

NEWSLETTER OCTOBER

In this newsletter:

- 🐾 [♪♪♪♪ The sound... of giraffe](#)
- 🐾 [♪♪♪♪ Cyanobacteria, algae and elephants... What is going on?](#)
- 🐾 [Body condition score in antelope](#)

Dear clients,

Here is our latest newsletter, with some interesting articles we hope 😊 We start off with 'the sound of giraffes', and explain what cyanobacteria are, which might have caused the elephants in Botswana to die. Lastly, we give a summary of our article on body condition in antelope. Let us know if you have any particular subjects you want us to write about in our next newsletters! All the best!

Kind regards, Ulf and Mariska



Giraffe © [T.G. Raffe](#)

♪♪♪♪ THE SOUND... OF GIRAFFES ♪♪♪♪

Question... What sound do giraffes make? Don't cheat, answer before you read on... 😊

.....

And? What did you come up with? They don't roar, oink or bleat... For a long time people believed giraffes were unable to make any substantial sounds, as it is physically difficult for them to create sufficient airflow through their long necks to produce sounds. Beyond the occasional snort or grunt, giraffes actually appear to be quite vocal... they make humming sounds during the night!

A few years ago, [researchers](#) from the University of Vienna recorded more than 947 hours of audio material in three zoos in Europe. They detected 'harmonic, sustained and frequency-modulated humming vocalizations' in these audio recordings. The average hum had a frequency of about 92Hz, which, although low, is hearable for humans. Interestingly, they only made the humming sounds at night.

Click [here](#) to listen to the humming giraffes.

Giraffes heavily rely on their sight, and during the day their primary communication occurs via visual signals. When their vision is impaired during the night, they might switch to the low frequency humming to communicate with each other.

So what do they say (or sing!)? That only the giraffes will know... In general animals use vocalizations to transfer information, for example about predators, dominance hierarchies, reproductive status etc. In this study no behavioural data was recorded, so the researchers could not match the sound to a certain behaviour.

CYANOBACTERIA, ALGAE AND ELEPHANTS... WHAT IS GOING ON?

You have probably read it in the news that the Botswana government concluded that the recent mortality of the elephants was caused by cyanobacterial neurotoxins. There is some confusion amongst people about the cyanobacteria and the so-called algal blooms. So what is all this, and how can you prevent this from happening on your farm?

Cyanobacteria

The cyanobacteria are one of the largest (+/- 2,000 species) and most important groups of bacteria on Earth. They are microscopic organisms with a worldwide distribution, usually found in low numbers in aquatic habitats (e.g. oceans, reservoirs, lakes and damp soil). Under optimal conditions they can rapidly grow into large colonies, forming the so called 'blue-green algae', since they then look like algae. It is important to know that there is in fact no biological connection between the cyanobacteria (= bacteria) and algae (=aquatic plant).

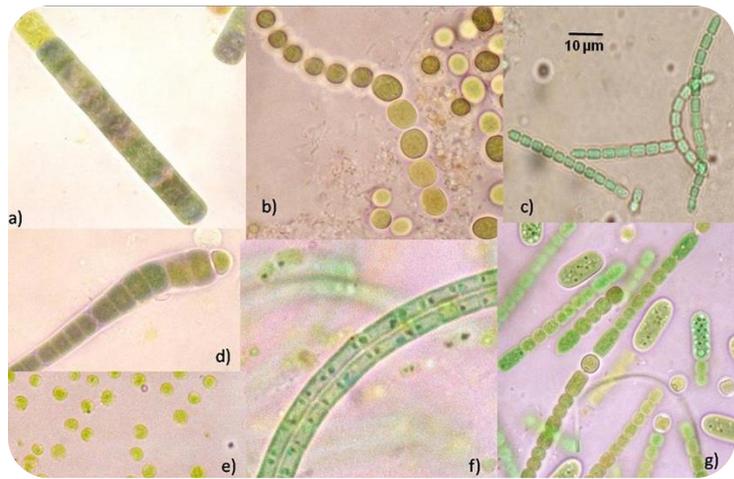


One of the +/- 350 dead elephants in Botswana. Local sources suggested that 70% of those elephants died near water holes contained blue-green algal blooms. © Reuters

Cyanobacterial blooms and cyanotoxins

Cyanobacterial blooms are usually triggered by high levels of minerals and nutrients, esp. ammonia, nitrates and phosphates, in the water. In addition, water temperature, sunlight effects as well as weather extremes (droughts and floods) are playing an important role.

The bloom can look like foam, scum or mats, and can be green, blue or brown-red in colouration. When cyanobacteria die off, the water can smell very bad. During a bloom cyanobacteria can start producing potent cyanotoxins which may cause skin and eye irritation on contact or, after ingestion, serious damage to the liver, brain etc. resulting in death. Cyanobacterial bloom has been associated with very acute and massive mortalities amongst fish, aquatic birds and mammals.



Different types of cyanobacteria found in freshwaters in South-Africa, seen from under the microscope. © M. Estherhuizen



Dead buffalo, quite likely a victim of the cyanobacterial bloom © Photo courtesy Dr Johan Steyl, Onderstepoort Veterinary Faculty

Cyanobacterial bloom, often called blue-green algal bloom by the general public

© Photo courtesy Dr Johan Steyl,
Onderstepoort Veterinary Faculty



According to the Botswana Department of Wildlife and National Parks' Principal Veterinary Officer, the lab results suggest that a combination of neurotoxins, caused by the cyanobacteria, lead to the elephants' deaths.

Prevention of cyanobacteria and algae

Due to climate change (e.g. higher temperatures and more extreme weather conditions – droughts and floods) as well as increased human pressure on global water resources, the incidence of cyanobacterial blooms is on the increase.

Since the treatment of especially large water bodies, is very expensive and hardly practical, prevention is better than cure. Preventing or reducing the nutrient load that ends up in the water (e.g. effluent from fertilised fields and/or sewerage plants etc.) is the 1st prize.

For smaller waters such as dams on farms, you can do the following:

- 🐾 **Mechanical control.** Some **algae** species you can physically rake out, however this would be an ongoing process during the algae's growing season. Another option is to lessen the chance of nutrient run-off (esp. in agricultural areas). It is always advisable to clean/scrub water troughs on a regular basis.
- 🐾 In the case of a known or suspected incident of cyanobacterial bloom, it may be useful to **temporarily fence of a water body** to minimise/prevent animal losses. Needless to say, you would have to provide alternative sources of drinking water. The bloom usually subsides after a few days but, under favourable conditions, may persist for weeks.
- 🐾 **Biological control.** Maintain a buffer of natural vegetation (reeds) around ponds and lakes to filter incoming water. If possible, prevent standing water and prevent animals from defecating and urinating in the water. Some say adding fish (e.g. gold fish or koi) to water tanks helps.
- 🐾 **Chemical control.** There are several products on the market to **reduce algae**, one must be careful however if the water is still drinkable after treatment.
 - One way of controlling algae is with low concentrations of copper sulphate. There are no water-use restrictions after using copper sulphate, BUT as the algae or cyanobacteria die off, they can release toxins, so it is advisable to prevent animal access for a week.
 - Another well-known way is to use unscented household bleach. Bleach contains chlorine, which helps to sanitize the water, however when the water is exposed to direct sunlight, the chlorine evaporates within 24h.

Every situation is different, so what would work best for you depends on your situation. What we find works well is to firstly scrub your water troughs clean on a regular basis, and position them in a shady area. If you have algal blooms in your dam or other water source, let it dry up completely, and treat it with copper sulphates. Make sure that animals can't access freshly treated water sources by, for example packing thorny branches around the area or fencing it off.

BODY CONDITION SCORE IN ANTELOPE

Assessing the body condition of your animals is very important, since this gives a good indication of the overall health of the animal. Both very thin or fat animal are prone to different health risks and will have suboptimal reproduction rates. Here you find a summary about body condition score in antelopes, click [here](#) to read the full article. For a body condition article specifically on rhinos, click [here](#).

Changes in body condition

There are many different causes for an animal to be in a poor condition, some examples are:

- 🐾 Insufficient nutrient intake
 - Primary starvation (e.g. in a drought)
 - Poor food quality (unpalatable or poorly digestible food)
- 🐾 Nutritional demands exceed food intake
 - Pregnant or lactating animals
 - Males fending off competitors during the breeding season
- 🐾 Inability to eat
 - Bad teeth, lesions in the mouth/jaw
 - Competition around feeding areas, the submissive animals don't get a chance to eat
- 🐾 Diseases
 - Can reduce appetite
 - Can lead to a loss of nutrients (worms, diarrhoea)

Body Condition Score System

A number of 'Body Condition Score' (BCS) systems are used in different domestic animals. All work on a numbering system (from 1 – 5 or even to 9), where the lowest number is usually allocated to the animals in very poor condition, and the highest number to obese animals. After assessing several criteria and body regions, an animal is allocated a specific score. We like to work with a simple 4-scale system, whereby:

1 suggests a very poor condition, 2 a poor condition, 3 is ideal, 4 is fat.

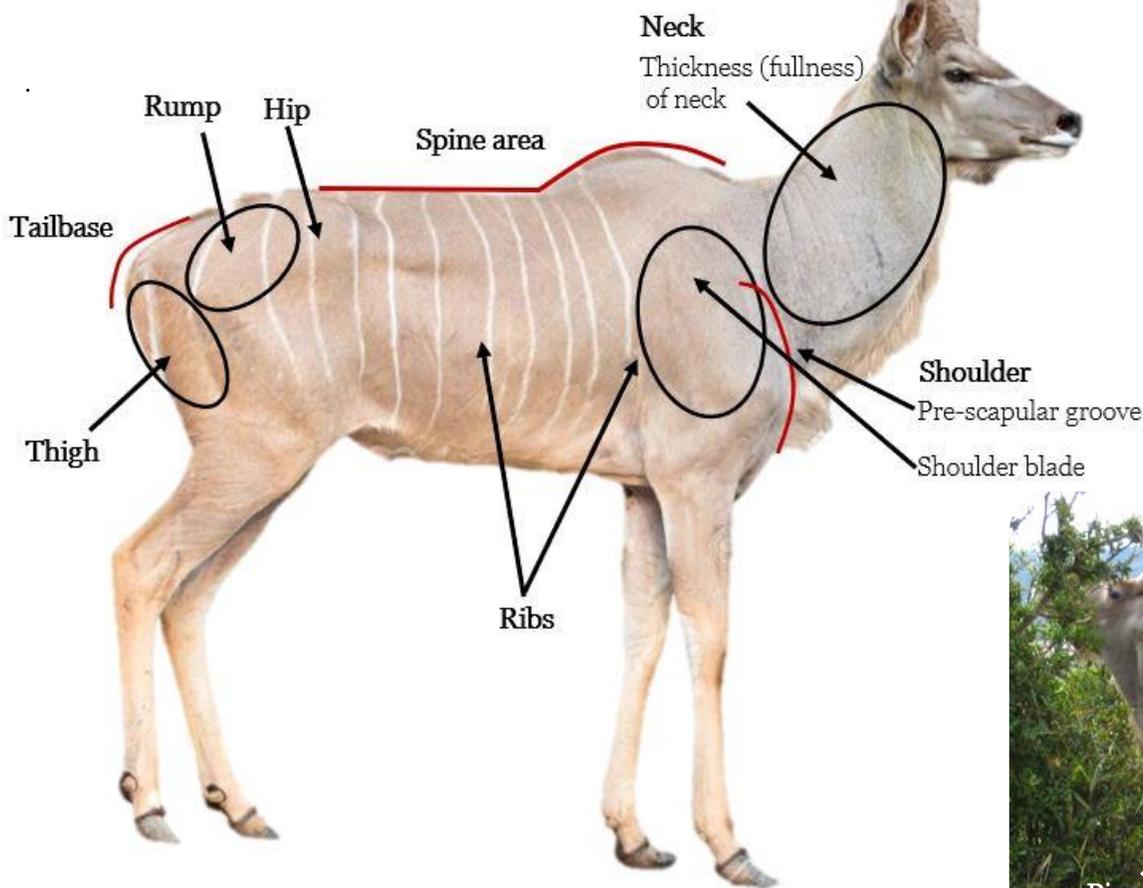
When you go into the field, we recommend that you always have binoculars or ideally a camera at hand to properly assess the body condition. For valuable animals it is a good idea to take comparative photos on a regular basis. This provides an ideal and permanent record of the animal's trends in overall condition. Such a photo record will also enable you to spot (and monitor) early and minor changes in body condition. To keep track of the different BCS of your antelope, ideally use a table (see example below), where a BCS score (and photo) is taken on a regular basis. Remember, early diagnosis and intervention is always the best remedy.

Sable	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Remarks
A20	2	2	2	2	3	3	3	3	3	3	2	2	Calved in Jan, good rains + grass cover in April. Poor grass cover in Nov
A23	3	3	2	2	2	3	3	3	3	3	3	3	Residual pasture but drought conditions result in condition loss in March. Supplemental feeding from mid-April, good condition recovery by June
A24	3	3	2	2	1	1	2	2	3	3	3	3	Young bull in same group as 2 above NOT picking up condition due to feeding competition – being pushed out. Fed at separate spot 100 m away from mid-June onwards
B45	3	3	2	1	2	3	3	3	3	2	2	3	Heifer rapidly losing condition. Darted and checked 10 Apr. Treated for heavy worm infestation

Body regions for assessing condition

Similar to determining the body condition score in domestic animals, we also assess different body regions in antelope. First off, we look at the general appearance of the individual, paying specific attention to its behaviour. Sick animals tend to be separated from the herd, are not seen eating, and, because they stop grooming behaviour tend to have a heavier parasite burden (flies and ticks). Animals that are thin due to insufficient food intake, tend to roam with the herd and are keen to eat.

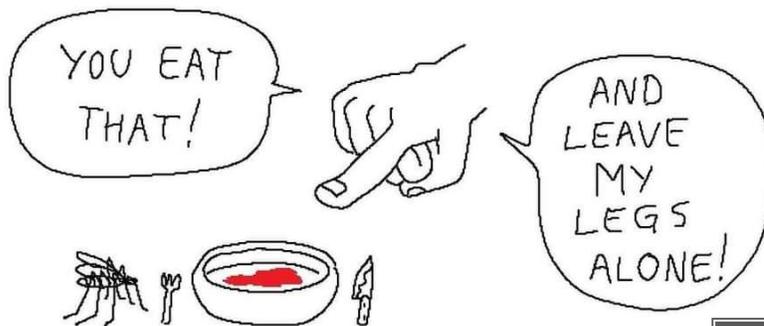
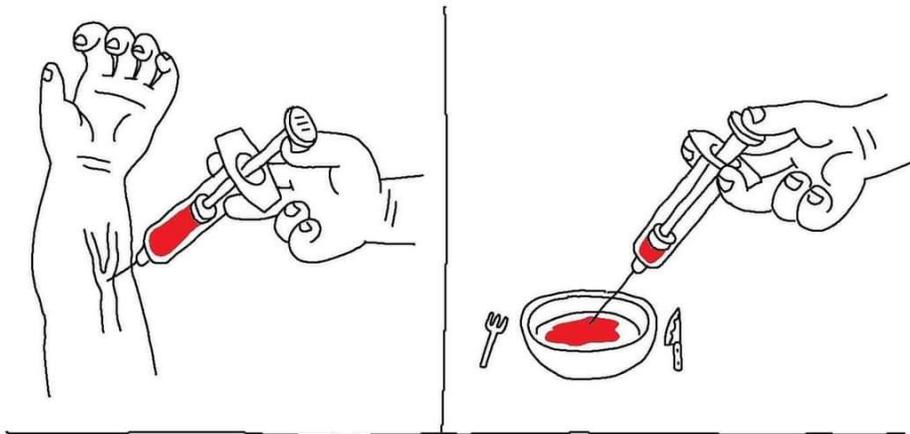
Now we look at those body regions that give the best indication of body condition, namely the neck, shoulder, ribs, spine and hip area. Evaluate the muscle coverage (fullness) of these areas. This is used to identify whether an animal is of a healthy weight, too thin, or too fat. Antelope species, in contrast to domestic animals, rarely have a thick layer of fat.



In the online article you find more info on what you should look at when you monitor the body condition of an antelope, and we give you a chart with example photos to compare emaciated (score 1) to thin (score 2) to ideal (score 3) and fat (score 4) antelopes. Lastly, we give information on what you can do to improve an antelope's body condition.

Click [here](#) to read the full 'Body condition score in antelope' article.

The mozzie season is starting again...



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