

Program Script

Adaptation and Interaction within Ecosystems

The hippopotamus and the Gardens of Africa

Dawn in the Queen Elizabeth National Park, in western Uganda, part of an area known as ‘the Gardens of Africa’.

With first light, a herd of hippopotamuses comes into view. During the night they were moving about on land, now it’s time to rest.

Latecomers are still arriving. Some stroll in casually, others are in more of a hurry to get back in the water.

The latecomers agitate the rest of the group, and the particularly irritable members of the herd show their frustration.

The hippopotamuses seem to enjoy taking a bath. Even though they are almost completely underwater, they are still able to breathe, smell, see and hear. With their lungs full of air, they can stay underwater for up to 5 minutes. Hippos have the rare ability to walk along the river bottom.

Up on the surface, the atmosphere is turbulent once again. More latecomers of the herd have arrived and caused restlessness in the bay. Hippos have a reputation for their aggressive behaviour. The powerful jaws with their razor-sharp, continuously growing canine-teeth are dangerous weapons. These tussles are usually resolved peacefully. Hippos do most of their sleeping during the day, even though they are not strictly nocturnal.

And that's just fine by the African Jacana. These birds feed on the insects and snails that live amongst the hippos.

They also search among the lilies on the water’s surface. Jacanas have very long toes that disperse their body weight and stop them from sinking. On overhanging branches some Kingfishers get active, preparing to hunt for fish.

It won't be long until the first fishermen return. Day after day they pass by the herd of hippos without any problems at all. Today however, an anxious bull lets off steam and demonstrates his uneasiness.

The whole herd panics and flees. The men must be incredibly careful. Nervous hippos are easily agitated, and their escape can turn into an attack very quickly. In Africa hippos are responsible for more human deaths than lions, elephants and buffalos put together.

Every now and again a frightened hippo overturns a boat and the passengers drown.

When hippopotamuses do not feel disturbed they are very peaceful. Here a mother does the washing up, while the hippos look on. Her children aren't afraid of the hippos at all.

A few kilometres down the river, antelopes drink from a plant-covered pool. They know of the lion family nearby, but the lions are pre-occupied with themselves, and two young lions in the trees do not seem dangerous at the moment.

The hippos have lived in this pool for years. The cattle egrets eat insects, and enjoy a healthy relationship with the hippos. Not only do the hippos scare the insects into flight for the birds, they also carry them right past the food. If you're an insect-eating bird, this is as good as it gets.

On the edge of the pool, two African Jacanas have found one another. Once again, the long toes help to disperse the weight.

Without any warning, there is a commotion among the hippos. For seconds the pool turns into an arena – with quite a few tonnes of weight on either side of the battle. These mock-fights remain harmless when the pecking order is easily resolved. The danger of getting seriously injured is usually avoided.

This mock-fight was over a female, and this Black Waterhen is inadvertently drawn into the conflict.

For hippos, mating is hard work. For the male, the aim is to force all his body weight onto the back of the female, and to stay up there, which is pretty hard when you've only got short legs. The nostrils of the female come up every once in a while to breathe, and then down she goes again.

While the male can breathe freely, the female must hold her breath while mating. After nearly half an hour, the male is exhausted.

More and more animals are drawn to the water in the hours before midday. All morning they have roamed about looking for food. Now they come to the lake to drink or to cool down.

Butterflies are attracted to elephant dung, because of the mineral salts that it contains.

The elephant has made himself comfortable for a bath in the bay. A number of hippos had to move, but they manage to live together in harmony.

The amazing variety in the African animal world now becomes apparent. A single Collared Pratincole has come to the water's edge to cool-down.

In many places, the hippos only ever leave the water during the night. Only where they feel completely safe, like here in the National Park, will they step onto dry land in the middle of the day. One after another they trot out of the water to laze about. Often they snooze for hours, always near the water's edge, in case of danger.

The entire bay has become empty. Only a few hippos are still in the water. More and more birds populate the shore. These Black Skimmers spent the morning hunting for fish. Now they only fly back to the water when they feel threatened.

This Little Egret has stopped hunting, but a fish just happened to swim by.

Only the African Ibis is still actively catching fish.

The Cormorants also have done enough fishing. If only there were no Saddle-Bill-Storks. Over and over they choose a cormorant and hunt it down until it regurgitates some fish that it has already eaten. This is how the storks find their food.

This is a fast and easy way to find food. Usually the stork will carry the regurgitated food to the water, probably to wash off the stomach acids of the cormorants.

Meanwhile another Saddle-Bill-Stork has spotted a colourful snake on the dried out earth. He is carrying it to a safe place. The snake doesn't stand a chance against the big bird.

Off to one side, a hippo mother has escaped with her newborn. The mother will not allow any other hippos near her young. Until they know each other well, they will not return to the rest of the herd.

By afternoon, a few young hippos have gathered enough strength to romp around, chasing each other along the water's edge. For hippos, water is the place of birth, mating, escape and rest. The only thing that it does not provide is food. Hippos eat during the night, on land.

Sometimes however, older, more experienced males may leave the water during the day. Their skin is 7 cm thick, and insulates them like a wetsuit. It keeps them warm in the water, but on land they start to sweat. Thousands of fine pores begin to secrete sweat. Mixed with mud, the sweat protects their skin and keeps them cool.

Some warthogs had to evacuate this mud hole when this hippo decided to make itself comfortable. The word hippopotamus comes from the Latin for 'River Horse'. The Ancient Egyptians called them 'River Pigs', and here you can see why.

There is some fresh grass nearby, but walking during the heat of the day is exhausting. Individual drops of sweat join together, quickly forming a pink sticky mass. It has been humid all day. Dark clouds finally announce a tropical rain shower.

Storm clouds gather and, a short while later, strong winds hit the lake. The storm lasts for about 5 minutes, and the temperature drops. The hippos don't seem to mind.

The rain-water carries fertile soil down into the valley. The water gathers in trenches, which are actually tracks made by the hippopotamuses during the night.

Some individual hippos venture onto land to find fresh grass away from the lake.

Somewhere in the twilight a lion and hyena have crossed paths. The sound of their tremendously powerful voices can be heard for miles.

Most of the hippos are still in the water. They are waiting for sunset and complete darkness.

One or two hours later, in the moonlight, the hippos leave the water. Each one goes its own way, barely paying attention to the others.

Almost silent, they follow the beaten paths that wind along the lake's shore. At night, temperatures are much lower than during the day, so the hippos don't get too hot. Hippos usually wander up to 3 kilometres away from the water in search of food. They are vegetarians and live on grass, but they eat between 30 and 40 kilograms of it per night.

In the harsh light of day, we see the tracks that the heavy hippos make on their nightly hikes in search of food. The ground was soft after the rain, and the trampling of the hippos has killed the grass and made this ground vulnerable to erosion.

In the early 1960s, people feared that hippos would destroy the grassland completely, through overgrazing and trampling. Acting on the advice of ecologists, 7000 hippos were killed at Lake Edward. This was a hasty action that had unpredictable consequences.

The meat of the 7000 killed hippos was sold to the local population. Originally it was seen as worthless, but it became extremely popular. In 1979, war broke out between Idi Amin's army and Tanzanian troops, leading to yet another hippo massacre. Once the political situation finally settled down, the desire for hippopotamus meat and ivory remained.

When park rangers find a dead male hippopotamus that still has its huge teeth, the hippopotamus ivory, they know that there are no poachers around. For centuries hippo teeth have been a popular raw material for carvings and dentures. When this man was still alive, about 400 years ago, he ate with four artificial teeth carved from hippo ivory, that were attached with gold wire.

The mass killings of hippopotamuses had severe consequences for Lake Edward. Birds and fish populations also declined. It was found that the whole ecosystem relies on hippos. The grass that they eat during their land excursions is partially carried back to the lake.

Hippopotamus dung is very important to the local ecosystem – the entire food chain is built upon it. Micro-organisms, snails and insect larvae eat it, birds and fish eat them, and other animals eat the fish.

Only the end of hostilities and a nature reserve on Lake Edward have allowed the hippo population to grow. Slowly the lake has returned to what it once was – one of the most heavily populated fish habitats in the world.

Today the nets are full, and the fishermen are happy. They have learnt a lot. Now they know the huge fish population, the so-called 'wonder of Lake Edward', begins with hippopotamus dung. This makes hippos the most valuable animal, here in Central Africa.

The whole village is gathered along the boat ramp, waiting for the catch to come in. There's laughter, bargaining and fighting, and it all revolves around one thing – the fish. A couple of kilograms are kept for the family and the rest is taken to market. This will provide modest income for the fishermen. Even this marabou is happy.

Along the shore the women prepare the leftover fish to be dried or smoked. This pack of scavengers is standing by. Greedily the marabous crash into the water, and gulp down the leftover fish-guts. They too enjoy the benefits provided by hippopotamus dung.

Not far from the moorings, a dead fish has washed up on the shore. The smell of a rotting fish spreads, and attracts a Nile Monitor.

The storm of the last few days has caused quite a rise in Lake Edward, and also the Ishasha river, which runs along the border with Congo.

The hippos get in each others way, and a few members of the herd become anxious and aggressive.

Seconds later, the source of the consternation becomes clear. A young male has joined the herd, and is challenging the dominance of the leader.

The older male chases the youngster off.

Perhaps rising water levels after the rain drove the young male away from his original territory. At the moment the young bull is still the one being hunted and attempts to save himself by hiding among the other members of the herd, who react nervously.

But the young male doesn't give up, and suddenly he is able to turn the tables, becoming the hunter himself. The older male flees onto a sandbar.

The young male fakes another attack - his ears show that he is agitated. An uneasy peace settles on the group. The conflict will have to be resolved later.

At sunset, everything seems peaceful down at the river. The hippos are ready for their nightly trek for food. Suddenly, the sound of angry hippopotamuses breaks the silence of the night. Somewhere in the dark, concealed from us, the deciding battle is about to begin.

The next morning, there is nothing to indicate that a fight took place. Days later however, where the Ishasha River joins Lake Edward, there is a dead hippo floating in the water. Deadly accidents are not unusual when it comes to fights between bulls.

But no species wipes itself out - the real enemies lurk elsewhere. In Queen Elizabeth Park, first it was the ecologists, then the soldiers, and finally poachers, who have threatened the hippos.

Consequent protection however has helped the hippopotamuses. More and more hippos and also elephants, buffalos and antelopes are once again roaming the landscape in the 'gardens of Africa'.