

NEWSLETTER MAY

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Dear clients,

Winter is slowly approaching... So, grab a hot chocolate, and enjoy our newsletter! We are sure you have noticed some species having a skin flap hanging under their neck. Ever wondered what this is for? After reading this newsletter you will know! Then we tell you more about an orphaned rhino case we had - a happy-end story! Lastly, we discuss an interesting project we did together with the Max Planck Institute, in where 121 animals were tagged! Enjoy the newsletter, and if you have any questions, please do not hesitate to contact us! Kind regards, the Wildlife Vets Namibia team.

THE DEWLAP

Some animals, such as the eland and Brahman cattle, have a piece of skin hanging down their throat. Ever wondered what this is? This skin-flap is called a dewlap. You can see this piece of skin (or flesh in some cases) hanging beneath the neck or the lower jaw of several species, including mammals, birds, reptiles and amphibians.

The function of the dewlap differs between species. In many lizards for example, the dewlap is movable and plays an important role in territorial and sexual displays. But why do our eland, and especially the males, have such big dewlaps?

Three hypotheses have been posed by scientist [Bro-Jørgensen in 2016](#):

- 🐾 Sexual Selection Hypothesis – The bigger the eland, the bigger the dewlap. This means that the dewlap can give useful information to females about the age and experience of the eland bull, and/or make the bull look bigger to rival bulls.
- 🐾 Predator Deterrent Hypothesis – Eland with bigger dewlaps ‘communicate’ to predators that they are bigger, and thus more difficult to take down. A bigger dewlap makes the eland appear larger, and therefore deters attacks.
- 🐾 Thermoregulation Hypothesis – The dewlap will help to get rid of heat. Overheating is a problem in especially large animals.

The three hypotheses were examined and analyzed. It seemed that the dewlap in eland did not have a role in sexual selection (unlike in many lizards and birds). In case of predators, it was found that the bigger the dewlap, the more claw marks from predators on the eland’s body were found.

There was however a link between body size and the size of the dewlap, which might support the thermoregulation hypothesis. Big species (>400kg) that do not have a dewlap, such as the bison or yak, live in cold areas. The African and Asian buffalo cool down their temperature by wallowing in mud. But what can an eland do to avoid becoming overheated? Eland, especially the males, can become very reach big. This makes it more challenging to get rid of body heat, especially in the African sun. The dewlap has a very rich blood supply (like the elephant’s ear), which allows heat to be transferred from the body into the air (heat dissipation). Female eland are smaller, and thus need smaller dewlaps.

It might be that the dewlap also has a role in communication, but this needs further research.



Eland bull in Etosha N.P. © M. Bijsterbosch

RHINO ORPHAN RESCUE

Early April we received a disturbing phone call from a client. A rhino cow had died of a natural cause, but she had a calf at foot. The calf was estimated to be around 12-14 months old. Normally a rhino calf is only weaned around 18 months. A rhino calf of this age could survive without milk, however, she was still quite small for her age, and due to a lack of rain, there is not a lot of grass around on the farm.

We immediately contacted the [Rhino Momma Project](#) and the [Mount Etjo Rhino Trust](#) to discuss our options. It is great to know that we have two rhino orphanages in Namibia that work so well together! It was decided to take the calf to the Mount Etjo Rhino Orphanage. They just released two 2-year-old rhino orphans into a big camp with lots of grass. We all believed the calf would have the best chance if we would release her in this camp close to the newly released orphans. We hoped that the calf would join up with the older orphans, that way we would limit human interaction and she could grow up as a real rhino.

The calf was sedated and transported in a trailer to Mount Etjo. We would like to thank the Ministry of Environment, Forestry and Tourism for arranging a permit very quickly so we could move the calf!



The calf was then released into the big camp close to a dam. It was a bit of a gamble we took, if the calf would not join up with the older orphans, or would not graze/drink on her own, she would quickly loose condition and we would have to intervene again. She was therefore monitored closely, and soon she visited the dam to drink water. That same night she did meet up with the two bigger orphans, but they went separate ways again. The next day she was seen grazing, a very good sign! After a few days, the calf started bonding with the two older orphans. The plan succeeded!

Now, 1.5 month later, the calf is fully accepted, and the three form a strong bond. We would like to thank the people from the Mount Etjo Rhino Trust for their continuous efforts helping these magnificent rhinos!

If you like to help, you can! Please visit the Mount Etjo Rhino Trust [GoFundMe Page](#), your donation will contribute to milk, food, veterinary costs and field guides for the protection of the rhinos. Thank you ~ Baie dankie!



Despite being quite a bit smaller, the calf and the older orphans form a strong bond! © A. Oelofse

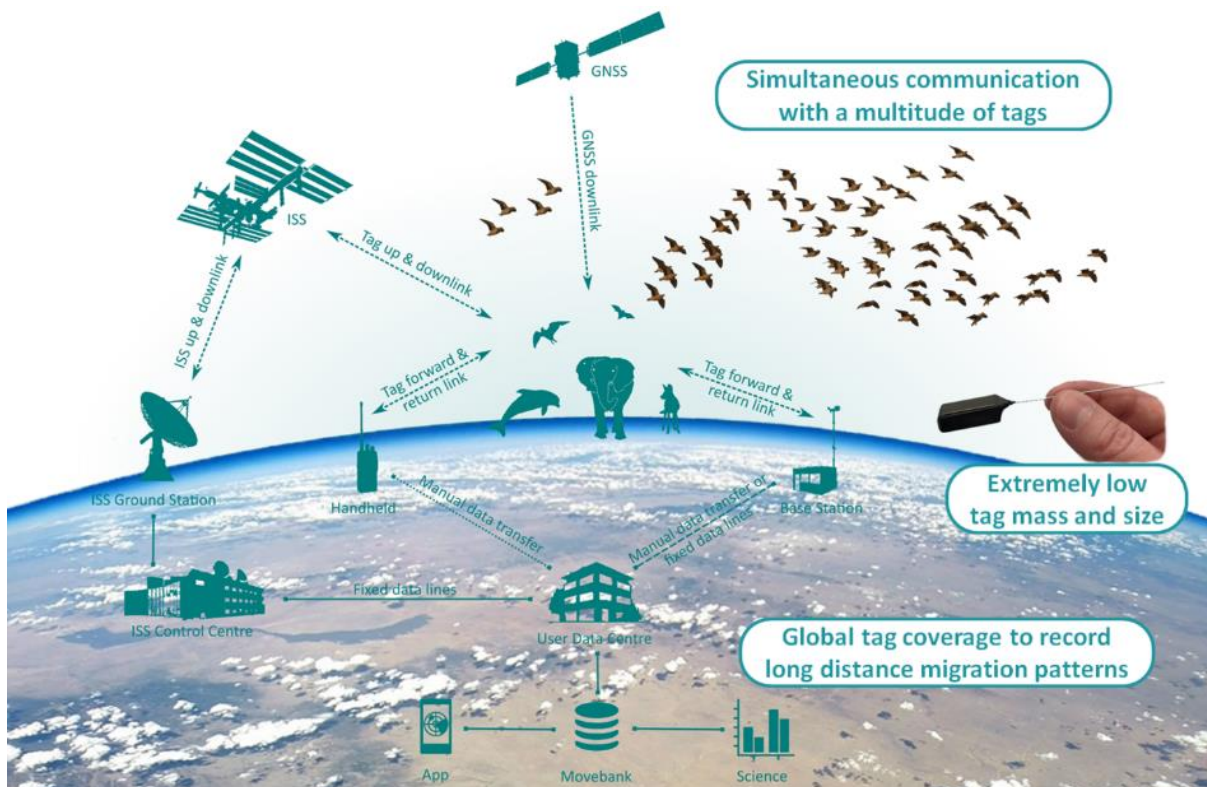


THE ICARUS INITIATIVE – PART TWO

In [October 2023](#) we wrote about this very interesting project of the Max Planck Institute, the ICARUS¹ Initiative. This project is led by Martin Wikelski and Uschi Müller from the Max Planck Institute of Animal Behaviour. The main goal is to get insight into the lives of animals that roam our Earth. Over millions of years animals have developed incredible senses, they process information from their environment better than any of our computers can do. The question is, what can these animals tell us about natural disasters, biodiversity loss and climate change?

In order to answer these questions, the researchers try to create a living map of the Earth's animals – this means tracking animals with a network of sensors (tags on the animals) that can send real-time data. Basically, an 'Internet of Animals' is created, the animals with their senses perceive and interpret the environment, and we learn from the data collected! Understanding animal movements is important to understand a wide range of ecological process. Where do animals thrive, and where not? How do they respond to changing ecosystems?

The sensors (or tags) are custom-built for each species and can record the animal's GPS position and movement, but also humidity, temperature, pressure, acceleration and magnetic fields. They are extremely small and lightweight, with some tiny tracking devices even fitted on insects! The data that is collected by the animals, can help us better understand our environment. To see how boundaries of wetlands are changing, the researchers look at movements of the shorebirds. For snowmelt, one tracks the movement of geese. To examine disease transmission, bats are followed across Africa. To predict natural disasters, animals near volcanos or animals in areas vulnerable to tsunamis are tagged and followed. Based on their behaviour, researchers can better predict when a natural disaster is upcoming!



Animals and their senses are used to better understand what is happening around the world. The wearable sensors on the animals transmit on-the-ground data to researchers. © ICARUS

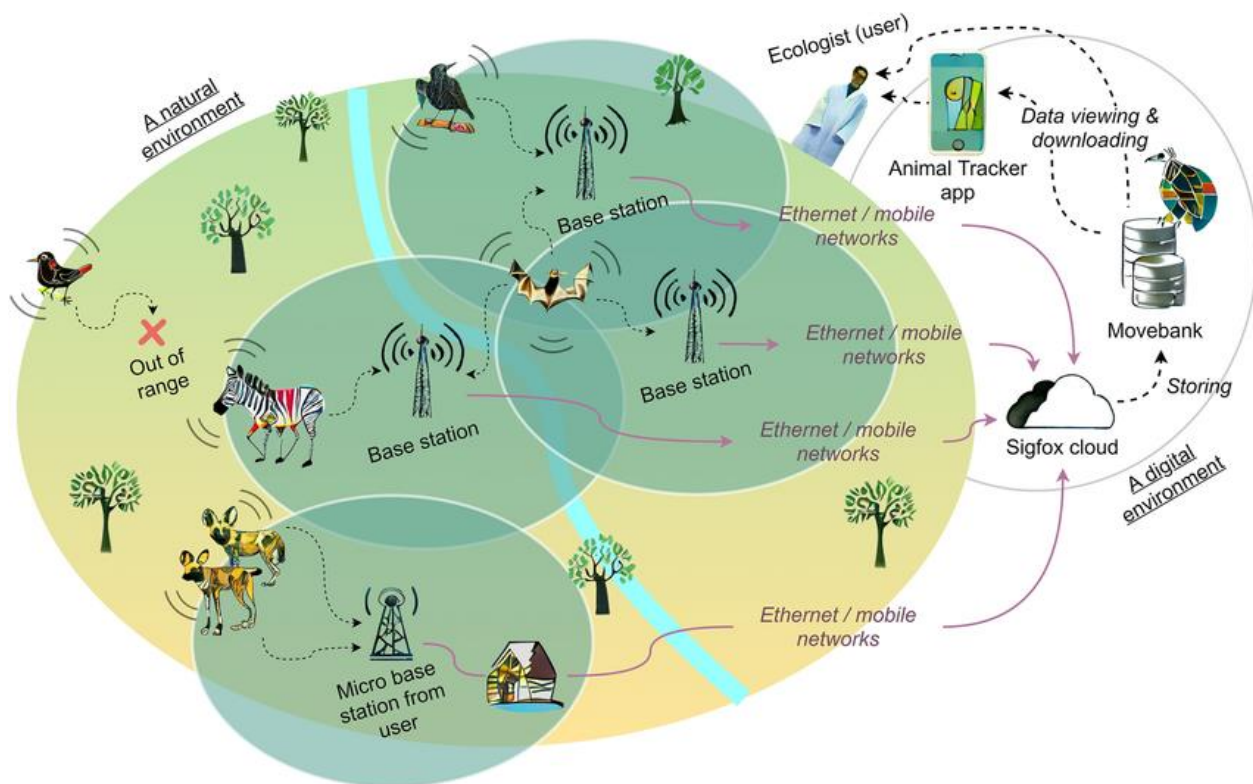
¹ International Cooperation for Animal Research Using Space.

Last year we assisted the Max-Planck team for the first time, when a wide range of species were tagged on two different reserves in Namibia. Now it was time to go bigger! In just 4.5 days, 121 animals of 13 different species on one reserve were tagged!

These tags don't transmit their data directly to satellites, but to so-called SigFox towers. SigFox is a Low Power Wide Area Network (LPWAN). It consists of a global network of base stations that has, however, a lot of reception holes outside of populated areas. To cover these 'black spots', additional receivers can be put up in coordination with the SigFox provider in a country. The ear tags contain tiny transmitters that transmit data to these Sigfox base stations (e.g., a tower). From the towers, the data is transmitted to the Movebank, from which researchers/farmers can access the data. When an animal is not in reach of a tower, the data gets stored, and is sent once the animal is in reach again.



An oryx that got two tags. The data transmitted by the ear tags is packed in a tiny 'message', which is relayed to SigFox base stations rather than to satellites in space, using very little battery power. This enabled researchers to make the ear tags super small and light-weight – they weigh only 18 grams! © M. Bijsterbosch



Here you can see a picture showing a SigFox network that tracks animals. The tags on the animals transmit tiny messages to the base stations (SigFox towers). From the towers, the data is sent to the Movebank, from where the data can get accessed by the researcher/farmer. © [Wild et al \(2023\) Animal Biotelemetry](#)

Thanks to the tagged animals, both the researchers and the game farmer will have a better idea where the animals are, and how they move over the reserve. This Namibian project also has a strong emphasis on detecting abnormal movement patterns. When, for example, poachers enter a farm, the movement and behaviour of animals will change. This ongoing research is to test how this change in abnormal movement patterns can best be picked up from the data send out by the tags. If certain abnormal movement patterns are detected, the farmer could send out his APU-team and check what is going on.

Another important feature is a mortality alarm. Even when an animal sleeps, the ears keep moving. But when no movement has been detected for about 30 seconds, an alarm goes off. In the case of say a poached rhino, this could enable the first responder to apprehend the poachers while they are busy taking the horns off!



*13 different species were tagged, from springbuck and impala, to wildebeest, oryx, giraffe, and even giraffes and an elephant! From left to right: Black wildebeest and elephant © M. Bijsterbosch.
Springbuck © K. Safi*

How is your German...? If you even just understand it a little bit, it is very much worth your while to watch the documentary 'Das geheime Wissen der Tiere' from the ARD-tv program Das Erste. Note that the video is only available online until 08 July 2024. Click [here](#) to watch.

We would like to thank the entire team from the Max Planck Institute for this amazing project! A big thanks also to the farmer, and of course Raymund from Simon Wildlife Services for being up in the air for many hours a day! For more information about the Icarus Initiative, and all the exciting different research projects they do, visit <https://www.icarus.mpg.de/en>.

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