

The **Dja** Reserve

THE NEW GORILLA HOUSE



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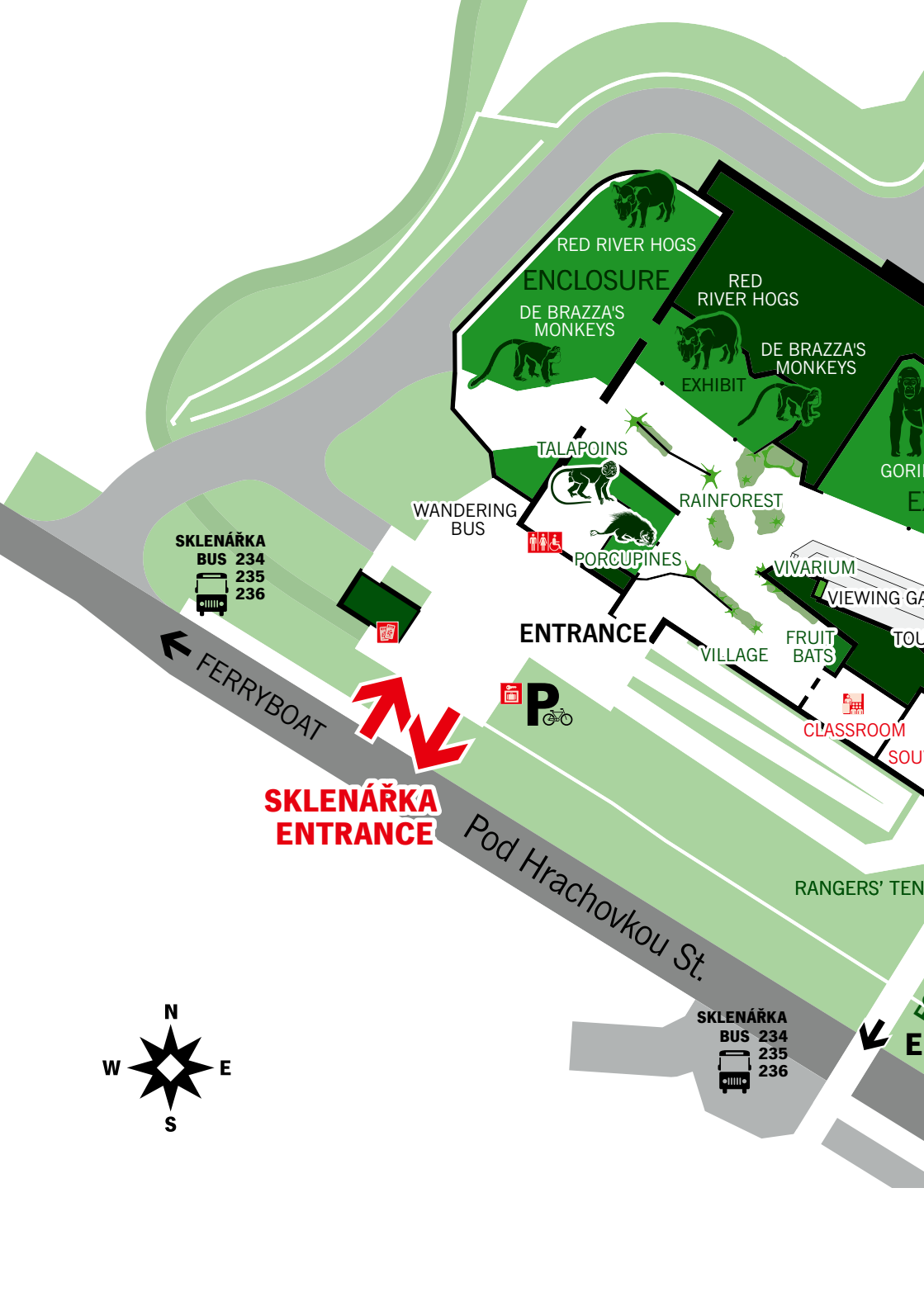
The Dja Reserve—Prague Zoo's new gorilla house—is the culmination of a great deal of time and effort, which, for many of us, took up a large part of our lives.

The impetus for us to start preparing and pushing for this project was the floods that hit the lower part of Prague Zoo in June 2013. That's when I spotted a place where the pavilion could stand, and that's when the real ordeal began. Even though we'd had expert studies readied, all of which showed that the new pavilion would not disrupt the landscape, we had to endure a prolonged struggle to overturn all the objections to its construction. After all the delays, we finally started construction in October 2019.

The new pavilion was designed to give visitors the experience of travelling through Cameroon. In fact, it was named the Dja Reserve after the area where we run a conservation project in Cameroon. It was not easy to build, as it is a completely atypical and, in many ways, innovative complex. What's more, the situation was made even more complicated by the covid pandemic. But in April 2022, we got the coveted 'final building approval' and could start finishing off and populating the pavilion with animals. This culminated in the arrival of two new gorillas—a male, Kisumu, and Moja's daughter Duni.

The first feedback on the Dja Reserve has been really great. The British zoo expert, Anthony Sheridan, even declared that it has set a new benchmark for quality in gorilla presentation. Naturally, we are also eager to hear what you, the visitors, have to say about the Dja Reserve. Hopefully you will enjoy it as much as Anthony did.

Miroslav Bobek, Director of Prague Zoo



RED RIVER HOGS

ENCLOSURE

DE BRAZZA'S MONKEYS

RED RIVER HOGS

EXHIBIT

DE BRAZZA'S MONKEYS

GORILLA

TALAPOINS

WANDERING BUS

RAINFOREST

PORCUPINES

VIVARIUM

VIEWING GA...

ENTRANCE

VILLAGE

FRUIT BATS

TOU...

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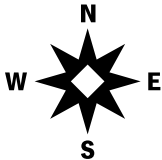
SKLENÁŘKA
BUS 234
235
236

FERRYBOAT

**SKLENÁŘKA
ENTRANCE**

Pod Hrachovkou St.

RANGERS' TEN...



SKLENÁŘKA
BUS 234
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LECHWE ANTELOPES

ORYXES

BLESBOKS

OSTRICHES

GIRAFFES

FACILITIES

LLAS
XHIBIT



GUEREZAS



DJA RESERVE

ENCLOSURE



GUEREZAS



GORILLAS

GALLERY
UCHSCREENS

VENIRS

VIEWING GALLERY

FOOTBRIDGE

LEPHANT VALLEY

AFRICAN SAVANNA

GIRAFFES

CITY CENTRE



ABOUT THE PAVILION





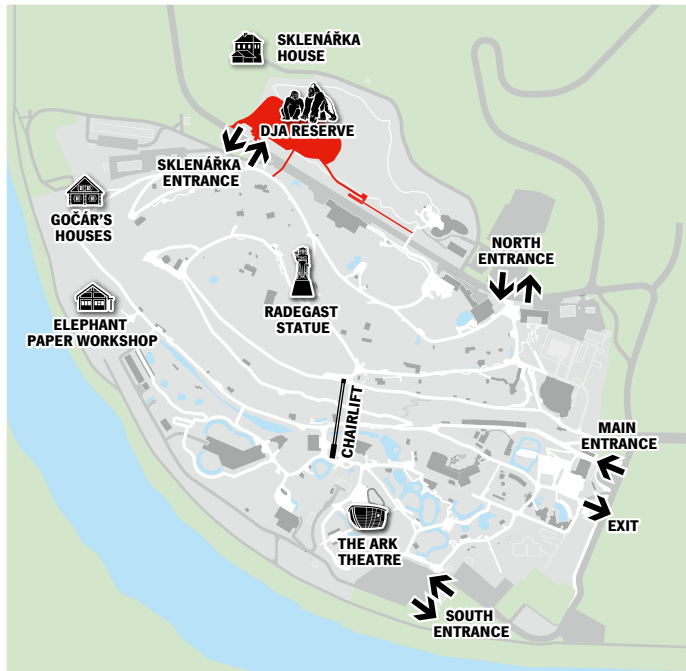
BASIC INFORMATION

The new gorilla house is named the Dja Reserve after a specific area in Cameroon where Prague Zoo has been running its Wandering Bus project since 2013. Thanks to a thorough knowledge of the local conditions, the pavilion has managed to convey a remarkably realistic atmosphere of the African countryside and a tropical rainforest. The living greenery, the occasional shower, the real sounds of the rainforest, the spectacular murals, the authentic artefacts in the classroom and in the rangers' tent or the veteran Wandering Bus—all this gives the visitor a very realistic experience of the environment that gorillas inhabit in Africa. In addition, the building provides a number of opportunities to show the zoo's in situ conservation activities to the public and gain support for them.

The 234, 235 and 236 buses run regularly to the Sklenářka bus stop, which is right next to the new gorilla house.



There are several ways the visitor can get to the pavilion. The new entrance is on Pod Hrachovkou Street.



A visualisation of the new gorilla house by ABM architekti, the architecture and design office that designed it.

The location under the Sklenářka vineyard house has the advantage of being outside the floodplain. The new pavilion can be accessed by a path from the African House, offering unexpected views of the giraffe enclosure, and by a footbridge from the western edge of the Elephant Valley. What's more, there is another entrance to the zoo with a bus stop.



THE BUILDING'S TECHNICAL PARAMETERS

The Dja Reserve is one of Prague Zoo's largest pavilions. The following table summarises its main parameters:

FACILITY	AREA
Entire area affected by construction	12,637 m ²
Green area	6,850 m ²
Built-up area	2,500 m ²
Gross floor area	3,010 m ²
Enclosed space	21,000 m ³
Indoor visitor area	866 m ²
Indoor exhibit of the gorilla family group	466 m ²
Indoor exhibit of De Brazza's monkeys and red river hogs	120 m ²
Outdoor exhibit of the gorilla family group	2,570 m ²
Outdoor exhibit of De Brazza's monkeys and red river hogs	358 m ²

The pavilion provides a generous space for both the animals and the visitors, whilst also trying to blend in with the natural environment of the site as much as possible. The reinforced concrete structure is situated at the lowest point of the site and is largely built below ground level. It is mostly covered over with excavated soil, so that the pavilion blends into the landscape. Places that could not be covered, for operational and technical reasons, have been made to resemble a rocky or clay slope and have a great deal of greenery. The roof, with its large, glazed spaces and skylights, has also been incorporated into the vegetation. The shape of the building thus gives the impression of a grassy knoll and is hardly visible from even the most direct views.

The natural feel behind the pavilion's interior belies its thoughtfully designed operational and breeding facilities that provide the pavilion with a high degree of self-sufficiency. Besides the gas boiler room, air handling plant or diesel generator, there are freezing and



The new pavilion arose close to the enclosures of the African House, under a former vineyard house called Sklenářka. This is what the site looked like in mid-April 2020.

cooling boxes, storage rooms and several technical rooms that are connected to the farmyard. Two feed preparation rooms allow the animals to interact with their keepers and sufficiently wide corridors ensure employees can get around easily and that supply containers and transport boxes are easily manoeuvred.

The main architect of the new gorilla house is Ing. arch. Petr Bouřil from ABM architekti, s. r. o. The construction work, from the first excavation to the handover, took 29 months and came to CZK 300 million in all.

The spacious building sits sensitively in the terrain and in no way disrupts the view of Sklenářka. The pavilion's roof has been sown with native vegetation.





Wall paintings help create the illusion of a forest and a village.

THE PAVILION'S CONCEPT: A TRIP AROUND THE DJA RESERVE

The asphalt road has long since turned into an earthen road. Its red dust covers the surrounding, dense vegetation as well as our equipment. We arrive at the borders of Cameroon's Dja Faunal Reserve, one of the most extensive and species-rich areas of undisturbed tropical rainforest in Central Africa. The sounds of the forest beckon us to go on a journey into this fascinating world. Before entering its half-light, we visit a local school in a village just outside the reserve's boundary. And then we set off into the forest. We suddenly burst into a clearing where we can observe a group of western lowland gorillas...



The adventurous passage under a fallen log is sure to appeal to children of all ages.

The new gorilla house was built with the idea of giving visitors the authentic atmosphere of a journey through Cameroon—from the countryside on the edge of the tropical rainforest, then deep into the rainforest and on to a clearing where gorillas can be spotted. Not only did we want to introduce the animals of Central Africa, but also their natural habitat.

The template for this place where the gorillas live, together with other species, was the actual forest in the Dja Faunal Reserve and its surroundings—the Cameroonian countryside. Thanks to the meticulous details, visitors to the pavilion will experience an adventurous journey through a Cameroonian nature reserve that is teeming with a huge variety of plant and animal species.

The pavilion's primary colour is no coincidence: the soil of Central Africa is red, as is the ubiquitous dust from the dirt tracks.





With the aid of a special 3D microphone and a parabolic microphone, composer Michal Rataj recorded authentic forest sounds, including forest termites, 36 bird species or the cracking and falling of trees.

THE ATMOSPHERE OF A TROPICAL RAIN FOREST

We wanted Prague Zoo's new gorilla house to create as true an illusion of a tropical rainforest as possible. Apart from the live plants and dew, this impression is enhanced by surround-sound, murals and a special tree diorama with animal models.

SOUNDS OF THE FOREST

One of the new pavilion's biggest attractions is its impeccable sound system with real sounds of the forest recorded right in the heart of the Dja Biosphere Reserve. The materials were recorded by composer Michal Rataj and the sound installation was put together with his students from the Academy of Performing Arts in Prague. As it would be a shame to miss out on the animals' acoustic displays, the sound from inside the exhibits—which are separated from the visitor areas by soundproof glass walls—is transmitted via microphones and speakers.

THE TREE DIORAMA

One of the things representing the tropical rainforest's high level of biodiversity, i.e. the sheer number and variety of its species, is the tree diorama. Made of shotcrete, it is "inhabited" by a rich mosaic of animals in the form of custom-made models. Visitors may notice the tip of the beak of a female black-and-white-casqued hornbill (*Bycanistes subcylindricus*) poking out of a nest cavity as the male walls her in, a nimble gecko (*Hemidactylus coalescens*) or the tree pangolin (*Manis tricuspis*). Many animals also seek shelter under the bark of a fallen tree, such as the African emperor scorpion (*Pandinus dictator*) or the lesser-known whip spider (*Damon* sp.). The attentive visitor will not miss the flying goliath beetle (*Goliathus* sp.), the wondrous pygmy scaly-tailed flying squirrel (*Idiurus zenkeri*) or the Gaboon viper (*Bitis gabonica*).



The first sketch of the tree diorama was prepared by artists Roman Hudzic and Kryštof Krejča based on a species list from the Cameroon's Dja reserve. The animal models were made by Miro Jakubčík.





The walls of the new gorilla house show both primary and secondary rainforest growth.



PAINTINGS

The murals were created by the pavilion's artists Roman Hudziec and Kryštof Krejča using photographs taken in the Dja Biosphere Reserve. The animals were illustrated by painter Pavel Procházka, who has been working with Prague Zoo for many years.

The artists Kryštof Krejča and Roman Hudziec at work.



Natural motifs also decorate the walls of the outdoor enclosures.



An illustration of the rainforest's species diversity by painter Pavel Procházka.

AN AFRICAN ENVIRONMENT AND AUTHENTIC ARTEFACTS

Cameroon is often dubbed Africa in a nutshell—it has a range of environments from savannahs to wetlands to lowland and montane rainforests. It's not just nature that is varied here. The local culture is also diverse. A visit to the Dja Reserve pavilion could not be a truly authentic experience if we did not try to capture the overall atmosphere of Cameroon, which, in addition to nature, is also shaped by man. After all, the road to the forest to see the gorillas passes through human settlements, and the relationship between humans and the forest and its inhabitants is crucial for the future of (not only) endangered species.

THE AFRICAN SCHOOL

In the pavilion, rural Cameroon is primarily represented by a school classroom designed to be as close as possible to a real classroom in Somalomo, a small town on the edge of the Dja Faunal Reserve. The classroom's authenticity is imparted by the individual details: specially shaped bricks illuminated to mimic the windows of African schools, stylised

The school classroom in the new pavilion provides an excellent space for our popular educational programmes, suburban camps or zoo-clubs and zoo-schools for kids.



classroom walls smudged with the ubiquitous red dust, or educational posters imported from Cameroon. We also transported the school desks directly from the Cameroonian school in Somalomo. Prague Zoo acquired them for the pavilion in exchange for providing new benches.

MASKS, STATUES, PAINTINGS, FIGURINES

We also brought various Cameroonian artefacts to the new pavilion. These are mainly masks, which are still used in some places during traditional ceremonies and festivals. Apart from these, visitors can also see examples of contemporary African artwork in the souvenir shop.



PRESENTATIONS OF THE IN SITU PROJECTS

When driving round the Cameroonian countryside, one cannot help but notice the huge tree trunks loaded onto truck trailers or the illegally hunted, protected species on the tables of market vendors. Therefore, the new gorilla house also presents the threats faced by the unique ecosystem of the Dja Biosphere Reserve.

Prague Zoo has long been engaged in the fight against poaching gorillas and other threatened species in Central Africa by means of its in situ projects, i.e. activities to protect species directly in their natural habitat. Since 2013, Prague Zoo has been running one of its principal in situ projects, the Wandering Bus, in the Dja reserve in Cameroon. This aims to change the attitude of the local population, especially children, towards gorillas and nature in general. It was this project that inspired the creation of parts of the pavilion, such as the Cameroonian school classroom or the base of the forest rangers, who Prague Zoo has supported for many years.

THE WANDERING BUS

In front of the entrance to the pavilion stands the erstwhile Wandering Bus. During its time in Cameroon it became technically obsolete and was replaced by a new one. The original vehicle was transported to Czech Republic, its interior was rebuilt and it now serves as an educational exhibit about the project.

The first Wandering Bus, which has travelled tens of thousands of kilometres on Cameroon's roads, is now on display outside the new gorilla house.





The forest rangers' tent adds to the authentic atmosphere of the pavilion's surroundings. One of its real-life models in Cameroon is below.



Thus, during our special guided programmes, Czech children will find themselves in the shoes of their Cameroonian counterparts. What's more, aboard the real Wandering Bus, they will get a glimpse of nature conservation in practice. They will get to know the route the little Cameroonians take and will try out some of the questions from the test that Cameroonian children fill in before the actual ride.

RANGERS' TENT

The actual causes of the threat to the fauna in the Dja Biosphere Reserve are represented in the house by artefacts such as snares and imitations of weapons confiscated from poachers. These are part of the forest rangers' tent—an outdoor exhibition representing their field base. For the rangers, fighting poachers is not just a profession, it's also a mission, a fight to preserve the unique animals for which the Dja Biosphere Reserve is one of the last refuges.



The large capacity viewing gallery in front of the gorilla family group's outdoor enclosure.

SOUVENIR SHOP AND OTHER VISITOR SERVICES

The viewing gallery in front of the indoor and outdoor gorilla exhibit will undoubtedly be surprising in its size. Other strategically placed seating areas offer great views. A great deal of attention was also paid to the lighting system. The visitor area is just as dark as the lower layer of the rainforest, while light enters the exhibits through the huge, glazed roof. This means the exhibit's glass does not reflect light that would disturb the viewer experience or any photographs taken. Another story altogether is the fully automated special plant lighting—the phytolamps are lit at night so as not to disturb visitors during the day. At the same time, curtains have been installed in front of the exhibit glass so that the gorillas and other animals have darkness at night.



The screens above the inner viewing gallery are also interesting. Two monitors have an online camera feed from the exhibits which even identifies the gorillas. The third screen offers a wealth of additional content, informing visitors about the gorillas at Prague Zoo and those in the wild, as well as about the Dja Biosphere Reserve in Cameroon, its poachers and rangers.

Misting systems have been thoughtfully included to refresh visitors on sweltering days. Spacious toilet facilities, storage lockers, and a bicycle parking area near the entrance are all part of the standard amenities.

In Prague Zoo's e-shop it's possible to buy a T-shirt with a motif of the female gorilla Duni.

There is a souvenir shop at the exit from the pavilion which is decorated with authentic artefacts imported directly from Cameroon. You can buy souvenirs from the Dja Reserve series and special edition products with motifs of the animals from the new pavilion, such as sweatshirts, T-shirts in different colours, hats, caps, gorilla figurines inspired by the female Duni and the male Kisumu, a notebook or a survival kit that is perfect for adventurous expeditions.



THE PAVILION'S INHABITANTS





A NEW HOME FOR THE GORILLA FAMILY

The gorillas' original home is the tropical forests of equatorial Africa, but these are disappearing at a dizzying rate due to logging and mining. Moreover, poachers find it easier to get into the disturbed forest and hunt these apes for their highly desirable meat. This is why western lowland gorillas (*Gorilla gorilla gorilla*) are listed as critically endangered by the IUCN Red List and makes activities to protect them all the more important. This has been one of Prague Zoo's priorities for many years.

The new pavilion's breeding group of western lowland gorillas consists of the dominant male Kisumu, the female Duni (the daughter of the famous Prague gorilla Moja, who was the first baby of this species to be born in Czech or Slovak zoos), as well as the female Kijivu, her half-sister Shinda with her son Ajabu, and the oldest gorilla Kamba, who is the only one to have come from the wild.

In the new pavilion, for the first time in Prague Zoo, the gorilla group is sharing the exhibit with another species—they are kept company by mantled guerezas, whose thoughtfully designed space allows them to move to the rear facilities at any time through their own entrance.

Ajabu with his mother Shinda.





One of the pavilion's first visitors watching the female Kamba.

Besides the indoor exhibit, the gorillas and guerezas also have a spacious outdoor enclosure with mature trees and an artificial stream flowing through it. This feeds an adjacent “swamp” in which the gorillas can wade.

Another male, Richard, and his two adolescent sons, Kiburi and Nuru, have formed a bachelor troop in the old gorilla house in the lower part of the zoo's grounds. Using this space for the male group is a great asset to the European breeding programme (EEP – EAZA Ex situ Programme) as there is currently an excess of male gorillas making them difficult to place.



Pictured from left Shinda, Ajabu and Kijivu.

BIG CHANGES FOR THE GORILLAS

The completion of the new gorilla house and the decision to keep the two young males, Kiburi and Nuru, in the original pavilion presented an extraordinary opportunity for the future of breeding in Prague: the coordinator of the European programme suggested that Richard, the silverback male, could stay with his two sons and that, after the move, the rest of the family would be made up by another gorilla male, plus other females.

We found ourselves with a very difficult choice—but we soon agreed to accept the proposal. Richard and his sons, Kiburi and Nuru, stayed in the old pavilion, and the females Kamba, Kijivu and Shinda, with little Ajabu, were moved to the new pavilion on Wednesday morning, 8 June 2022.

What does this mean for Richard, our extremely popular but also very conservative and somewhat capricious leader of the troop? He doesn't have the difficulty of getting used to his new surroundings, since he's stayed in his own place. He has, however, lost all his females and his youngest son, a greater loss, at least from a human perspective, than if he had been forced to leave his grown sons. Yet, had he lived in the wild, it is quite possible that he would also have lost his harem and would have faced a similar situation.

This last aspect can also be applied to females, who also have to cope with changes in the composition and leadership of family groups in the wild. So, although they now have to get used to the new environment, the new male and a fourth female, this is also a great chance for Kijivu or Shinda to have a baby.



Richard the silverback male remained in the original gorilla house with his sons Kiburi and Nuru.



The females were joined in the new pavilion by the male Kisumu from Schmiding Zoo, Upper Austria.

Neither of them would be allowed to have offspring with Richard, whose lineage is now “over-represented” in the breeding programme. Now, however, one of the sisters (Kijivu or Shinda) is “allowed” to have a baby with the new male; just like the incoming female Duni. And the presence of babies obviously takes the life of the entire group to a whole new level.

For the two young males, Kiburi and Nuru, at least for now, the company of their father is a better solution than if they were left alone. What’s more, if there were any problems (or the need to evacuate the three males due to a flood), there is sufficient reserve space in the new pavilion.

For sure, this is a big change and due to Richard’s popularity, many gorilla supporters will, to a greater or lesser extent, have reservations about our decision. However, I must stress that both we and the representatives of the European breeding programme consider this decision to be the best possible one. I am convinced that the coming months and years will confirm its propriety.

Miroslav Bobek,
Director of Prague Zoo

THE STORY CONTINUES

The arrival of the new gorillas is doubly good news: the presence of the male, Kisumu, will allow us to have more babies in the group and with the female Duni the famous story of Moja will continue in Prague. Duni is her only daughter! We couldn't have asked for a better outcome—or even have imagined it.

Kisumu was born in Munich in 1997 and was moved to Schmiding, Austria, at the age of seven, where he lived in a bachelor troop. Unlike Richard, whose genes are already over-represented in the breeding stock, so he is not allowed to have any more offspring, Kisumu has a much better ranking and should hopefully become a father here.

Moving Duni to Prague is payback for our efforts a few years ago to find the best possible location for Moja. It is only thanks to the fact that the male Niky is genetically very valuable, that Moja was able to have little Duni with him in Cabárceno, Spain in 2013—and now Duni will also get the opportunity to have her own baby.

Miroslav Bobek,
Director of Prague Zoo

De Brazza's monkeys peek into the preparation room, where Martin Vojáček, head primate keeper, prepares their food.





At Prague Zoo the female Duni, the daughter of our famous gorilla Moja, will have the chance to have her own offspring.

OTHER RESIDENTS AT THE PAVILION

MANTLED GUEREZA

Colobus guereza

The space with the breeding group of western lowland gorillas is shared by mantled guerezas. These arboreal monkeys are sociable and quite peaceful animals. They live in loosely associated troops, the core of which is made up of mutually related females. Most of the time they sit on branches, tail hanging down, carefully picking young leaves and shoots. In the wild, they range from central to eastern Africa.

The males Koulička (left) and Kito when the guerezas were first released into the outdoor enclosure.





A male De Brazza's monkey called Mimo.

DE BRAZZA'S MONKEY

Cercopithecus neglectus

This Old-World monkey is typified by its white beard and orange diadem. The De Brazza's monkey inhabits swamps, bamboo and montane forests in central Africa. It spends most of its time in the branches of trees, but is not afraid to come down on the ground. In case of danger, it freezes, relying on its green-brown camouflage.

They are one of the only guenons in which monogamous pairs have been observed. However, they can also form harems with one dominant male

and up to ten females. It is not currently a threatened species, although it is widely hunted in many places, particularly for meat and the pet trade.

RED RIVER HOG

Potamochoerus porcus

Its home is in the deciduous and mixed forests and bush of Central Africa, where it lives in groups led by a dominant male. It takes its name from its vibrant reddish colour and its association with water. Although this species is considered relatively abundant, it too is one of the favourite targets of bushmeat hunters. It is also persecuted by farmers in some countries because it damages their crops. Once again, it is threatened by the loss of its natural habitat due to the expansion of human settlement.



Red river hogs can be seen in a mixed-species exhibit with the De Brazza's monkeys.



In the wild Gambian pouched rats build burrows in abandoned termite mounds and tree roots.

GAMBIAN POUCHED RAT

Cricetomys gambianus

A large rodent that can grow up to the size of a small cat has settled in to the pavilion next to the stylised African village. It is not a true rat because, like hamsters, it has well-developed cheek pouches in which it carries food to its nest. It lives a solitary life, occurring from the coast of western Africa through central Africa, with males being territorial and marking and defending their home ranges. In their homeland, pouched rats are often consumed, but their refined sense of smell also means they are used to find land mines and diagnose tuberculosis in humans.



STRAW-COLOURED FRUIT BAT

Eidolon helvum

The straw-coloured fruit bat is the most abundant African fruit bat species. It can live in colonies of up to a million individuals and migrate distances of up to 2,000 kilometres. It inhabits most of Africa south of the Sahara and the southwest of the Arabian Peninsula. The neck hair is often deep yellow to orange in colour. The main threat to the straw-coloured fruit bat is being hunted for meat.

GABON TALAPOIN

Miopithecus ogouensis

This is the smallest African monkey. Talapoins are found in the tropical forests of central-western Africa, north of the Congo River. They like to inhabit areas that are flooded with water and are one of the few monkeys that can swim well and even dive for food. They live in large, loose groups of over 100 individuals, breaking up into sub-groups during the day and only gathering in the treetops at night. Unfortunately, the numbers of adults in the wild are declining and the Gabon talapoin is therefore listed as Near Threatened on the IUCN Red List and efforts are underway to conserve its natural habitat.



A female Gabon talapoin during feeding.

AFRICAN BRUSH-TAILED PORCUPINE

Atherurus africanus

Brush-tailed porcupines are close relatives of true porcupines, but unlike them, they have quills only on the rear part of their backs. The stiff hairs on the tip of the tail are expanded and hollow in the middle, so that when the animal shakes its tail in annoyance, it makes a strange rustling sound. Its home range is a wide swath of tropical Africa from Guinea on the west coast to Kenya in the east. Unfortunately, it is one of the most popular species on the markets for bushmeat.



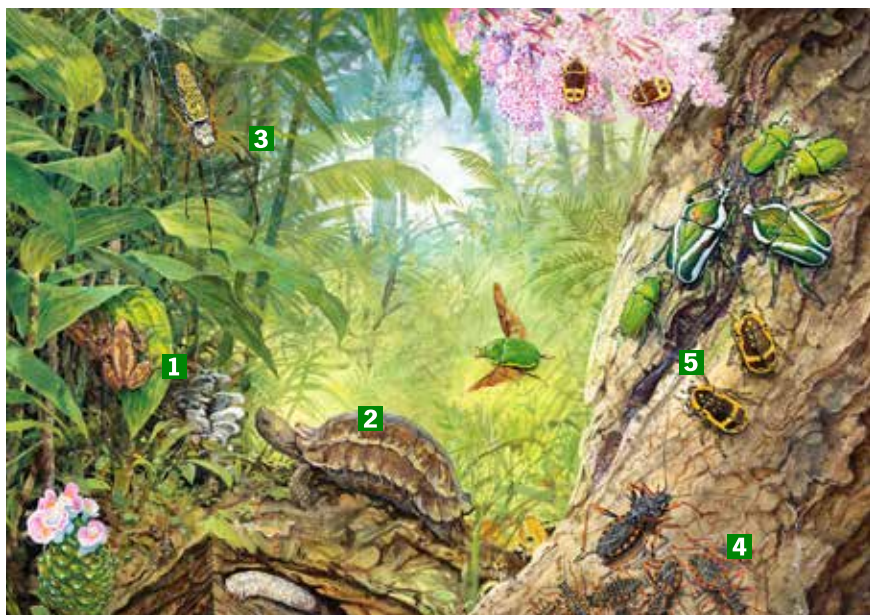
You can see the brush-tailed porcupines in the same exhibit as the talapoins.

INHABITANTS OF THE VIVARIA

BROWN BANANA FROG (*Afrivalus dorsalis*)

This tiny brownish-orange frog from the hyperoliid family inhabits areas of the countries around the Gulf of Guinea. Its home habitat is the scrub and herb layer of the forest edges, where it sits on the underside of plant leaves during the day. When the rainy season starts, the males attract females with a call reminiscent of the chirping of grasshoppers.

It lays its eggs in clusters on vegetation overhanging water and the tadpoles drop into the water once they hatch. This strategy prevents aquatic invertebrates and fish preying on the eggs. Although the numbers of individuals in the wild are increasing, the brown banana frog is also limited by the loss of its natural habitat.



1. Brown banana frog, 2. Forest hinge-back tortoise, 3. Red-legged golden orb-weaver spider, 4. Giant spiny assassin bug, 5. Flower chafers. This illustration for the information panel by the vivaria was created by Pavel Procházka.

FOREST HINGE-BACK TORTOISE (*Kinixys erosa*)

The upper part of the shell (carapace) of this tortoise has a flexible hinge across the pelvic region that allows it to close the back of its shell and hide the hind legs. It lives in the undergrowth of the Central African rainforest, where it feeds mainly on fungi and occasionally plant or animal diet (fruits, soft parts of plants, insects, earthworms, snails, millipedes etc.). Its exact numbers in the wild are unknown, but it is likely to be declining. It is primarily threatened by rainforest clearing and the trade in bushmeat.

RED-LEGGED GOLDEN ORB-WEAVER SPIDER (*Trichonephila inaurata*)

This large orb-weaver spider is characterised by a distinct sexual dimorphism; females' bodies can measure up to four centimetres, and the leg span can be as much as ten. The males are tiny by comparison: up to two centimetres in all. They live in the females' webs and "parasitise" the female's prey. Golden orb-weavers spin vertical webs that can reach a metre and a half in diameter. They are made of an exceptionally strong silk and can even entrap small birds. Thanks to its remarkable mechanical strength and flexibility, golden orb-weaver silk is the subject of technological research.

GIANT SPINY ASSASSIN BUG (*Psytalla horrida*)

One of the largest species of assassin bugs, reaching up to four centimetres in length, this formidable predator is found in the rainforests of the Gulf of Guinea and the Congo Basin. It feeds exclusively on live invertebrates, which it seizes by lunging with its forelimbs and its sharp, piercing-sucking mouthparts. These black and red hunters have prominent spines on their bodies. Adults and nymphs tend to live together at the base of tree trunks, from which they emerge to hunt mostly after nightfall.



FLOWER CHAFERS

(beetles from the genera *Pachnoda*, *Chlorocala* and *Dicronorrhina*)

These medium to very large beetles fulfil various ecological roles in different life stages. The larval stages of flower chafers, called white grubs, live in mouldering wood or decaying leaves, where they feed on organic material. Adults feed on fruit, tree sap or flower nectar and are thus important pollinators. One of the unique features of flower chafers is their wing covers (elytra): unlike other beetle species, they do not open them in flight, but simply slip their membranous hindwings out from beneath the closed elytra.





 **PLANTS IN THE PAVILION** 

THE ILLUSION OF A CAMEROONIAN RAINFOREST

The plants inside the pavilion fully represent those that grow in the geographical areas where gorillas occur in the wild and thus give the visitor a credible impression of the African equatorial forest.

In the visitor area, the trees are in fact faithful concrete imitations of the rainforest giants, with typical buttress and prop roots anchoring the tree's huge mass in the moist rainforest soil. Among the living trees, you can see the fiddle-leaf fig (*Ficus lyrata*) with its large leathery, guitar-shaped leaves, and the African fig (*Ficus cyathistipula*) with its smaller egg-shaped leaves. The fruits of both species resemble figs but are not used for human



The tropical rainforest was also an inspiration for the gardeners.



Tiny fish have taken up residence in the pool below the waterfall.

consumption. The life strategy of these woody plants begins in the canopy of another tree, from where they send roots to the ground using the host tree's trunk and wrap tightly around it until they completely encase it. This is where the popular name "strangler fig" comes from. One curiosity from the animal kingdom is the eating habits of gorillas, which feed on the leaves of these trees, even though the plants secrete a poisonous white latex when injured as a defence against herbivores.

The shrub layer is represented by many species. The most striking of these, the giant white bird of paradise (*Strelitzia nicolai*), catches the



The giant rhubarb has impressive leaves that can be up to a metre across.





Epiphytic ferns are planted on the giant trunk imitations.

eye with its giant leaves resembling those of a banana plant, and growth more reminiscent of trees than herbs. Unlike the common bird of paradise (*Strelitzia reginae*), known in the florist's trade for its bird-like orange flowers, it blooms white. Tree ferns (*Cyathea* spp.) have a trunk more than a metre high. The final shrub we will mention is surely very familiar to you. The cornstalk (*Dracaena deremensis*) can often be found growing in the corners of our rooms. Surprisingly, it too originally comes from the tropical rainforests of Africa.

The lowest layer—the herbaceous undergrowth—is often intermingled with poisonous plants of the arum family, such as *Nepenthes poissonii*. Its arrowhead leaves are complemented by distinctive yellow-orange fruits for most of the year. The notorious touch-me-not (*Impatiens balsaminea*), used in pots or annual beds, also originates from the dark undergrowth of the African rainforest.



The visual essence of the jungle lies not so much in the towering forest giants as in the impenetrable tangles of lianas. Probably the most interesting of these is an orchid that lends its flavour to all kinds of sweet pastries and other food products: vanilla. Indeed, vanilla pods—the fermented fruit of a climbing orchid—are also cultivated in Africa.

Frequent rainfall and temperatures that don't fluctuate significantly make equatorial Africa an attractive place for plant growth. Competition for such a desirable but overcrowded place has driven many plants into the treetops to be closer to the sun. We call these plants epiphytic. Ferns, in particular, have adapted to life without direct contact with the soil. They have formed their leaves into a kind of cone that catches rainfall, organic debris from decomposing leaves and the droppings of animals that have found

Many visitors to the new pavilion will recognise the torch lily, native to the African continent.



The mature trees arrived on lorries from Germany and had to be placed into the gorilla enclosure by crane.

a comfortable and safe home there. In the forks of the concrete imitations of giant tropical trees, you can see epiphytic ferns from the genera *Platycterium* (elkhorn fern) and *Drynaria* (basket fern).

Not only does the visitor trail leads past concrete imitations of rainforest giants, but also along the bottom of a deep riverbed, beginning with a waterfall and continuing between furrowed walls covered with lush tropical vegetation full of ferns. These living green walls are sustained by an ingenious technology of a cascading cell system. Drip irrigation passes through the 2,480 plastic cells to ensure a constant, precise amount of water, and not just any water—tropical plants are used to soft rainwater. This means we have to strip the drinking water of most of its minerals using reverse osmosis technology. But why not simply collect rainwater from the pavilion roofs? Green space was also needed there to sensitively integrate the pavilion into the landscape. This resulted in one of the largest green roofs in the country. The special composition of the roof, including the substrate, can retain most of the rainwater and then release it slowly to the roof plants.

The artificial world of the interior cannot be sustained by good quality water alone. Plants cannot live without light. Even though the pavilion has large skylights, there was still not enough light. What's more, not only intensity but quality plays a decisive role in success. Special LEDs emit different light spectrums, similar to the sun's, so necessary for the proper functioning of photosynthesis, the energy source of our planet.

It was not possible to use indigenous plants from the African rainforest in the outdoor plantings, as it was in the interiors with their temperature-controlled environment. Even so, we managed to select a few



The gardeners planted dozens of mature African plants indoors.



plants from the cooler mountains of Africa. Of the perennials, the exotic-looking succulent rosettes of the genus *Kniphofia* (popularly known as torch lilies or red hot poker) with their fiery, torch-like flowers in shades of yellow, orange, or red, are particularly striking. Another intriguing plant is the subshrub *Phygelius*, also known as Cape fuchsia, which bears eye-catching, trumpet-shaped flowers adapted to be pollinated by sunbirds. African feather grass (*Pennisetum macrourum*) with its distinctive, bristly flower panicles and surprising growth of up to 1.5 m accompanies visitors throughout the exhibit from the roof of the pavilion all the way to the giraffe enclosure.



Although the other plants are not native to Africa, at least their exotic appearance imitates the atmosphere of the gorillas' home habitat. The Kentucky coffee trees (*Gymnocladus dioica*) located right in the gorilla enclosure offer spectacular pinnate leaves growing to more than half a metre in length. Mature specimens weighing several tonnes, imported from Germany, were planted by crane and became the largest trees to be planted in Prague Zoo.

In the immediate vicinity of the enclosure, the princess tree (*Paulownia tomentosa*) spreads its giant leaves in a continuous heart-shaped area. Its reddish hairy flower buds present in wide-branched panicles throughout the winter also look exotic. These develop into magnificent trumpet-like purple flowers in early spring before the leaves emerge. The evergreens such as the southern magnolia (*Magnolia grandiflora*) and spotted laurel (*Aucuba japonica*) mimic the freshness of the rainforest even during winter. Bamboos



The central motif of the large outdoor enclosure is a fallen forest giant. Together with other vegetation and a swamp fed by a stream, it gives the gorillas and guerezas a sense of a natural habitat.

of many species form an essential evergreen backdrop. *Phyllostachys* predominates with its typical solid, yellow-green stems that grow several metres high. Meanwhile, running bamboos of the genus *Sasa* create an undergrowth layer in many parts of Prague's Dja Reserve. The pavilion's walls are lined with large-leaved climbers such as Dutchman's pipe (*Aristolochia macrophylla*) and Chinese trumpet vine (*Campsis grandiflora*) with its large, red, trumpet-shaped flowers.

Throughout the outdoor spaces, visitors are surrounded by lush "rainforest" vegetation at all layers of the plant community. The final layer, which is the most species-rich, consists of herbaceous perennials—plants that do not develop woody above-ground parts. One of the most exotic is the giant rhubarb (*Gunnera tinctoria*), with leaves over a square metre in size, and harmless spines lining their undersides. This species is native to the wetlands of Chile in South America.





 **REAL-LIFE INSPIRATIONS** 

THE DJA RESERVE IN CAMEROON

The Dja Biosphere Reserve, which inspired the new gorilla house, lies in southern Cameroon in the rainforest region. The reserve was established in 1950. In 1981, it was granted the status of a biosphere reserve and has been a UNESCO World Heritage Site since 1987. It is estimated that around 90 % of its environment remains undisturbed, making it one of the best-preserved protected forests in Africa. The core area, the Dja Faunal Reserve, covers an area of 5,260 km² and is bordered by the Dja River. Together with Mikenbé National Park in Gabon, Odzala-Kokoua National Park in Congo and several others, the Dja reserve is included in what the WWF calls TRIDOM, a biodiversity hotspot comprising around 10 % of the Congo Basin rainforest.

In terms of endangered mammal species, Dja is important for the occurrence of the western lowland gorilla (*Gorilla gorilla gorilla*), the chimpanzee (*Pan troglodytes troglodytes*), the mandrill (*Mandrillus sphinx*), the African forest elephant (*Loxodonta cyclotis*), the giant pangolin (*Smutsia gigantea*), the tree pangolin (*Phataginus tricuspis*) and the long-tailed pangolin (*Phataginus tetradactyla*).





Fallen rainforest trees inspired similar elements in the new pavilion.

State power in the region is represented by a sub-prefect, to whom a politically appointed reserve administrator (conservateur) is subordinate. The conservateur is responsible for the four units (antennes) of reserve rangers (éco-gardes), each overseeing a section of the protected area.

The main institutions that Prague Zoo works with in Cameroon are the administrations of the protected areas of the Dja and Ngoyla reserves, and especially the non-profit organisation Tropical Forest and Rural Development. With its help, we run the Wandering Bus project, which is based in the town of Somalomo on the reserve's northern border. The project's local coordinator is also based here.



Prague Zoo has long supported the work of the Dja Biosphere Reserve rangers.



THE KEY SPECIES IN CAMEROON'S DJA RESERVE

WESTERN LOWLAND GORILLA

It is estimated there are currently 300,000 western lowland gorillas in the wild, making them the most numerous gorilla subspecies. However, their numbers in the wild are declining at an alarming rate of about 2.7 % per year. At this rate, within three generations (about 50 years) the gorilla population will decline by 80 %. This is why it is also classified as a critically endangered species. Deforestation, hunting and disease are the main causes of the threat. Currently, about two-thirds of western lowland gorillas live in Congo, a quarter in Gabon and a tenth in Cameroon, mainly outside protected areas. In the Dja reserve, gorilla numbers are estimated at around 1,250 individuals.



Illustrative photo of elephants from the Dzanga-Sangha Special Reserve in Central African Republic.

Illustrative photo of a western lowland gorilla in the wild.



AFRICAN FOREST ELEPHANT

Large mammals such as elephants and great apes play a key role in forest ecosystems as seed dispersers. Seeds from dozens of species have been found in the dung of forest elephants. These animals help regenerate the forest and maintain its biodiversity. Hunting them can therefore disrupt the ecosystem balance. Among farmers working the land near the rainforest, elephants have an image as crop-destroying pests. However, they are shot for a variety of reasons, including for meat and ivory. Globally, the population of African forest elephants has fallen by more than half in a decade. The Dja Biosphere Reserve is home to around 220 (150 to 320) African forest elephants.



Pangolins are often consumed locally. The pressure of not only the local but also the global market is a serious existential crisis for them.

CHIMPANZEE

The global population of the nominate chimpanzee subspecies is estimated at about 128,000 individuals, which is smaller than that of the western lowland gorillas with which chimpanzees share the same range. However, their population appears to be more stable, likely because it is generally more difficult for a poacher to shoot a chimpanzee than a gorilla. Chimpanzees have the advantage of being smaller, more agile and nomadic. Their groups roam the forest, unlike gorillas, whose troops are more sedentary. The number of chimpanzees in the Dja reserve is estimated at 2,300 (1,600 to 3,400) individuals.

PANGOLINS

Pangolins are probably the most smuggled mammals in the world today, mainly for their scales, which are used in traditional medicine in Asia. As the population of Asian pangolins can't keep up with demand, attention has turned to Africa as well. On top of this, their meat is sought after as a luxury delicacy.

THREATS TO THE FAUNA IN THE DJA RESERVE

POACHING

It is a significant factor threatening the local fauna, not so much in terms of the consumption of bushmeat locally, but because of market pressures, whether it is satiating the demand from the cities or, in the case of the pangolin, the illegal trade in its scales, which are exported in large numbers to Asia as an ingredient in oriental medicine. It is possible to hunt common species, but only for personal consumption, not for resale. The killing of threatened species is strictly forbidden. For example, killing a gorilla carries a fine of three to five million Central African francs (approximately 4,500 to 7,600 euro) and five to seven years in prison.

Poachers intercepted in their camp during a joint raid by Dja reserve rangers and soldiers from the Cameroonian army. One of the items among the seized bushmeat was a quartered mandrill (foreground).





A member of the Baka tribe. Part of the tribe still lives a traditional hunter-gatherer lifestyle.



Poachers operate alone and in gangs. The most common methods are trapping with snares and shooting. At the same time, there are only around 60 rangers to cover the whole reserve (2022 figure), i.e. one ranger per 8,800 ha.

SLASH AND BURN

It is mainly done to acquire land, usually for growing crops. Under Cameroonian law, this land then belongs to the person who burned the forest. This results in both a reduction in contiguous forest cover, and with it the protected area—the burnt areas are subsequently removed from the reserve—as well as a loss of space for the Baka people.



Burning the forest for agricultural land is common practice around the Dja reserve. About two-fifths of the local population do so.

MÉKIN HYDROELECTRIC DAM

It lies on the west bend of the Dja River and was completed in 2018 by China National Electric Engineering. The dam has a capacity of 940,000,000 m³ of water / 15 megawatts and is expected to supply power to eight communes. However, during construction the impacts on the environment and the local population were not sufficiently taken into account. The flooding of a large area has deprived some inhabitants of their livelihood, which may lead to socio-economic problems and an increase in poaching. The forests around the flooded forest may also be downgraded to a lower classification, allowing loggers to further cut down trees. The dam also negatively affects water quality.



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IN SITU PROJECTS IN CAMEROON

THE WANDERING BUS

The Wandering Bus is one of Prague Zoo's flagship in situ projects. It was launched in January 2013 and has gradually enabled hundreds of children from the Dja Biosphere Reserve to visit the Mefou Primate Sanctuary near the capital Yaoundé. Here they attend an educational programme and above all, they get to see live western lowland gorillas.

Apart from this, the young passengers on the Wandering Bus stop off at a learning centre for environmental education, built by our partner organisation Tropical Forest and Rural Development. This centre also has a “botanical garden” or rather a nature trail that leads through the tropical rainforest. Here, the kids learn about the importance of the forest; even though they live on its edge, they know almost nothing about it. The children who take the Wandering Bus then ask their parents to no longer eat meat that has been poached. Understandably, not everyone will succeed in getting this through, but it holds great promise for the future. Poaching is one of the major threats to gorillas and many other species.



Miroslav Bobek, Prague Zoo's director, hands out books to those journeying on the Wandering Bus—Gorilla Fairy Tales, which has both a French translation as well as one in the Badwe'e dialect spoken around the Dja reserve.



Jocelyn Ewane Aubery, the local coordinator, has been the most important person working on the project since it started. He organises the various Wandering Bus trips from a base on the outskirts of Somalomo town.

Those on the Wandering Bus trips learn which fruits or leaves are edible, medicinal or have other benefits. The stop in Kabilone II and the programme there is the main difference between the new Wandering Bus and the original one, that went straight to Mefou.



Finally at the main destination: the gorillas at the Mefou Primate Sanctuary, all in the company of a knowledgeable guide! When it comes to their fascination with gorillas, Cameroonian children are just as enthusiastic as their European counterparts.

HELP US HELP

- Please transfer any amount to our collection account. Its IBAN is **CZ24 0100 0000 4368 0466 0247**, the SWIFT code (bank identifier code) is **KOMB CZPP XXX**.
- Shop at **eshop.zoopraha.cz**.
- Visit the zoo: **8 CZK** from each entry fee **goes to our in situ projects**.
- Bring a used mobile phone or tablet to the zoo: a partner company, REMA System, pays **CZK 10 to our collection account** for each device.
- Donate **using the touch screens** in the zoo's grounds.



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