Wildlife Vets Namibia January 2022 Edition 46

NEWSLETTER JANUARY

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Dear clients,

First of all the best wishes for the New Year! We hope this will be a great year for all. Of course we continue to write our newsletters this year as well, and we hope you keep enjoying them! If there is anything that we can improve, or if you have suggestions for topics, please don't hesitate to contact us. This month we talk about sleeping animals, we provide our course list, and we discuss a question we got a lot at the end of last year: 'Why do my giraffe calves not reach adulthood?'. We love to hear your opinions on this topic. Kind regards, the Wildlife Vets Namibia team

HAPPY 2022!

A new year, a new beginning! We left 2021 behind us, and we all hope that 2022 brings much needed relief from the Covid-19 situation, and that we soon see Namibia all green again!

We would like to thank you once more for all the support and we hope that we can be of assistance again in this new year. We are certainly looking forward being in the field again! Have an amazing 2022, in good health and lots of happiness!

Regards from the entire Wildlife Vets Namibia team.

WHATSAPP GROUPS

A quick reminder about our regional WhatsApp groups; we have 4 different groups, standing for 4 different regions. When we are working in a certain area, we notify the group, and you can decide if you want to join in. Note that these are not chat-groups (!), we only mention that we are in the area.

The more farmers that join in on one trip, the more $$ is saved by everybody! If you want to be added to one of the groups, sent us a message 😊

Best buddies – two sleeping male lions © M. Bijsterbosch

SLEEPING BEAUTIES

We hope you are well rested after the holidays and got loads of sleep! Sleep is important, for us humans, but certainly also for animals. But the way how different species sleep, differs considerably. For us sleep is essential for our health. If we don't get enough sleep, we will get grumpy, and eventually can get sick and even die. For animals it is likely the same, because even though sleeping makes an animal vulnerable, they do it anyway. Research has shown that rats who are deprived of their sleep loose weight, develop infections and die in a few weeks.

Traditionally, sleep is divided in four stages:

- NREM (non-rapid eye movement)
  - Awake – natural break in sleep; e.g., being awake before, after and during breaks in sleep
  - Light sleep – guides body into deeper sleep; e.g., muscles relax, respiration/heart rate slows
  - Deep sleep – restoring the body; e.g., muscle growth and repair, immune system strengthens
- REM (rapid eye movement) – respiration/heart rate increases, dreaming, body becomes immobile. The REM stage stimulates the brain, which is important for retaining memory, learning and problem solving. The average REM stage for humans is usually +/- 90-120 min per night.

Us humans, like great apes such as the gorilla and orangutan, are so-called *monophasic sleepers*. This means we sleep in one long interval during a 24h period. Most mammals and smaller primates are *polyphasic sleepers*, which means they have several alternating periods of sleep during a 24h period. Why do we, the great apes (us included) have such long sleeps? Scientists believe this has to do with sleeping platforms. Monkeys sleep on branches – hard to balance, but they are also easily awakened when there is danger. The great apes, often too big to balance themselves on a branch and sleep at the same time, started building beds/sleeping platforms. This enabled them to lie down higher up, away from danger and distractions, and at the same time it allowed the great apes to sleep longer, more securely, and thus also deeper.

The need for sleep is the highest in carnivores and lowest in herbivores. In herbivores there is a correlation between body mass and sleep length; in general, big mammals sleep less than smaller ones. Elephants and giraffes only sleep about 2-4 hours per 24h. They need to forage a lot to maintain themselves, and thus can't afford to sleep much longer. For many ungulates it is dangerous to lie and sleep, therefore they usually sleep while standing. However, to enter the important REM stage they do lie down, but unlike humans, a few minutes is enough. Some bats sleep 18-20 hours per day. Bats forage on mosquitos, who are active for perhaps 4 hours per day. So, for the bat there is not really a reason to stay awake for longer, and can thus preserve energy by sleeping. A lion, who does not have to fear much from other predators, can also sleep for longer periods of time.

What about aquatic animals? They can't become immobile while sleeping, or they will sink! Of course, nature has the perfect solution… Dolphins, whales and some birds can stay alert with half of their brain, while the other half rests. This sleeping pattern is called *uni-hemispheric slow wave sleep*. Interestingly, dolphins most likely don't go into the REM stage, and thus don't become immobile.

There is still a lot that we don't understand about sleep… our advice… we must keep on sleeping to solve all those mysteries 😄

WILDLIFE VETS NAMIBIA

COURSES IN 2022

For 2022 we once again have some courses lined up! If you have any questions, if you want to receive the more detailed course outline, or want to register, send an email to mariska@wildlifevetsnamibia.com.

Animal Crime Scene and Evidence Handling course

In the Animal Crime Scene and Evidence Handling course we teach participants how to approach and handle a crime scene (e.g. poaching or stock theft) and evidence. We have two courses lined up:

- Etango Ranch (opposite Hosea Kutako Int. Airport)
- 04-06 March

- Kifaru Bush Camp (near Outjo)
- 13-15 May

Combine both courses at Kifaru!

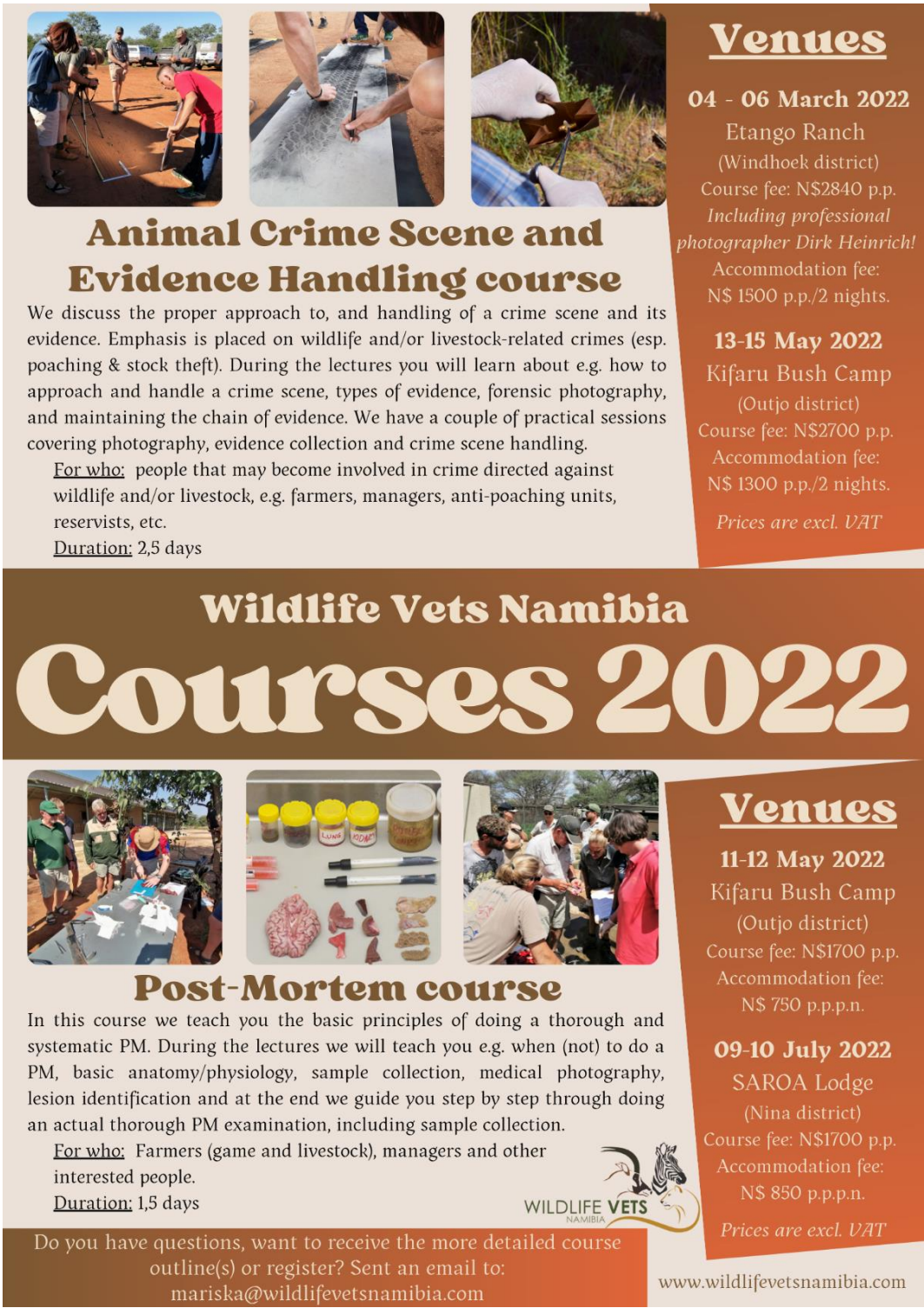
Professional photographer Dirk Heinrich will join us for this course! Now is your chance to ask the expert all your photography questions!

Post-Mortem course

In the Post-Mortem (PM) course we teach you how conduct a systematic and thorough PM examination yourself. We will present two courses. For more information, download the course outline here, or contact us.

- Kifaru Bush Camp (near Outjo)
- 11-12 May

- SAROA Lodge (Nina district)
- 09-10 July



Giraffe bull in Etosha National Park
© M. Bijsterbosch

GIRAFFES AND THE BROWSE LINE

During the last few months of 2021, we had several farmers contacting us about their giraffes on the farm, all of them had more or less the same story…: They see young giraffe calves, but notice that only few make it to adulthood. Why? Before we explain our theory (we love to hear your opinion), we first give some background information on their diet and way of feeding.

Giraffes are predominantly browsers; they mainly eat leaves and buds from trees and shrubs, and, during spring, herbs, flowers and fruit. Giraffes are selective feeders, and their main food source are usually the *Vachellia* species (formerly known as Acacia), the *Ziziphus mucronata* (Buffalo thorn or Blinkblaar-wag-'n-bietjie) as well as the *Boscia albitrunca* (Shepherd's tree or Witgat). Giraffes prefer to browse between 1.8 – 4.8 meters in height[1], which gives them little competition from other browsers.

Research done in the Hoanib River showed that over 80% of the mature Ana trees (*Faidherbia albida*) had browse lines of +/- 5 meters, which is about the maximum height an adult giraffe can feed to. Unlike the elephant, giraffes are not-well researched as being habitat engineers, but they certainly can have a devastating effect on certain tree species and can decrease species diversity, supress growth and kill trees. On the other hand, there is also evidence that browsing encourages new bud formation and shrub/tree growth – some trees species respond to browsing by increasing in nutritional quality and better palatability[2]. However, excessive over-browsing can have detrimental effects on especially smaller trees and may in fact even can kill trees.

Trees, like all plants, use photosynthesis (the process by which green plants capture light energy, mostly in the leaves. This energy is used to convert water, carbon dioxide, and minerals into oxygen and energy-rich organic compounds essential for the plant's survival). A plant or tree that is over-browsed to the extent that insufficient leaf mass is left on the plant, is no longer capable of this life-sustaining photosynthesis. Death of that plant is the direct result.

We believe the main reason for giraffe calves often don't reaching adulthood, is because there is simply not enough food! Calves are weaned at about 6-12 months, meaning they are about 2.4 – 2.8 m in length. Once the giraffe calves are weaned, they have to obtain all their food through browsing. If the browse line is so high that they cannot reach the leaves, their food intake will be insufficient to sustain themselves.

Trees, in an attempt to avoid over-browsing, start to produce tannins, which gives trees/shrubs a bitter taste, resulting in giraffes (and other browsers) to stop eating from that tree or shrub. This is an effective defence mechanism. However, in the absence of other food sources, browsers are forced to eat from those trees. In addition to the poor taste, tannins also reduce food digestibility which, in areas of insufficient browse availability, will force browsers to eat even more from these trees and shrubs. This can lead to a poor body condition and a starvation syndrome (chronic tannin toxicity), which will be more of a problem in younger (smaller) animals since the high browse line already deprives them of food.

Giraffes against a height chart © Andrew Taylor / Alamy Stock Photo

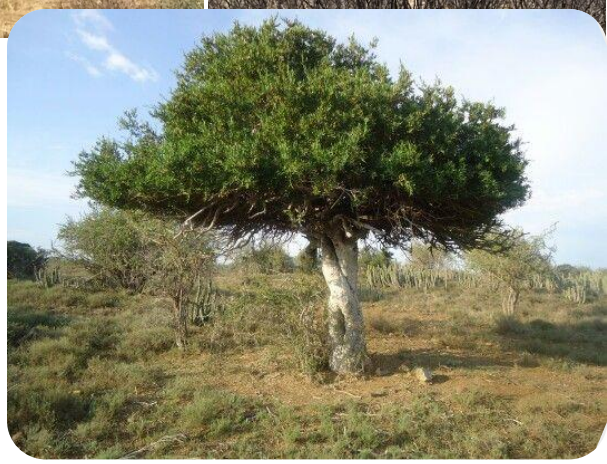
[1] Furstenburg, D. (2013). *Focus on the Giraffe (Giraffa camelopardalis)*. 06077. 24-26.
[2] Fennessy, J.T. (2004) *Ecology of desert-dwelling giraffe Giraffa camelopardalis angolensis in northwestern Namibia*. Faculty of Science, School of Biological Sciences, The University of Sydney

WILDLIFE VETS NAMIBIA

Wildlife Vets Namibia was recently accused on somebodies Facebook page of "selling the last of the Namibian giraffe's gene pool", by exporting them to Angola and the DRC. The photo evidence below and discussion above should make it obvious that, on many Namibian game farms, giraffes are severely overpopulated and need to be proactively managed. In the final analysis, habitat is king! If we look after the habitat, animals will have food for survival – if we neglect habitat conservation, species will starve.

Below we show some photos which were taken on several Namibian farms. We suggest farmers who experience a lack of giraffe calves reaching adulthood to have a proper look at the main tree species the giraffes forage on. Where are the browse lines? What are the leaf contents of the trees? We would very much like to hear your opinion and experiences on this topic!

↑ These photos show what over-browsing by giraffes can do. On the 1st photo you see a Camelthorn tree (Vachellia erioloba) along the highway, where no giraffes are present. The other 2 photos show Shepherd's trees (Witgat - Boscia albitrunca) which are heavily browsed by giraffes. You can clearly see the browse line, and there is no way a young giraffe can reach the leaves. © U. Tubbesing



→ Nice healthy shepherd's tree without sign of excessive browsing – compare to the above photos of shepherd's trees over browsed and dying © Frieda Greyling

← Camelthorn tree with very clear brows line. What is the sufficient residual leave mass to ensure adequate photosynthesis for survival? © U. Tubbesing

↓ This photo is from the same area as the camel thorn tree picture on the left. Note the limited residual tufts of leaves high up in trees, a typical sign of over browsing by giraffe. © U. Tubbesing

Here you see a giraffe "restaurant" for supplemental feeding to avoid over browsing. It is important to make sure that the height of the restaurant is at a level where 6-8 month old giraffe can eat! © U. Tubbesing

If you see that trees on your farm are suffering by over browsing – what to do? As said before, habitat is king, so leaving this as is and hoping for the best can be a dangerous strategy.

Two options are reducing your giraffe numbers, either by culling or translocating them. If you feel the trees are perhaps temporarily suffering while waiting for the rains, one can build special giraffe restaurants. Note that it will take time before the giraffes get accustomed to feeding from these restaurants – start while the body condition is still good!

Good supplemental foods for giraffes are for example camel thorn pods and lucerne. For a comparison of the nutritional value of camelthorn pods and lucerne, have a look at our August 2019 newsletter. One can also add some maize (not too much) and commercial game pellets made.

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