

the magazine for friends of the Brno Zoo

Zooreport

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UNSALEABLE

EDITORIAL

Dear friends of Zoo Brno, both women and men, girls and boys,

After our society recovered from the effects of the covid pandemic, the past year brought further unpleasant challenges in the form of Russian aggression against Ukraine, the consequences of which we are experiencing and will continue to share. Even at these times, your nearby zoo offers a natural environment where you find an oasis of positive energy among the animals in our care. This pleasure was available during part of the last year for the symbolic price of one crown to those who were driven from their homes by the war. Thanks also to other zoos and the European Zoological Gardens Association, the zoological gardens in Ukraine, which were affected by the war, were helped as well.

For our zoo, last year brought a change in management. I believe that our whole team will succeed in working to make the zoo an open organization that understands its social mission well, and also is kind to the animals in our care as well as to the zoo's visitors and employees. I am ready to do my best in my position as director of Zoo Brno, and I believe that you will see small changes in the coming season.

I also want to offer real quality in the service we give to our visitors, and to project the principles of sustainability along with respect for nature and the local community. I do not wish to overwhelm the visitor with a lot of thoughtless assortment; instead, I want our organization to reflect not only your diverse needs, but also the primary mission of the zoo. We want to awaken in you a sense of belonging to nature in the wild by giving you a pleasant time in your meeting with wild animals as well as imparting information about them and their needs. In line with science, we want



Radana Dungalová, ředitelka Zoo Brno. Foto: Markéta Karpecká

to offer the best care to our animals, as these ambassadors of their wilderness-living relatives deserve. I believe we cannot educate ourselves to love wild nature if we breed our animals in undignified conditions. Much has been improved in recent years but, in many cases, we can still improve in our care of animals.

We will have a tremendous cleaning project of the zoo in this new year; and, after a thorough analysis, we also want to focus on better care of the greenery throughout the zoo. We cannot expect quick visible changes here, but I am convinced that thorough care will show up in the long term, and that our visitors will notice the improvement.

I am thinking about how to make our zoo a significant conservation organization that helps not only the breeding of endangered animals, but that also helps in the places where these species live in the wild. We will focus on supporting nature conservation projects that have a positive impact. In this issue of ZooReport, you can see how we succeeded in some rescue programs in 2022, and I hope to build on them this year too, hopefully with your help.

We have strengthened our team of breeders, and I believe this will be reflected in the improvement of the lives of the animals in our care. This includes a unique training program that will facil-

itate their treatment and the veterinary operations, while bringing a welcome distraction to our animals from their everyday routine. For you visitors, this means an exciting variety of experiences from the zoo.

In 2023, Zoo Brno will celebrate 70 years since its foundation. We will prepare various surprises throughout the year to get you more involved in the celebrations. I look forward to welcoming new additions, and not only in the form of successful progeny. We will open a new combined exposition of Mitchell's water monitors and melanotaenia, and will install two or three new terraria of Australian herpetofauna in the Exotarium. We are preparing to supplement our herd of reindeer and moose; and, if everything works out, the long-awaited female Sumatran tiger from Indonesia should arrive next year.

Dear friends, I appreciate that you love "our zoo," and help us even in difficult times. Further improvement of the zoo's quality depends on many factors. It is a long-distance run, and I firmly hope you will stay with us. Thank you sincerely for your support and encouragement. I look forward to seeing you at the zoo.

Mgr. Radana Dungalová
Director

The hoopoes fell in love with the nesting boxes at Brno Zoo

One of the important projects in which Zoo Brno protects biodiversity is related to Eurasian hoopoes. In this article, you will learn more about this beautiful bird, its relatives, and the state of its population in the Czech Republic. Of course, we will also focus on our program, in which we try to protect the hoopoe. This article will tell you what a hoopoe nest box is, the management of its food areas, and how many little hoopoes have already come to the world thanks to the work of Brno Zoo. And don't forget that, by protecting the hoopoe, we also help many other species.

Hoopoes and their relatives

The Eurasian hoopoe (*Upupa epops*) is part of the order *Bucerotiformes* and the family *Upupidae*, which it shares with the Madagascar hoopoe (*Upupa marginata*). While the Madagascar hoopoe is endemic to the island of Madagascar, the Eurasian hoopoe

abounds throughout Africa except for the Sahara. It reaches north in Europe to St Petersburg, and its nesting area continues through Asia to the Russian island of Sakhalin, in the Pacific. Thus, it occupies practically the entire southern half of the Eurasian continent.

The hoopoe has a small head with an extremely long beak, rounded wings, short and strong legs, and a long tail. The color of its feathers is uniform throughout the family – a rust-colored body with black and white striped wings, back, and tail. The Madagascar hoopoe differs from the Eurasian hoopoe in that it has a more mottled black and white pattern. The Eurasian hoopoe produces a total of eight subspecies, though the *African* subspecies (African hoopoe), which is much darker in color, is recognized by some systematics as a separate species.

The hoopoe flies a typical „butterfly“ flight, because of which many inexperienced observers might confuse it



The Eurasian hoopoe is part of the order *Bucerotiformes* and the family *Upupidae*. Photo: Matyáš Slavík

from a distance with the Eurasian jay (*Garrulus glandarius*).

Within the framework of the entire order, the most closely related family is that of eight wood hoopoes (*Phoeniculidae*), whose distribution area does not exceed sub-Saharan Africa.

The wood hoopoes' body construction is very similar to that of the hoopoes, but they have much longer tails. Their color is black melanin. When seen in sunlight, it reflects in the form of metallic green, blue, or purple shades. Only the white-headed wood hoopoe (*Phoeniculus bollei*) and the forest wood hoopoe (*P. castaneiceps*) have different colors on their head and chest.

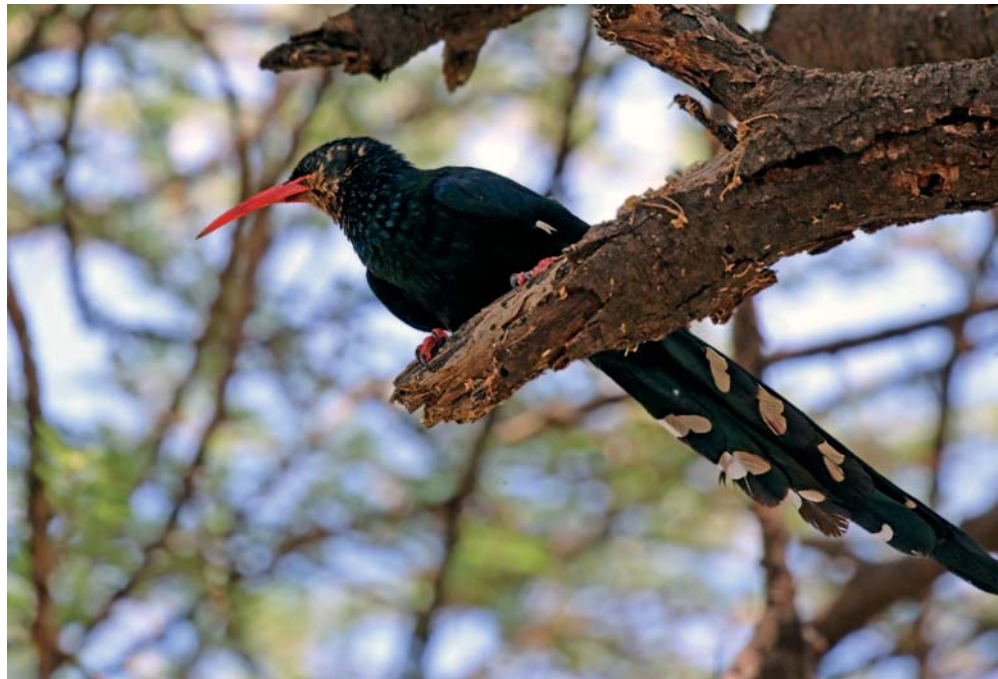
Hoopoes and wood hoopoes live similarly: Food in the form of invertebrates is found chiefly on the ground, but wood hoopoes also feed on termite mounds and tree trunks. They walk on short legs, and actively plunge their beak into holes in the ground. It is, therefore, an active-looking hunter unlike, for example, similar-looking European bee-eaters, which are ambush predators. They nest in tree cavities, but their beak strength does not allow them to create a cavity themselves. They must therefore be satisfied with those that have been made before. Although most nests are located within five meters of the ground, there are cases of hoopoes nesting in tree cavities up to 12 meters high. They will even nest in cavities found in human homes.

While the hoopoe lays up to 10 eggs, the wood hoopoes usually lays only about half as many. In both families, only the female incubates the brood, but both the male and female care for the young together once the eggs hatch. In wood hoopoes, the young of the previous brood will even help with the care of the newly hatched birds. Outside the nesting season, hoopoes can be seen alone or in pairs, while wood hoopoes are found in noisy groups.

The Eurasian hoopoe is the only species that extends into cold areas, so they must fly south for the winter.



The hoopoe's typical "butterfly" flight. Photo: Matyáš Slavík



The green wood hoopoe. Photo: Charles J. Sharp, CC BY-SA 4.0*

In the Czech Republic, the current Eurasian hoopoe population is around 200 pairs, and is increasing very slowly. Photo: Matyáš Slavík





An artificial nesting cavity, called *dudník*. Photo: Zoo Brno



A treasure in one of the artificial nesting cavities. Photo: Petr Šrámek

Hoopoes and wood hoopoes *ex situ*

The Eurasian hoopoe and the green wood hoopoe are the only two species kept in zoos. The total population of the Eurasian hoopoe in European zoos is only about 100 birds, with 20 more kept in Asian zoos. The population of the green wood hoopoe is much smaller – fewer than 80 individuals, of which 30 are in Europe. Although we do not keep the Eurasian hoopoe at our zoo at this time, we would like to include it in the collection in the future.

The current state of the population of the Eurasian hoopoe *in situ*

The Eurasian hoopoe is classified as being of Least Concern throughout its extension area. The global size of the population is not accurately estimated, but it is known that it is falling. In the Czech Republic, there are around 200 pairs, and the number is rising very slowly. The sharpest decline occurred in the 1950s-1960s, mainly due to the mechanization and intensification of agriculture and the reduction of some

traditional farming techniques. According to the Act on Nature and Landscape Protection 114/1992 Coll., the hoopoe is classified as „strongly endangered“ in the Czech countryside.

In the Czech landscape, the hoopoe can enjoy open pastures and meadows with occasional groups of mature trees or thinner forests. These provide him with the necessary cavities for nesting. Adjacent meadows are then used to search for invertebrates. The distance between nesting sites and food sites must not be too large. Ideally, a meadow should be adjacent to the nesting area. The main reasons for the threat to the hoopoe are the lack of suitable cavities in which to nest, and the decline of traditional agricultural techniques (especially herding), which, as a result, prevents access to food.

Brno Zoo's protection project

For the above reasons, the Zoo Brno team decided to support the population of the Eurasian hoopoe in two ways. The first is to provide nesting opportunities by installing artificial nesting cavities. The second is active maintenance (management) of the food areas used by the hoopoe. Since the Eurasian hoopoe is a charismatic and well-known bird species to the public, it is also a perfect instrument for nature conservation. People tend to support projects close to, or sympathetic with, them; thus, the hoopoe can serve as a so-called flag species. At the same time, it is also an umbrella species because it shares biotopes with many other endangered species, and with the ecosystem of important animals and plants. Thus, protecting the habitats in which the hoopoe lives also protects these other species. Management adjustments to protect this species can also help maintain the stages of landscape development that are disappearing due to growing vegetation.

After obtaining a supporting statement from the Regional Authority of the South Moravian Region and the consent of the owners of the affected land, we deployed a total of 21 artificial nesting cavities in seven pre-selected

locations within our project from 2017 to 2022. These were manufactured according to the methodology of Austrian protection workers. We provide these nesting cavities and monitor them several times during the nesting season. Within the framework of the project coordination, we also cooperated with ČSOP Morava and the organization for the rescue of Butterfly Eden (a botanical garden) on long-term management. This included mainly cutting wood, mowing, and grazing on the above-mentioned food areas. As for the scope and time frame of individual works in any given year, we always consult with the representative of the South Moravian Region Authority. This is mainly because the cutting and grazing must be carried out according to specific criteria. The long-term beneficial effect would not otherwise be manifested; on the contrary, the site could even be damaged if these works were not implemented properly. Therefore, the selected areas are cut in parts and are alternated year by year. The same applies to grazing. This way, the varied and harmonious landscape that has existed here for centuries is being shaped. However, clear-cutting and overgrazing, unfortunately very often seen, represent an inappropriate extreme leading to the destruction of the site.

Sites under the specially protected area scheme cannot be financed by any grant title, so the only possible way to finance these operations is from the zoo's budget or through donors. We do receive funds from the landscape care program for sites in the regime outside specially protected areas. In 2021, we received a grant of CZK 381,181.49 from the Norwegian Funds grant program (Rondane challenge) to enable us to care for two new locations.

The results from the occupancy of artificial nesting cavities for the duration of the project are summarized in Table 1. The extent and type of management of food areas are outlined in Table 2. Over six years, with the help of our project partners, we have bred a total of 44 Eurasian hoopoes and four



A close-up view of a hoopoe's eggs. Photo: Petr Šrámek



Young hoopoe chicks in one of the hoopoe boxes in 2018. Photo: archiv Petr Suvorov

strongly threatened Eurasian wrynecks (*Jynx tortilla*), and have taken care of a total of 10,56 ha of land.

In 2022, we arranged cooperation with the Pavlovská 16, Brno primary school, whose pupils learned about the Eurasian hoopoe, its behavior, biology and threats, and the importance of the protection of its nesting sites. We participated in the modification of the site (raking the mowed areas, installing the nesting box, and changing and cleaning the existing box) during the project day. In total, 43 pupils, two teachers

and one assistant helped with site modifications. At Zoo Brno, two other teachers and one specialized zoologist took part. Implementation of the activity was sponsored by Mgr. Petra Steidllová from the Czech Union of Nature Protectionists Moravia.

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Curator of bird breeding
Mgr. Petr Šrámek, Technician of the
Eurasian Hoopoe Protection Project
Mgr. Jana Kratochvílová,
Head of the section of the station
of interest activities



An already quite large baby hoopoe from 2022. Photo: Petr Šrámek

Year	Number of nest boxes occupied by Eurasian hoopoes	Number of young birds	Number of hoopoe nest boxes occupied by other significant bird species	Kind	Number of young birds	Number of hoopoe nest boxes occupied by other bird species	Species/genus
2017	1	3	0	-	0	1	tits
2018	1	5	0	-	0	2	tits
2019	0	0	1	Eurasian wryneck	4	4	tits, common starling
2020	2	10	0	-	0	2	tits
2021	2	6	0	-	0	5	tits
2022	3	20	0	-	0	5	tits, common starling
Total	9	44	1	-	4	19	-

Table 1: Project results from the occupancy of artificial nesting cavities for the Eurasian hoopoe in 2017–2022.

Year	Location	Mosaic mowing (ha)	Wood cut-out (ha)	Grazing by goats and sheep (ha)
2018	1 location	2	0.25	
2019	2 locations		0.83	0.58
2020	2 locations		0.91	0.58
2021	3 locations	0.82	1.18	0.7
2022	2 locations	1.18	0.34	1.19
TOTAL		4	3.51	3.05

Table 2: Project results from the management of food areas for the Eurasian hoopoe in 2017–2022.



We help ground squirrels to return to the wild

Brno Zoo has long been involved in another rescue program with two main objectives: The first is to strengthen the genetic diversity of European ground squirrel populations, and the second is to establish new populations within reach of existing colonies. So, let us explain why this project is essential.

The life of the European ground squirrel

The European ground squirrel (*Spermophilus vitellus*) is a land-based rodent which, unsurprisingly, belongs to the family of squirrels (Sciuridae). In Zoo Brno, its closest relatives are black-tailed prairie dogs and wild red squirrels. The species inhabits Central and Southeastern Europe, The Czech Republic is situated on the northwest edge of its expansion area. Four other species of ground squirrel *Spermophilus* live on the European continent. The closest to us, the speckled ground squirrel (*S.suslicus*), is in eastern Poland, Belarus, and western Ukraine.

European ground squirrels live in colonies of up to thousands of individuals. They are active by day, and the colony members energetically communicate with each other both visually and

audibly. Most of their time is spent in their burrows. They are adapted for their underground stay by having short limbs, tails, and small auricles. The burrow of a ground squirrel is a complex system of corridors and cavities which is many meters long and extends to a depth of up to 80 cm. The burrows serve them not only as temporary shelters, but also as nests and as winter sleeping areas.

Sysel is one of the species that has a true winter sleep. This means that its respiration rate will slow during the winter, and its body temperature will drop considerably, even to near freezing point (0,2°C)! At the end of its winter sleep, it will have reached its lowest body weight. This is because, despite its name, the ground squirrel does not accumulate food (unlike, for example, a hamster) for the winter, and it is therefore dependent only on fat re-

serves that it slowly uses up during its long winter sleep, which lasts up to 240 days (eight months). A ground squirrel can lose up to one-third of its weight during that time.

Shortly after the spring awakening, the mating period follows. After almost a month's pregnancy, the females give birth to an average of five kittens. They grow very rapidly. In nature, theoretically a ground squirrel can live up to five years; but, most frequently, they live little more than one year. This is due to predators, parasites, diseases, and adverse environmental conditions such as persistent rain. The ground squirrel's natural food can be very diverse if the environment allows. It can include dozens of species of plants, and often a significant proportion of animal components (mainly insects).

When did the golden times of the European ground squirrel disappear?

The history of the extension of the European ground squirrel in the Czech Republic is full of twists. The species naturally inhabits open steppes. They spread with the development of agriculture in Central Europe, which has resulted in the creation of so-called cultural steppes (meadows, fields, and pastures). Sixty years ago, it was a very abundant species in many areas of artificial open landscape (fields, pastures, meadows, embankments, path margins, etc.). Because of its abundance, it was even considered an economic pest. Today, only sixty years later, the European ground squirrel is among the species protected by the law, as it is critically endangered.

The most fundamental blow came in the '50s, not only for ground squirrels but also for many other animals and plants. This time was the beginning of a basic way of changing landscape



Ground squirrels in Brno Zoo. Photo: Michal Vaňáč

management, often described as the intensification of agriculture. For centuries, people managed the landscape in such a way that the result was a relatively small mosaic of different types of environment: Small fields, regularly cut meadows, and grazed pastures. In addition, it was also interwoven by a network of roads, dams, and shrub belts. There were also alternating areas managed, with previously worked areas temporarily left lying fallow. However, this type of cultural landscape suddenly and very quickly began to disappear as agricultural production was centralized. Meadows and fields were formed, and unworked land and small woods in the fields were ploughed. Farming intensity increased, and there was a significant increase in the use of chemicals in agriculture. Though culturally diverse, the landscape was transformed into massive, intensively managed blocks which were treated with strong chemicals to maximize production.

No one will be surprised that, in this new environment, there was suddenly no place for ground squirrels, and there was a drastic decline of animals and plants with similar habitats. The ground squirrel population began to fragment (crumble) until it reached its current state, with the species surviving only in relatively small, isolated islands of a suitable environment.

What is threatening the European ground squirrel nowadays?

The remaining ground squirrel populations still have to face adverse effects, which often results in a continuation of the reduction of their number in nature.

One of the most significant adverse effects is improper care of the remaining sites on which the species occurs. The ground squirrel needs very low grassland (up to 15 cm) for long-term survival. The reason is very simple: In higher grass, a ground squirrel cannot inspect the surrounding area even when standing on its back limbs, so it cannot see an approaching predator. This leads to rapid extinction in smaller populations. Unfortunately, finding places in today's nature that would



The weight and sex of the individual is always recorded during the capture. Photo: Michal Vaňáč



The release of ground squirrels has a tradition of several years. Photo: archiv Petr Šrámek

Last year's release took place at the Meadows near Loděnice in the Czech Karst.

Photo: Petr Šrámek





Preparations for the release. Photo: Petr Šrámek



Area for ground squirrel breeding in Brno Zoo. Photo: Zoo Brno

One of the first ground squirrels to arrive in Brno from Slovakia. Photo: Eduard Stuchlík



meet this condition is no longer easy. Their search in the wild corners of our homeland will only bring minimal success. Instead, it is necessary to go into the essentially altered habitats of humans. Thus, we can find ground squirrels in our own neighborhoods, especially at airports, but also in golf courses, campsites, cottage colonies, or vineyards. Lack of care is not the only cause of the eradication of suitable habitats. People also use potential squirrel habitats as building plots for various construction projects.

Predators are another, more visible, threat, and not just wild predators such as birds of prey, weasels, foxes, martens, or polecats, but, unfortunately and very often, free-moving domestic cats. These are very effective hunters of both ground squirrels and, for example, song birds!

In addition, other negative factors have also started to affect small populations. When an isolated population is reduced in number or completely wiped out, there are no new individuals from the surrounding area to repopulate it, as would naturally happen. Another aggravating factor, which is most evident in colonies with a small number of individuals, is a reduction in genetic variability leading to a decrease in resistance, increased mortality of young animals, and other negative phenomena.

All populations suffer from sudden weather vagaries; but again, the consequences for small colonies from temporarily unfavorable conditions (such as heavy rain or temperature extremes) can have a much more devastating effect.

Rescue of the European ground squirrel in the Czech Republic

From the above, it is clear that the European ground squirrel's long-term survival in the Czech Republic is not at all certain without energetic activity to support it! Therefore, the Agency for Nature Conservation and Landscape Protection of the Czech Republic (AOPK ČR) has prepared a long-term plan to help preserve the ground squirrel in the wild, entitled „Rescue program of the European ground squirrel in the Czech Republic.“ The program

was officially approved and launched in 2008. The essential activity was to ensure appropriate care for the ground squirrel's locality, namely regular mowing or grazing. Annual monitoring of all known sites was also launched. However, after a few years, these activities have proved insufficient to meet the long-term objective, and the ground squirrels need to be helped more forcefully. Therefore, in 2015, the project's next phase was called "The establishment of new breeding of the ground squirrel, and awareness-raising activities within the

framework of the implementation of its rescue program."

The aim of this second phase is the establishment of three semi-natural breeding grounds for the squirrels at cooperating institutions, which will then release the animals (repatriation) back to suitable natural locations. The goal in nature is to create five systems of interconnected populations with more than 2,500 individuals in each of them. This is a sufficiently large number to give a fighting chance of long-term survival of such a population. The condition and scarcity of the existing ground squirrel colonies

in the Czech Republic meant that animals could not be taken from them for this purpose without having a negative influence on the group. Therefore, it was necessary to establish a larger number of farms with the help of ground squirrels obtained from Slovak localities, where the numbers of this species are greater. The project also includes genetic research, education, and public awareness.

How is Brno Zoo Brno taking part in the rescue?

Zoo Brno was a partner right from the project's beginning in 2015. Already in that year, a suitable area was identified for constructing an area for breeding ground squirrels. This area is located in the quiet background of the zoo, on a meadow adjacent to the natural monument of the Mniší hora. It has a ground plan of 12x20 meters, with mesh embedded to a depth of two meters. In August 2015, a group of 39 ground squirrels was imported from Slovakia, which started the successful breeding of European ground squirrels in Zoo Brno.

As already mentioned, the aim of breeding is to provide young animals to help the population in nature. Our breeding is very successful, and every year we provide kittens according to the requirements of the AOPK ČR. The first year after the arrival of the initial group, the animals did not have the opportunity to multiply sufficiently, so the first reintroduction didn't occur until 2017. Since then, they have been carried out yearly. A summary of the reintroductions is given in Table 1. It shows that we managed to release 113 ground squirrels during the project. An essential fact in evaluating the project's success is that the species has been maintained in all locations. It should be pointed out that all sites are constantly being cared for so that the conditions continue to be appropriate for the ground squirrels. Thanks to this aid, we believe the European ground squirrel will survive its difficult period and continue to remain part of, and adorn, our nature.

*Mgr. Petr Šrámek
Manager of the project of ground squirrel protection at Zoo Brno*



The European ground squirrel is a land-based rodent species. Photo: Zoo Brno

Table 1: Summary of the reintroduction of the European ground squirrel from Zoo Brno..

Year	Location	Number of individuals released
2017	PP Písečný vrch in the Czech Central Mountains	20
2018	PP Písečný vrch in the Czech Central Mountains	17
2019	steppe near PP Milá in the Czech Central Mountains	26
2020	Břeclav, airport	20
2021	Břeclav, airport	20
2022	PP Syslí louky at Loděnice in the Czech Karst	20
		in total, 113



We opened a new owl aviary

The acute sight of their great eyes and their inaudible flight make owls magical creatures. They embody wisdom: In Greek mythology, the goddess of wisdom, Athena, chose the owl as her symbol. That is why they have always enjoyed widespread popularity. The only exception is the little owl, a tiny bird whose hooting is said to herald bad news.

Let's take a closer look at some species and, at the same time, we will tell you about a new exhibit for true owls and eagle owls.

In the spring of 2022, the construction of a new owl exhibit began in our zoo. It will replace the original one, which is no longer suitable in terms of animal welfare. The new aviary, with a total area of 221 m², is light and spacious, and fits perfectly into the surrounding area. The structure is made of steel pipes anchored to concrete strips, and is covered by a textile net that extends over the mesh with electric

fencing. Cameras monitor the life of the owls in individual cubicles. Also, newly planted trees are enriching the exhibit. If you look closely, you will notice that the new aviary resembles the shape of an owl's claw, digging into the hillside.

Our owls in their new home can be found in the lower part of the zoo opposite the Indian log cabin.

Brno Zoo currently breeds Ural owls, great grey owls, snowy owls, little owls, western Siberian eagle-owls, and great horned owls. They all belong to the family of true owls (*Strigidae*).

The Ural owl (*Strix uralensis*) is a relatively large bird with a body length of about 60 centimeters and a wingspan of 120 cm, which can occasionally reach 170 cm. The female is larger than the male, weighing between 700 grams and one kilogram. Thanks to its power, the Ural owl cannot be confused with another species.

Ural owls live as permanent couples in an area stretching from Japan through Siberia to northern and central Europe. They inhabit cavities in both coniferous and deciduous trees. They are active mainly in the evening and before dawn; but when feeding their chicks, they continue to hunt through the day. When protecting their nest, this species is fierce; and when defending their chicks, they will not hesitate to attack even a man! Their diet is made up of rodents, birds, frogs, and insects.



New owl exhibit in Beringia. Photo: Michal Vaňáč



The Ural owl. Photo: Matyáš Slavík



The great grey owl. Photo: Matyáš Slavík



The great horned owl. Photo: Matyáš Slavík

In Czech nature, it is a bird critically endangered. Only rarely can we see it in Beskydy, Šumava, and in the Czech forest.

The great grey owl (*Strix Nebulosa*) is another representative of our owl collection. Its weight can reach up to 1,900 grams, and its wingspan can stretch up to 1.5 meters. Like the Ural owl, the great grey owl feeds mainly on small rodents, which provide up to 90 % of its food, with mammals and birds making up the other 10%. Their size allows them to attack even larger vertebrates such as hares. They have acute hearing, thanks to which they can locate prey under thick snow. With a sudden raid, they will break the ice crust and dig their curved claws, which can be up to three-centimeters long, into the prey. Thanks to these hunting abilities, they can survive even in rough and inhospitable places.

The great grey owl inhabits the cold areas of the taiga of Eurasia and North America. It does not occur naturally in Czechia.

The **western Siberian eagle-owl** (*Bubo bubo sibiricus*) is probably the world's biggest owl. This giant weighs over four kilograms, its body length reaches over 70 centimeters, and its wingspan reaches up to 188 centimeters. For comparison, an elf owl (*Micrathene whitnei*), the world's smallest owl, grows in length to only 14 centimeters and weighs only about 40 grams.

This huge owl inhabits the northernmost region of owls. It can be found in the Ural, Siberia, Bashkortostan along the middle part of the river Ob, and along the western Altai to the borders of the taiga in the north.

The central part of its diet is made of vertebrates, from mice and hedgehogs to hares. The biggest catch documented was a young roe weighing thirteen kilograms! The western Siberian eagle-owl is the only owl that is characterized by cannibalism, even directly in its family: Weak or infirm young of this species become food for their parents or siblings.

With the western Siberian eagle-owl, there are several „bests“: It is the most

beautiful, the most interesting, the brightest, and, as we have already mentioned, the biggest owl.

The Americas - North, Central, and South – are home to the **great horned owl** (*Bubo virginianus*). Hence, it does not occur in Czechia. It is a sturdy bird, 50-68 centimeters in size, with a wingspan of between 100 and 150 centimeters. Its color varies according to the subspecies, from red-brown, grey-white, and dark brown to brown-black. A white spot on the neck and feather ears are characteristic. It prefers rabbits and hares for food but also hunts rodents, birds, reptiles, amphibians, fish, and large insects.

The American Indian tribes view the great horned owl as a symbol of beauty, strength, and courage. It is often depicted on tribe totems. Its majestic appearance and way of life made it an icon. It has also become one of the symbols of the Canadian province of Alberta as a memento of the threat to the wilderness around the world.

Bc. Iveta Fišerová



The new viper exhibit.
Photo: Roman Kočí

VIPERS AND SMOOTH SNAKES: Zoo Brno presents two new species

Visitors to Brno Zoo can see two new representatives of the serpent empire: In the row of displays behind the main entrance, we opened one exposition of common vipers (*Vipera berus*) and one of smooth snakes (*Coronella austriaca*).

“Vipers and colubrids (the largest snake family) have their fans. Especially for children, snakes are popular animals. People and snakes have lived side by side practically always, yet snakes are shrouded in many myths and superstitions. Meeting a ball of snakes in nature is no longer as common as it was years ago. At the same time, snakes are an important part of the ecosystem. The new exhibition should contribute to education and to the experience of observation,” said Petr Hladík at the opening.

People often confuse vipers with other snakes such as the smooth snake, so we decided to show all those interested a clear comparison in these two neighboring exhibitions. In addition to the differences in the appearance of each individual species, they also live in different environments, which can be seen in the exposures at first glance. „The zoo is trying to faithfully show the natural habitat of each species. The viper inhabits wetter areas with some shaded places, while the smooth snake is a widespread species without any sig-

nificant connection to water. It is at home in dry hillsides, meadows, sparse forests, quarries, and other open habitats,” said Petr Šrámek, the curator of reptile breeding in Zoo Brno.

The common viper is a species of snake that abounds in the high and middle areas of our highest mountain ridges. Especially in the lower areas of its range, it can be found in moist habitats, such as the edges of ponds or wet meadows. The viper’s area ends just near Brno: With the disappearance of the last hills of the Dražanská Highlands (Moravian Karst), further south in open lowlands, vipers are not to be found.

There are a number of interesting facts related to vipers: For example, they do not lay eggs, but give birth to

The common viper. Photo: Roman Kočí

The common viper is a species of high and middle altitudes. Photo: Roman Kočí

Brno Zoo keeps four smooth snakes. Photo: Michal Vaňáč

Female vipers are not as colorful as males. Photo: Roman Kočí



live young. They also have a noticeable sexual dimorphism: Males and females are colored differently (males have more distinct colors), and males are smaller than females, yet fight for females. (In most species, males are larger and fight for the smaller females.)

„In our territory, they are found in several color forms, from brick red to completely black (without a visible typically crooked dorsal line). The viper, like most other species, is a completely non-offensive snake that bites only in self defense at a direct threat which, however, can be an unconscious push or grip by a person's hand. Its danger is often exaggerated. Even though it is the most poisonous Czech animal, with few exceptions the viper's bite does not lead to death. When it bites, only a very little of its venom, or none at all, may be released. The snake consciously controls this quantity because venom production is demanding, so it makes an effort to save it,“ Šrámek added.

The double exhibition of vipers and colubrids began to be built in October last year. The cost amounted to about CZK 737,000, of which the city of Brno contributed CZK 160,000.

Mgr. Michal Vaňáč



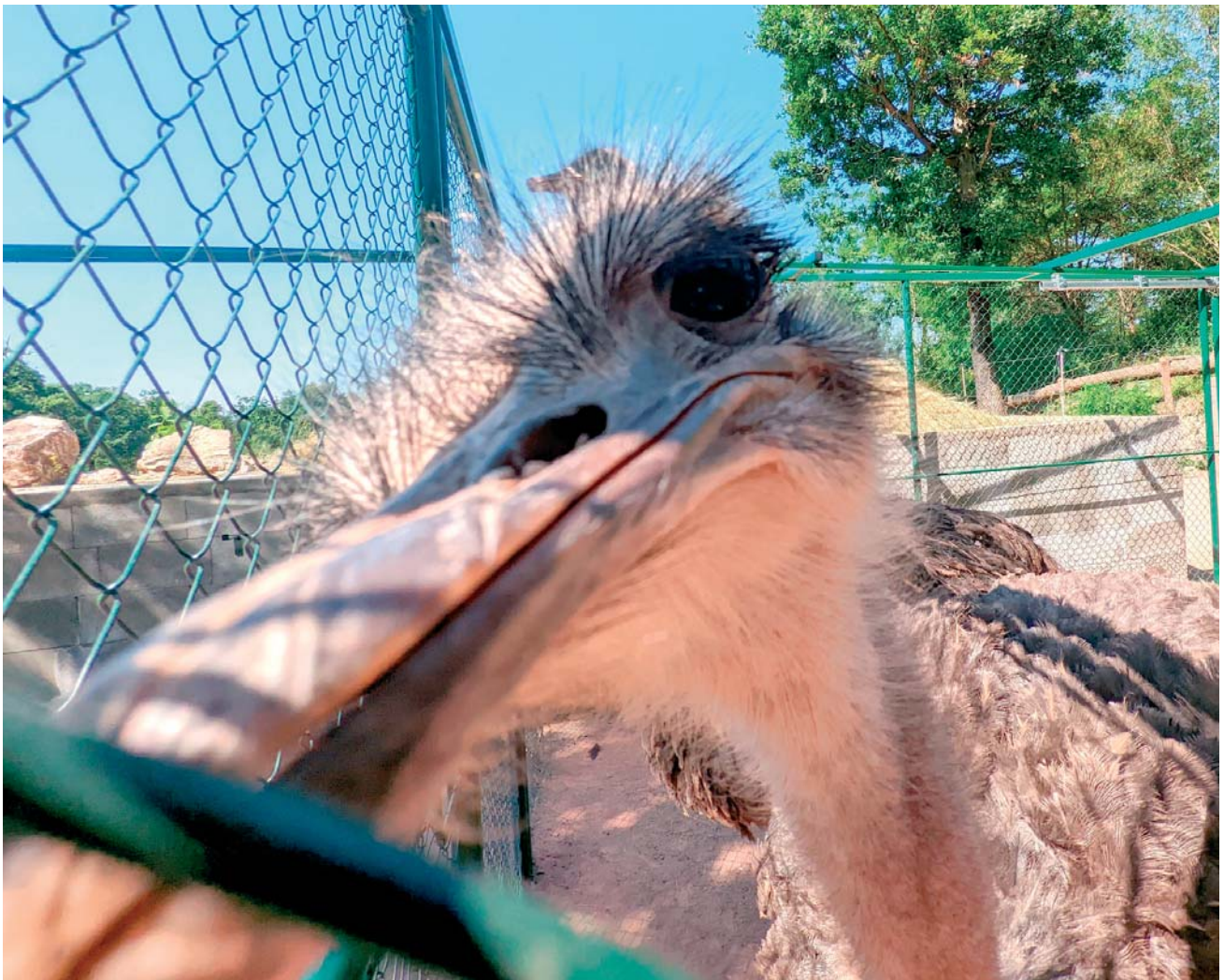
Thanks to new facilities, ostriches have returned to Zoo Brno

The African Safari area of the Brno Zoological Garden has been augmented with common ostriches. Thanks to the construction of new facilities, we could return to breeding these African flightless birds after seven years without them.

“Brno Zoo is a popular place for parents and children, so we try to make the opportunities for visitors as inter-

esting and varied as possible. The new exposition of ostriches will contribute to this. This is another investment by

which Brno Zoo expands and modernizes. I am glad that, in addition to the opportunities for visitors, the animals' facilities are also improving. Thanks to the newly built exhibition, the ostrich is returning to Brno Zoo after seven years' absence. The total cost of construction amounted to CZK 6,6 mil-



A curious view of one of our ostriches. Photo: Michal Vaňáč

lion. The city of Brno supported this investment with a sum of CZK 5,5 million,” said Petr Hladík.

In the newly built facility, there are three buildings for ostriches connected to two fenced enclosures. On the south side of the building, there is a brick shed. The entire facility is provided with drinking water and other essentials.

“We currently breed one male and one female common ostrich, both born in 2021 to a private breeder. They arrived at Brno Zoo in early June 2022, and gradually began to get used to their new home. Then, when we released them into the African Safari section, we started to monitor their reactions and interactions with other animals,” explained the curator of the zoo, Petr Suvorov.

The common ostrich (*Struthio camelus*) is a fast and strong running bird, capable of reaching speeds of up to 50 km per hour. It is also the world’s tallest bird, as it can reach a height of almost three meters. Sexual dimorphism in color is typical, with the male being more colorful. The common ostriches’ social structure is interesting, similar to that of wolves. This means that a group consists of one alpha pair, and satellite females. There can be up to 90 eggs laid by all the females within a single season, but only the alpha pair incubates their own eggs.

Mgr. Michal Vaňáč



The first acquaintance with their new home.

Photo: Michal Vaňáč

Brno Zoo currently keeps two ostriches.

Photo: Michal Vaňáč

The new ostrich facility, with the giraffe stables in the background. Photo: Michal Vaňáč

Learn more about nature.

ZOO
BRNO
70

SPRING 2023

Interesting numbers from 2022



No. of visitors
352 294



No. of animals
2 524



Adoptive parents
920



No. of births
370

TOP breeding success of 2022

Mangrove Iguana

Our zoo managed to breed 4 pups.
These iguanas are on the verge of
extinction in the wild.

Orphan

Nobody
adopted
him



**EPICRATES
CENCHRIA**



Adoption is
possible here



Number of visitors during 2022

You just want
to support the zoo?



QR payment

We want to create a dream zoo for Pallas's cat

New housing plan for Pallas's cat

- ✓ Project
- ✓ Building permit
- ✓ Selection procedure for the contractor
- ✗ Finance

Create with us

