

NEWSLETTER JULY

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Dear clients,

Here is the July-edition of our newsletter. We hope you enjoy it again! Please note that we will be on our way to the DRC again from the 25th of July, and thus will have limited internet access.

All the best!

Kind regards, Ulf and Mariska

REGIONAL WHATSAPP GROUPS FOR CALL-OUTS



Now and then we go out on a job, go back to Windhoek, and got called out again the next day in the same region. To save time and kilometre-fees for everybody, we would like to start regional WhatsApp groups. When we are called out to a certain area, we will notify the group. If you happen to have a job that needs to be done, you can jump in, and save on kilometre costs. If you are interested, let us know per email or WhatsApp!

These groups will only be used to notify the people in a certain route/region we will be working there. We are sure you agree that there are already too many chat groups taking up our time, so for questions etc., we ask you to please contact us directly, and not use this group. The group can, however, be used in case there is a serious outbreak (e.g. rabies), which will concern all (game) farmers in that area.

The regions will be:

- 🐾 North of Windhoek (Okahandja/Otjiwarongo/Outjo/Tsumeb etc.)
- 🐾 South-east of Windhoek (Dordabis/Nina etc.)
- 🐾 South of Windhoek (Rehoboth and south)



ZEBRA STRIPES

In our [March-newsletter](#) we referred to a publication where the authors claimed that their research proved that zebras have stripes to act as a deterrent for flies and other blood-sucking parasites, with the stripes confusing and discouraging them to land and bite. In a new [publication](#) others suggest that the stripes help to control the body temperature!

According to this study zebras have three mechanisms to control their body temperature:

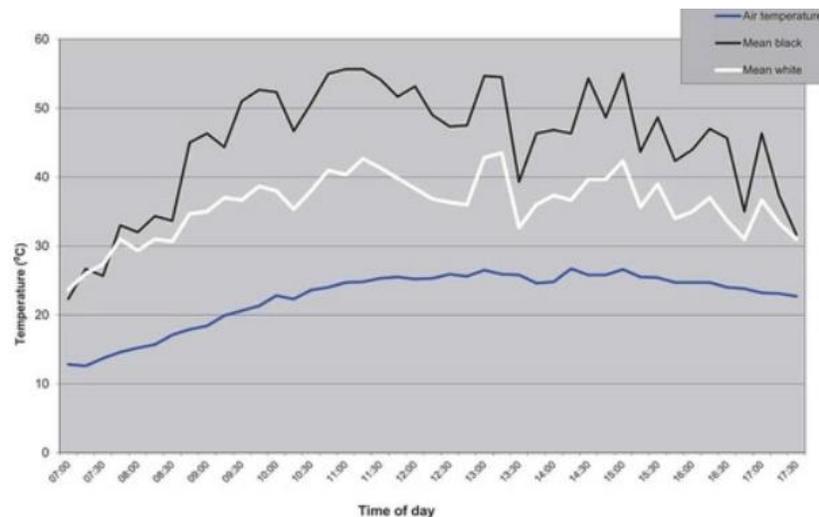
- 🐾 A special way of sweating to cool the body down.
- 🐾 Due to temperature differences between the black- and white stripes small-scale convection currents are created, which assists sweat evaporation.
- 🐾 The ability to erect the black stripes to prevent, or increase, heat loss.

Like all equids, zebras can sweat profusely but without evaporation, cooling can't take place. Equids have a special protein called 'latherin' which increases the surface area (by making it "frothy"), and lowers the surface tension of the sweat, thus facilitating evaporation and cooling.

The researchers took the temperatures of adjacent black and white stripes several times a day with an infra-red thermometer of two captive wild-born plains zebras in Kenya. Their data shows an interesting temperature difference between the black and white stripes that increased as it got hotter.

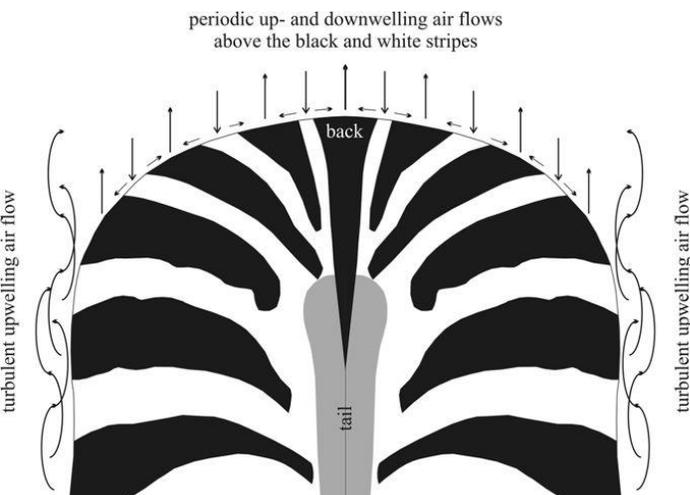
In the early morning, the researchers found that the black stripes were slightly colder than the white. As it got hotter, the temperatures of the white and black stripes started to oscillate – black stripes between 44°C and 56°C, and the white between 36°C and 42°C.

The different temperatures between the black and white stripes cause a convective flow of air at the hair surface. Warm air rises from the warmer (black) stripes, and cool air descends onto the cooler (white) stripes. With the help of the latherin protein, sweat draws from the skin to the hair tips. The air movement facilitates evaporation of this sweat, and lowers the body temperature.



Zebra mare stripe temperatures. The blue line shows the air temperature. The black line shows the mean temperature of the black stripes, while the white line shows the mean temperature of the white stripes © [Cobb & Cobb \(2019\)](#)

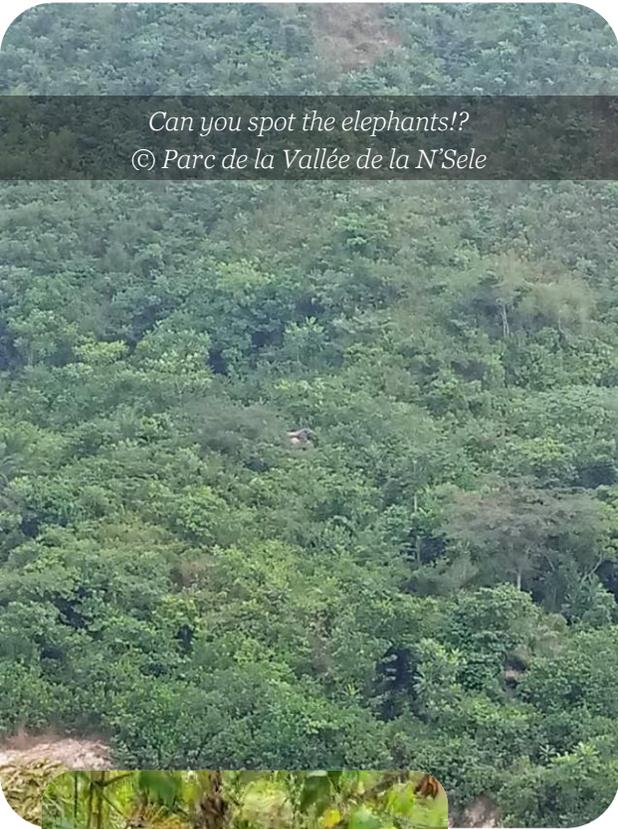
Black stripes are warmer than the white ones. Upwelling air streams form over the warmer black stripes, and is replaced with cooler air from the adjacent white stripes with downwelling air flows © [Horváth et al \(2018\)](#)



They also found that zebras can selectively raise the hair on their black stripes, while the white ones remain flat. Raising the hair during the heat of the day possibly helps to transfer the heat from the skin to the hair tips. When it's cool, the black hairs can trap air, to reduce heat loss.

Read the entire article 'Do zebra stripes influence thermoregulation?' by Cobb and Cobb (2019) [here](#).

So, who is right? Who truly knows? It is very likely that the stripes play multiple roles, e.g. the proposed anti-fly/parasite function, thermoregulation, and camouflage. Zebras certainly fare well by them!



Can you spot the elephants!?
© Parc de la Vallée de la N'Sele

DRC ELEPHANTS UPDATE

At the end of May we, in partnership with Mount Etjo and Parc de Vallée de la N'Sele, and with assistance of the Erindi team, brought a family of elephants from Namibia to a reserve in the DRC. We are happy to say the elephants are doing well!

The people of the reserve update us regularly, and since the matriarch also wears a GPS-collar, we can monitor their movements closely even from Namibia.

A striking finding so far, is that the elephants barely explore the reserve. They have found their home along a side-stream of a big river, and "pitched their tents" there. With the abundance of food and water around them, they don't find it necessary to check out the rest of the reserve. As can be seen from the photos, they are camped in a densely forested area, making it quite challenging to see them.

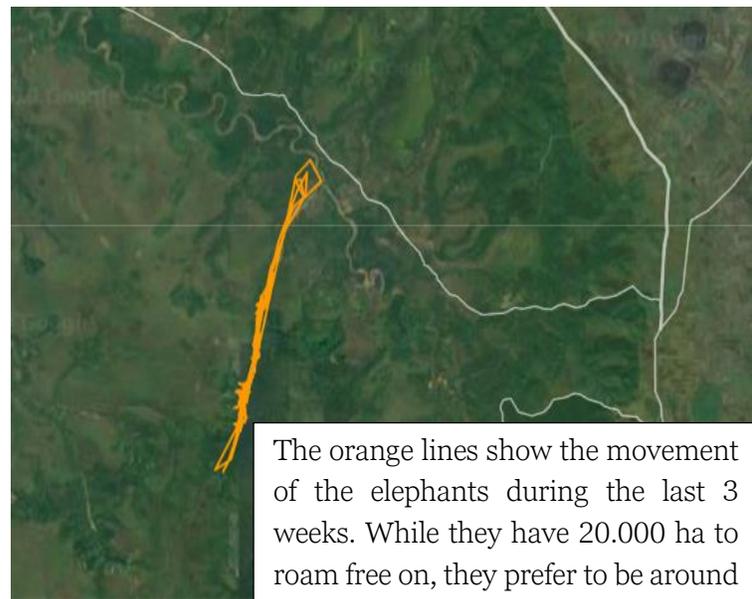
We will soon take the next family group to the DRC - again by ship. It will be interesting to see how quickly the two families will reunite!



The elephants, aka 'nature's engineers' are doing their job well so far! Parts of the reserve are densely bushed due to e.g. the long absence of mega-herbivores.

The elephants create paths through the bushes, making the area more open and accessible for other animals.

© Parc de la Vallée de la N'Sele



The orange lines show the movement of the elephants during the last 3 weeks. While they have 20.000 ha to roam free on, they prefer to be around this stream.



BIRTH CONTROL IN LIONS

Last month we have been to one of our favourite places in Namibia, the Kalahari! Kalahari Game Lodge has 15 free-ranging lions on their 24.000 ha reserve. Since lions can get up to 6 cubs at the time, you can imagine what it would do with the prey population if all females would get pregnant annually! To control their numbers, contraception is essential. To prevent this from happening, we have been involved in a contraception program since 2012, and it is working well so far.

For the lions we use a **reversible** birth control implant called Suprelorin® 9.4 mg. This implant was developed originally for dogs and cats (in a lower concentration) and it proved to be safe and effective. Eventually zoos and the wildlife industry started using the implant to control their animal populations. It works in a wide range of species, from carnivores to monkeys.

The Suprelorin® implant releases deslorin, which acts like the natural gonadotropin-releasing hormone (GnRH*). This hormone controls the secretion of the sex hormones LH & FSH* that control fertility. The implant continuously releases a low dose of deslorin, which in turn suppresses the production of the LH and FSH, and thus downregulates the ovarian and testicular functions: the animal cannot reproduce anymore.

We only give the implant to female lions, if we would give it to the males, the downregulation of testosterone would cause the males to start losing their manes.



*HORMONES... WHAT??

GnRH = Gonadotrophin-Releasing Hormone

♀♂ Stimulates production of LH and FSH.

LH = Luteinizing Hormone

♀ Stimulates the ovaries to produce oestradiol. A high peak in LH causes the ovaries to release an egg during ovulation. When the egg gets fertilized, LH stimulates the corpus luteum, which produces progesterone to sustain pregnancy.

♂ Stimulates production of testosterone.

FSH = Follicle Stimulating Hormone

♀ Stimulates the growth of follicles in the ovary and increases oestradiol production.

♂ Regulates testosterone production and stimulates sperm production.

When the implant is given for the first time, it has a stimulating effect, as the reproductive hormones increase. Males and females ideally should be separated, but in free-ranging animals this is of course a bit difficult... It is therefore important that one starts in time with the implant. The stimulating period lasts about 3 weeks before the implant starts downregulating the hormones. The animal must get another implant in 12-months' time, hereafter the implant can be given on a 24-months interval.

One must be careful with giving it to pregnant females, as this might lead to abortion, or prevent the mammary glands from developing. So far no side effects have been noted, in some zoos lionesses have been treated repeatedly for 10 years, without any problems. Deslorin is reversible, however the time when an animal can reproduce again is highly variable per individual.

POST-MORTEM COURSE

A while ago we started advertising our Post-Mortem (PM) course. Some already signed up for the course. We regret to inform you that there is a bit of a delay, we will still do several courses throughout the country, but it will probably only happen once the game capture season has ended. As you might have heard, we are doing some elephant translocations to the DRC, and we are unsure about the dates of the next translocations. This makes it difficult for us to plan a course at the moment. We hope you understand, our apologies for the inconvenience.... But don't worry, we promise we will do several courses throughout the country still this year when we get enough attendees!



Post-Mortem Course

Doing a **Post-Mortem (PM)** on a fresh carcass dramatically improves the chances of arriving at the correct diagnosis concerning the cause of death of an animal. This knowledge helps you to improve the general herd management and possibly prevent a disease from spreading. Since Namibia is such a vast country, getting a vet in is not always practical. We thus designed this PM course to teach you the basic principles of doing a thorough and systematic PM.

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



It will be an intensive 1-day course with lectures and a practical.

After the course, you should be able to perform a basic PM. You can send all the information, samples and photos to us, we examine them and/or sent them to the lab, interpret the results and discuss the findings with you.

Costs: N\$1500.00 pp (excl. accommodation/catering when needed, this depends on the location)

The course will be limited to 15 people, with enough interested attendees, we aim to present several courses throughout Namibia.

If interested, send an email (incl. your preferred region in Namibia) to mariska@wildlifestvetsnamibia.com

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