on the uniformly coloured head and legs. Picture © Caro *et al* (2019)

## VACCINATING

This month we vaccinated rhinos with Rhinovax on two game farms, after the news of some animal mortalities due to anthrax. This vaccine protects animals against anthrax and several important clostridial diseases. As the drought in Namibia continues, it puts a lot of nutritional stress on the animals. This suppresses their immune system, making them more susceptible to get diseases such as anthrax, rabies and clostridial diseases. We strongly advice to vaccinate your (expensive) game, especially during these dry circumstances. We are well aware of the fact that people are very cost-conscious in these difficult times, but to cut costs, farmers within the same area could coordinate helicopter/veterinary visits, and thus share travelling- and ferry fees. The costs of vaccinating is dwarfed by the potential losses of one or more of these valuable animals.



Flying with Jannie de Preez. Darting from the helicopter is the most cost-efficient way of vaccinating most of the animal population.



## POST-MORTEM COURSE

In last month's newspaper we informed you about Post-Mortem (PM) courses that we want to start giving. This course aims at teaching farmers and farm managers the basic principles of doing a thorough and systematic PM. This course is applicable to wildlife and farm animals. In the course you will be taught:

- 🐾 When do you do a PM, and when not?
- 🐾 Carcass handling
- 🐾 Applied anatomy and physiology (where are the organs, what do they do etc.)
- 🐾 Doing a systematic and comprehensive PM
- 🐾 Sample collection (e.g. formalin, sterile, blood smears, faecal impression) and handling
- 🐾 Proper reporting on patient history and PM findings
- 🐾 Basics of medical/forensic photography
- 🐾 Lesion identification and significance
- 🐾 Practical content: PM demonstration

We are busy finding suitable dates and venues, and will inform you once these are known. In the meantime, if you are interested in such a course, sent an email to [mariska@wildlifevetsnamibia.com](mailto:mariska@wildlifevetsnamibia.com) (please include your preferred region), and we will inform you once we have more details.

We did some post-mortems recently on a giraffe and a waterbuck, and had some interesting comparisons we like to show you. These comparisons show the importance of doing a proper PM, thereby checking all organs. It also shows the importance of taking good photographs. When you have a dead animal, and check all organs and take photos of it, it is much easier for us to help you to identify the cause of death. The history is also important, how did the animal look before it died? How did it die? Often you cannot get a 100% certain cause of death by just doing a visual check, you have to take samples. We can examine these samples under the microscope, and sent samples to the pathology lab. All these things we will teach you in the PM course.

Mucous membranes (eyes)	
Giraffe	Waterbuck
Very pale, and slighty yellow mucous membranes (Pale colour = aenemia = low amount of red blood cells, yellow colour = possible liver problems)	Normal mucous membranes (pink). The mucous membrane is slightly blue, as it was euthanized
	

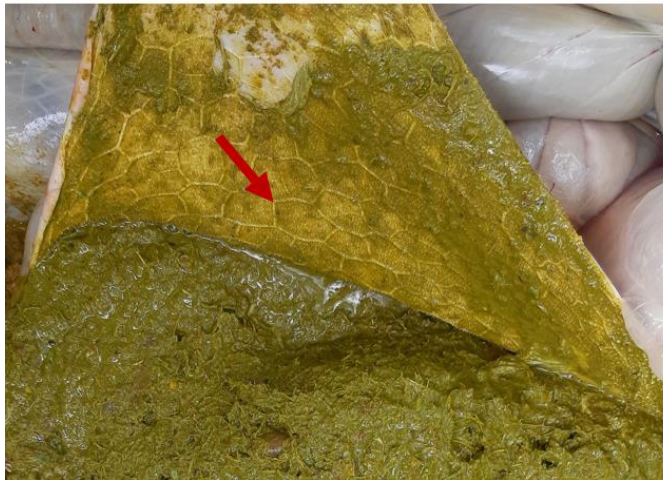
**Liver**

Giraffe	Waterbuck
Very pale liver (aenemia – low amount of red blood cells)	Normal liver colour, gal bladder very big (waterbuck did not eat for a while)
Liver cirrhosis (loss of liver cells, increase of scar tissue, makes liver hard – often seen in alcoholics or chronic toxicity)	No visual abnormalities



**Reticulum (second chamber of the stomach)**

Giraffe	Waterbuck
Folds very small – more difficult to get all the nutrients out. This might be caused by a wrong diet (maladaptation)	Normal folds



Tick wound	
Giraffe	Waterbuck
Looked bad from the outside (quite a big lesion)	Did not look bad (small lesion on outside)
Wound superficial (not deep), no inflammation	Full-thickness skin and subcutaneous muscles necrosis (rotten, puss)



## WILDLIFE VETS NAMIBIA ONLINE

Have you seen our website already? Here you can find information on what we do, and a documents-section where we upload our newsletters, articles and other documents (free to download). When we started in 2017, we had a total of 1498 visitors that looked at our website, in 2018 this grew to a staggering 10.974! January 2019 was our best month so far, with 6.415 visitors in just one month. Our website is [www.wildlifestvetsnamibia.com](http://www.wildlifestvetsnamibia.com). If you have any feedback to improve the website, let us know, we would highly appreciate it 😊

We also have a Facebook page, which grew since 2017 to 1668 likes! If you have not liked the page yet, please do so in order to receive updates on our work. We hope you enjoy our posts, and again, any feedback is welcome. Visit our Facebook-page [here](#).

Then we have our own You-Tube channel as well, where we uploaded some videos about our work. You can find the videos [here](#).

Know people that might be interested in receiving our monthly newsletter? Feel free to forward the newsletter, or have them sent an email to [mariska@wildlifestvetsnamibia.com](mailto:mariska@wildlifestvetsnamibia.com) and they will be added to the mailing list.

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