



Annual report 2013



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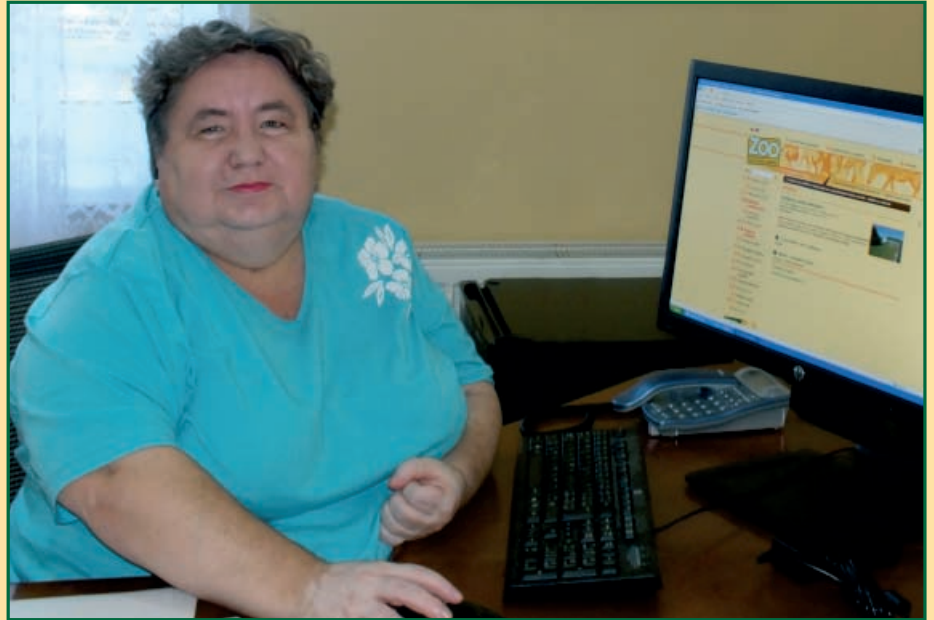


Introductory words

The year 2013 is over. It brought much new into our society. The crisis of economy seems to be the past. Life at the zoo has undergone many changes too. Despite all the economic troubles, a wonderful exhibit was produced for seals in the lower part of the zoo. We were worried about weather at the onset of the high season. Rains and floods in the town significantly contributed to decreased visitor rate in the first half of the year. The quarter 4 was however a landmark, our zoo recording growing numbers every additional month. It is my firm belief and conviction that factors behind this success include the wide range of programmes and events targeting both kids and adults. We cannot command wind and rain - what we certainly can is arrange for a program

that captivates and attracts and brings visitors. It was evidenced by the maximum of guests coming to events such as St. Nicholas at the Zoo or Christmas for Kids and Animals.

Many innovations for the next year are under development. These involve capital projects that we had started earlier. The calendar of events will reveal what visitors can expect in 2014. The entire zoo team is working hard to make that happen. With new animal exhibits, a range of new developments for kids and a number of educational activities already on the way, the zoo is going to continue to meet its elementary roles in cultural, educational and scientific domains. For more details on how we managed to fulfil these in 2013, please read this Annual Report.



Marina Vančatová, PhD
Zoo Director



**Animal
Management**



Animal update

Ing Petra Padalíková

New construction projects were completed in 2013, their main benefits being to enhance housing standards for existing species. Of these, the overall redesign of the pool for **harbour seals** (*Phoca vitulina*) became the most important activity. As the facility was gradually deteriorating for almost twelve years of operation and most importantly ceased to meet the space requirements for the breeding of this species, a significant increase in both area and volume of water was possible with the support of zoo's founder. A brand new display was created. Mimicking the rocky coastline and underwater sea trench, its rugged bottom now allows the animals to move at different depths. The total volume of water that seals now have available is about 250 m³. The body of water is complete with two areas of dry land on which the seals can relax undisturbed. A part of the pool is also possible to split and use the space, if necessary, for weaning individual animals or separating the whole group while cleaning the pool. With the increase in capacity, we decided to expand the number of animals kept by another female. This is the reason why the arrival of the two-year female Zola from Karlsruhe Zoo (**Photo 1**) became the most important transport of the year. The animal arrived even before the grand opening of the new exhibit, and



introducing it to the local breeding pair went smoothly. The other major capital project concerned the breeding facility for **Asian elephants** (*Elephas maximus*). A grant awarded by the Region of Ústí nad Labem enabled the zoo installing a new sun shelter in the outdoor enclosure and laying a new surface made of cast rubber in the bedrooms of the animals. To some extent, this funding was also aimed at landscaping along the outdoor enclosure and erecting stands for visitors. Compared with 2012, there was a slight increase in the total number of

the taxa kept, which on 31 December 2013 counted 228 species. The numbers of individuals have increased - by the end of the year, we held a total of 1,216 animals. As part of international cooperation, the zoo participated in 36 European Endangered Species Breeding Programmes (EEP) and had 15 species on stock for which pan-European studbooks (ESB) are in place. As regards breeding, a total of 37 species reproduced in 2013. The increase in the number of species was mainly due to ectotherm animals. Several new species of fish were added to the aquaria displays; species new to the visitor are the **marbled hatchefish** (*Carnegiella strigata*) and the *Puntius padamya*, as well as the **rednose tetra** (*Hemigrammus rhodostomus*). The collection of frogs and toads has expanded by two other species of small arrow frogs - (*Phyllobates terribilis*) and (*Phyllobates vittatus*) that we received from Pilsen Zoo. A new species is also the American green tree frog (*Hyla cinerea*) - **Photo 2**, which moved after the necessary quarantine to one of the on-display terrariums. Already for the second year, efforts were also successful to breed an attractive species of Rhacophoridae frogs ("flying frogs") - *Theioderma stellatum*; in addition, reproduction success returned in poison dart frogs after a long break with a total of 43 young raised to undergo a complete metamorphosis in the **yel-**



low-banded dart frog (*Dendrobates leucomelas*).

Two new basilisk species were added to the collection of reptiles, **green basilisks** (*Basiliscus plumifrons*) now dwelling in the red-foot tortoise exhibit, while **brown basilisks** (*Basiliscus vittatus*) range in the facility of **Schneider's smooth-fronted caimans**. The latter display underwent a total redesign the last year. With the breeding pair reaching the age of sexual maturity and the depth of the existing pool not allowing mating, the pool was considerably deepened and its area enlarged. Water now running through a sand filter and falling into the pool via a small artificial waterfall is mimicking the gurgling streams with numerous natural pools that form the habitat for this species, so it is hoped that the newly created setting will promote reproduction in our pair (**Photo 3**). The Southeast Asia reptile terrarium is now inhabited by another agama species - **Hypsilurus nigrigularis**. The small exhibit in the entrance hall on the ground floor was made complete by adding attractive **desert spiny lizards** (*Sceloporus magister*) that are assumed to form part of the future display featuring Sonora Desert. The donated clutch of **veiled chameleon** (*Chamaeleo calypttratus*) eggs produced a total of 22 animals hatched (**Photo 4**). Even though it is a common species in captivity, the growing young lizards were arousing a great visitor attention. A decision was thus made that some of these would be retained and the focus on this species would continue. The most important newcomers in terms of species are **beaded lizards** (*Heloderma horridum*). Since the zoo held these intriguing lizards in the past, managing even their studbook, the stock was restored in 2013 and a breeding trio purchased from a reputable German breeder. On the contrary, stock was terminated of two species of kingsnakes, common in captivity, as well as that of the **Horn's monitor** (*Varanus panoptes horni*), a reptile for which long-term efforts to set up a pair had failed. An old female **green tree python** (*Morelia viridis*) also died inside its exhibit, the released space now used for displaying attractive **cave dwelling rat snakes** (*Orthriophis taeniurus ridleyi*) that were so far kept behind the scenes. Upon treatment, their exhibit is depicting the cave habitat in which these snakes hunt their food.

Highlighted from this year's major

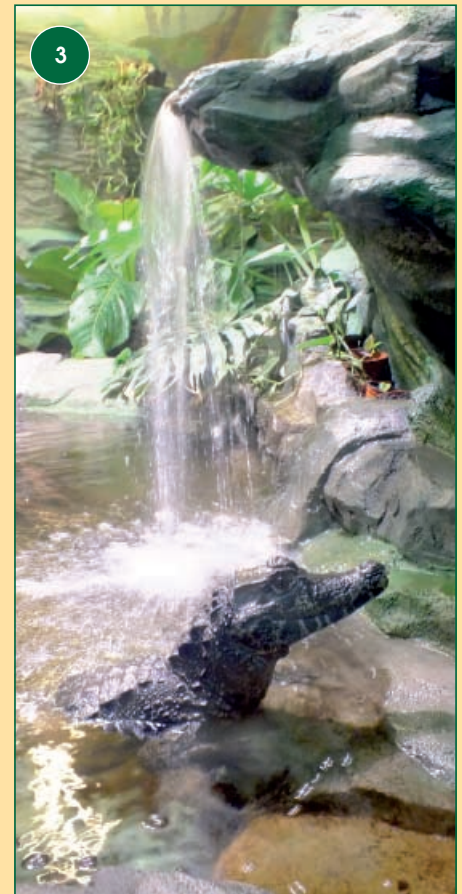
breeding success in reptiles can be the **North-African mastigure** (*Uromastyx acanthinura*). The Ústí Zoo animals come from a seized shipment smuggled by a Czech citizen from Morocco. One young lizard was bred and reared for the first time ever in 2013.

Traditionally, breeding success was achieved in **Cyclemys pulchris-triata** turtles, the **red-foot tortoise** (*Chelonoidis carbonaria*) and the **Madagascar day gecko** (*Phelsuma madagascariensis*). First-ever animals produced also occurred in **Brazilian rainbow boas** (*Epicrates c. cenchria*), the **cave dwelling rat snakes** mentioned above, and **leopard geckos** (*Eublepharis macularius*). A total of four young were the outcome of breeding in **royal pythons** (*Python regius*).

The 2013 nesting season was a continued success with our **wrinkled hornbills** (*Aceros corrugatus*), with three chicks reared by this experienced pair from a single clutch of eggs. The pair of young birds hatched in 2012 was sent to Liberec and Bristol zoos as part of the breeding programme. Since Ústí Zoo is amongst the few institutions to breed the species on a regular basis, another breeding pair was set up in compliance with the breeding scheme strategy, the unrelated male obtained through an exchange with Paignton Zoo.

Compared with the success above, the opposite was true with **southern ground hornbills** (*Bucorvus leadbeateri*) that used to range in an open enclosure in the lower part of the zoo. As early as the previous year we lost a male who had fallen victim to a fox. Even after multiple level of security of the enclosure by an electric fence this year the remaining female succumbed to attack by a marten. It is however clear that this type of enclosures cannot work at our zoo so secure aviaries should be the focus for any bird stock. A similar fate was that of the male **marabou stork** (*Leptoptilos crumeniferus*) that after nine years of being held at the zoo died after an attack by a fox. From the reasons outlined above, we will not recover the stock of this species.

Parrots hatched at the parrot breeding centre comprised two **African grey parrots** (*Psittacus erithacus*) and two **mealy amazons** (*Amazona f. farinosa*). Another rare species was added to the collection of great macaws this year in line with the long-term plan, it being the **military macaw** (*Ara milita-*



ris mexicana), a pure Mexican subspecies and one that is managed as part of the European Studbook.

Newcomers amongst avifauna members species are majestic **red-crowned cranes** (*Grus japonensis*), with the breeding pair set up from birds obtained from Prague and Nuremberg zoos. The cranes now range in the wooded enclosure near the Elephant House (**Photo 5**). Also made complete was the mixed species community of aquatic birds in the lower part of the zoo by adding **Hottentot teals** (*Anas punctata*) and **cattle egrets** (*Bubulcus ibis*) into the exhibit.

Owl and birds of prey nesting season was successful in **saker falcons** (*Falco cherrug*) with the birds breeding and rearing three chicks. The first-ever breeding success was reached in the young pair of **little owls** (*Athene noctua*); the hatched chick will be offered to the reintroduction scheme.

Greater rheas (*Rhea americana*) reared two young birds. The process was taking place quite naturally under the male as usual. To protect against predators, the male received support by means of building a protective enclosure around to provide a safe place in which the bird can guide the freshly hatched offspring.

The species composition of mammal stock has not changed in comparison



to the previous year. At Exotarium, a great surprise for us was the birth of a **two-toed sloth** (*Choloepus didactylus*). Actually, an old female gave birth although not assumed to do so any more (**Photo 6**). A perspective female was received on loan from Olomouc Zoo to maximise the value of our male's fertility.

Among the most interesting events was one that occurred in the group of **ring-tailed lemurs** (*Lemur catta*). The year before, females underwent a very intense oestrus, when there were mutual injuries by two out of three females. Eventually, one of them had to be permanently isolated from the group as she was damaging the scars after the injury by constant licking. The animal was thus sent to a private breeder along with her yearling daughter. The remainder of two females bred and reared two young animals, when birth took place in the second case as late as July, which corresponds to the problematic oestrus of the previous year.

There were two births at a time in **golden lion tamarins** (*Leontopithecus rosalia*), this resulting in three young reared with success. Two **white-lipped tamarins** (*Saguinus labiatus*) were born, with one more case of twins seen in **cotton-top tamarins** (*Saguinus oedipus*). As for **pygmy marmosets** (*Callithrix pygmaea niveiventris*), the male was suspected to be infertile, since although the breeding trio was set up the previous year, breeding success never arrived. It was only this year for the first time that one of the females gave birth to two healthy individuals which it was attending, along

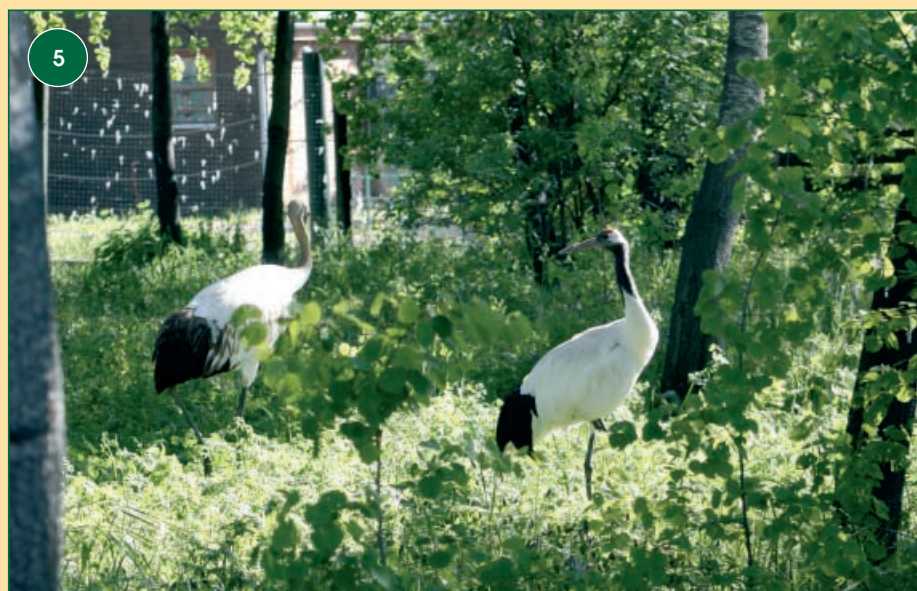
with the male, with a particular care. Unfortunately, the other female had to be euthanised due to sudden paresis of the hind limbs. The cause of this condition has remained unclear.

In the Old World primate house, all the three breeding females of **mandrills** (*Mandrillus sphinx*) reproduced once again, the group so counting a total of 12 individuals by the end of the year. Success was the current year in the stock of **guerezas** (*Colobus guereza*) as well. While in the previous year, when we integrated a new male into the group, only one out of the three inexperienced females reared a baby, the breeding success arrived in all of them this year (**Photo 7**). For **Javan langurs** (*Trachypithecus auratus*), only a partial success was achieved. Needless to say that this leaf-eating species is amongst the

most sensitive residents of the house. The year before, a young male Áron that arrived from Dvůr Králové Zoo was connected to our three females. None of the females had ever bred, so this year we were eager whether or not they would become pregnant. In fact, two of the females became involved in reproduction, with one of them managing to give even two births. Unfortunately, none of the cases resulted in rearing success. The lack of experience of the females was manifest in the way they were carrying the young, who were not enabled sucking of the breast. In each case, the young animal died within a few days, with post mortem exams confirming our assumption that the death was caused by insufficient intake of breast milk. It can be assumed that with more births the females are to fix their maternal behaviour. Our relief for now can be at least the confirmation of the male's fertility. An unrelated male Chap was integrated into the group of **Bonnet macaques** (*Macaca radiata*), the animal being acquired last year from a private German-based zoo in Jockdorf.

2013 was not a favourable year for the only canine species held at the zoo - the **maned wolf** (*Chrysocyon brachyurus*) - the male Hobit unfortunately died as a result of intestinal entanglement.

At the Carnivore House, it was necessary to proceed with euthanasia of a female **Malayan sun bear** (*Helarctos malayanus*) called Ajči, who suffered from impaired motor skills, with the post mortem report subsequently confirming damaged blood vessels of the brain. Arriving in 1989 from Vietnam



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as a little bear cub, the female spent her entire life in the group, but never reproduced.

A very successful was 2013 in **Amur leopards** (*Panthera pardus orientalis*). Two young females, born in 2011, went to the zoos in Twycross (UK) and Rostov-on-Don (Russia). Subsequently, we saw another cub in August, born to the breeding female Kiara. Heart-warming is the fact that it again involved a female (**Photo 8**). In **snow leopards** (*Panthera uncia*), reproduction was paused in 2013 as agreed with the EEP coordinator, meaning that the female Nima will not be able to join the male until the next season. In 2013, the female's son Panja, born in 2011, was

sent to Broxbourne, UK.

As part of "flood support" for Prague Zoo, the house was enlivened with two Prague animal personalities of which the first one involved a female Asiatic lion (*Panthera leo persica*) called Aisha (**Photo 9**). Visitors thus received the opportunity, over a period of two months, to compare an African lion and an Asian lion within a single institution. The other special guest was a male **Malayan tiger** (*Panthera tigris jacksonii*) named Kawi, who was born at Lok Kawi Zoo, Malaysian Borneo. The creature is a single tiger unrelated to the remainder of the European population. Kawi was unfortunately showing in Prague pathological aggression

against all the local females. Everyone here hoped that the change in settings could modify the behaviour, so in agreement with Prague colleagues, the tiger was retained in Ústí until the end of the year. A contact grid was installed in the house in order to observe the male's behaviour towards the female Indra. Sadly, Kawi was showing offending behaviour towards the female in Ústí as well.

After the departure of the young male **clouded leopard** (*Neofelis nebulosa*) to Novosibirsk Zoo, we re-joined our breeding pair. The female entered her oestrus immediately, delivering three cubs again in September. This time the male was left with the female throughout the rearing period, as recommended by the management handbook for this species. This option, however, did not work in Ústí since the female entered heat shortly after birth and gradually lost interest in the young.

There was failure to achieve the long-sought goal, i.e. rearing young, in **cheetahs** (*Acinonyx jubatus*) even in 2013, with the female Suna continuing to refuse our breeding male. Early in 2013, we also had to euthanise the old male Inongo as a result of kidney failure. In the autumn, we brought a second breeding female called Noemi from the zoo in Hilvarenbeek (Netherlands) in order to increase the chances of successful reproduction. The action of putting the male to the female is planned for the spring of the following year.

As regards the hoofed mammal section, both the equine species reproduced. For the rare **Somali ass** (*Equus africanus somalicus*), foals were produced by two females (**Photo 10**). The group of **Hartmann's zebras** (*Equus zebra hartmannae*) has grown to consist of four more foals, of which two are the descendants of Eddi, a genetically valuable stallion. A young stallion Denda was also sent to Montpellier, France - originating from Ústí stock and father of the other two of this year's foals, this male was replaced by a new stallion Hodari coming from a bachelor male group held at Landau Zoo. This male zebra will breed mares that Eddi had been rejecting.

Birth occurred in **llamas** (*Lama glama*) as well, with seven more young produced in **alpacs** (*Vicugna pacos*). Species flourishing in the deer stock involved the **Vietnamese sika deer** (*Cervus nippon pseudaxis*), with three

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fawns reared with success, while in **Reeves muntjacs** (*Muntiacus r. reevesi*), offspring was produced only by one of the two breeding females. As the breeding male died in the course of the year, a new sire was received from Liberec Zoo.

Unfortunate was the development we saw with the stock of the **white-lipped deer** (*Cervus albirostris*).

As a result of accident, one of the breeding females died and the carcass was sent to the State Veterinary Institute for preventative examination. Cultivation of samples identified an agent of paratuberculosis. Because it is a disease that is mandatory to report, the entire group has been put to quarantine. Although no more animals were found to be positive after the first series of individual testing, so

most likely it was a random finding, quarantine measures, however, very complicated animal management, as sending any animal out became impossible. In the course of the year, additionally, the group was also enlarged with two fawns being born.

Species doing well within the antelope stock included the **Kafue lechwe** (*Kobus leche kafuensis*), where one calf was produced. Three calves were reared in the **blackbuck** (*Antilope cervicapra*) as well as in the **nilgai** (*Boselaphus tragocamelus*) stocks.

Important event of 2013 was the launch of ZIMS (Zoological Information Management System), a new animal record keeping program replacing ARKS that was used so far. The new software works as an online app and enables much more detailed records

of data on animals held. This step was unification of all internal databases, delivering a critical improvement in animal record keeping operations.

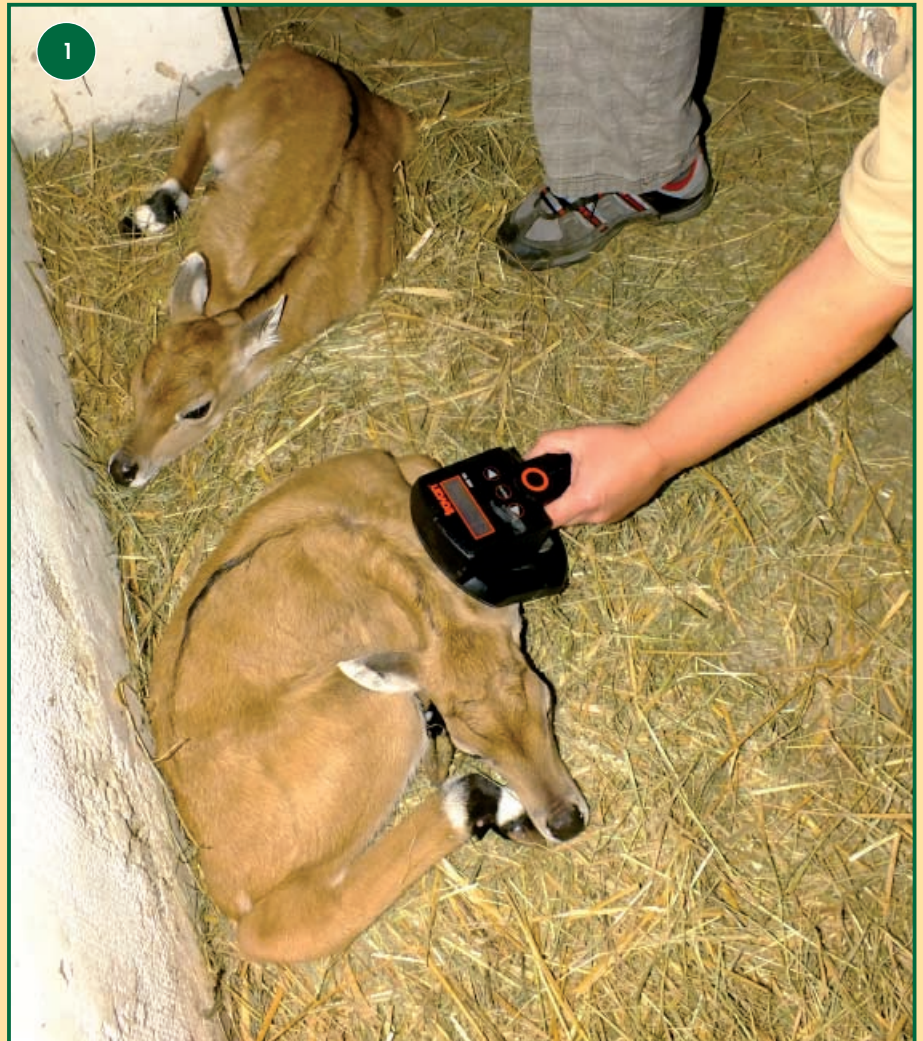
As part of expert activities, Animal Management staff members joined in 2013 meetings of UCSZOO's specialist committees held in zoos in Jihlava (primates and felines), Ohrada (parrots), Prague (amphibians & reptiles), Brno (deer & Caprini), and Chomutov (pinnipeds). They also participated in the meetings held in Kostelec nad Černými lesy (animal record keeping, equids, and animals transfer committees). The head of the department took part in the annual conference of EAZA, which was held in Edinburgh (UK).



Veterinary care

MVDr Renata Poživilová

The vendor of veterinary services continued to be, for several years now, Sdružení veterinárních lékařů a služeb (association of veterinarian doctors and services). The practice of the activity comprising prevention and therapy in animal care, as well as post mortem exams, animal identification (**Photo 1**) and sampling for the purposes of further examination was followed in 2013 as well. The tasks include keeping records of pre-emptive and curative care at the zoo, inspecting any disinfection and pest control measures carried out, and overseeing the preparation and storage of animal feeds. Given that the Animal Rescue Centre is managed by the zoo, it is served by the same veterinarians. As a result of expanding the Centre's capacity, there was an increase in therapeutic and preventative actions and the associated rise of the cost of animal health care. The zoo also forms the site of traineeships, which runs under the supervision of veterinarians and involves university students in particular. The practising usually covers medical care targeted at non-domesticated animals.





Preventive animal health care is carried out in accordance with the schedule of periodic examinations, vaccinations and health tests meeting the requirements of the State Veterinary Administration of the Czech Republic as well as recommendations of the EAZA Veterinary Committee. As in the previous years, we made a pre-emptive blanket deworming in all animals; other deworming operations were done as necessary. Parasitological status is reviewed on a periodical basis, by examining faecal samples mainly in our own laboratory. The prevention scheme includes vaccination, especially in large felines and equids. Vaccination of other species is done depending on the animal health status. In 2013, 72 vaccinations were completed (**Photo 2**).

This year we did not escape the sad duty of cutting suffering in old and long-term sick animals. This way we were left by the female Malayan sun bear Ajči, the cheetah Inongo, and the guenon Filoména. Other geriatric patients are administered support medications and vitamins, while food is adjusted for them as well as housing standards to improve last years of their lives. From time to time, dental procedures are necessary as well. In January, we treated, under general anaes-

thesia, the male Bonnet macaque called Venca, in which rotten teeth had to be extracted and tartar removed in the remainder. In November, general anaesthesia had to be used as well when treating the male Somali ass named Ogo, who had had some molars out and the remainder of the teeth overgrowing, so they had to be ground down for the creature to be able to continue to ingest without problems.

Other worth-mentioning cases include the treatment of an eagle owl being brought into the Animal Rescue Centre by the city police. The overall examination found the animal to be exhausted, wasted and its wing was broken. The owl weighed only 1.2 kg. Despite all the risks of ill health the bird was anaesthetised and internal fixation of the broken bone carried out, complemented with cerclage. Reviving the owl after surgery took a longer time. The next day, however, it started to take food and antibiotics. After a month, the bird's weight reached as many as 2.5 kg and the owl started to fly throughout the aviary. After another month its bone was found by x-ray to have grown together, making it possible to remove wires and cerclage. Currently, the eagle owl is still kept in the aviary, waiting for spring to be able

to be released back into the wild.

Even the smallest creatures we nurse sometimes sick. This way the pre-emptive examinations of *Theioderma stellatum* frogs discovered a relatively new disease - chytridiomycosis. A serious disease of amphibians caused by the fungus *Batrachochytridium dendrobatidis*, it is already widespread in all continents except Antarctica. The condition is accountable for extinction of about 35 species of amphibians globally. Fortunately, effective medications are available, so our frogs were repeatedly administered a healing bath. Control tests went well and the fungal disease was successfully eliminated.

An odd case was dealt with in the middle of summer: the young Bonnet macaque called Glum was found to have a swollen face. As nothing has changed the next day, we decided to capture and examine the primate under general anaesthesia. To our great surprise, the "oedema" was caused by a peach pit the male stuffed into its cheek pouch (**Photos 3 and 4**). As the item had got stuck in there, the animal was unable to remove it by itself. This "intervention" did not require any additional medication.

Animal Rescue Centre update

Jaroslava Ježková

The centre's activity did not much differ from that in the previous years. Out of a total of 561 dogs received, 262 were returned back to the owner. In addition, we received 245 cats, returning 133 into the site or finding them a new home.

The process of microchipping the animals we nurse and creating the centre's own register of microchips continued, the staff constantly coming across the fact of new owners of animals adopted here failing to follow up and register the animal at the appropriate local authority or with one of the databases of microchipped animals operating in the country, leaving us with microchipped dogs that must be retained at the centre and cannot be returned to the owner. With our own database, every animal that at least arrived and left once is on file and, if registered, can be returned to the owner. The most common veterinary services included in particular vaccinating dogs, microchipping and treating various viral and diarrhoea diseases (**Photo 1**).

Similarly as with the previous years, the staff was dedicating their time to promoting the centre at events designed for animal shelters, this for instance involving Útulek Fest (an animal shelter festival), for which we are



amongst those invited every year, or the dog and cat shows called Dog's Dream held in Vinoř near Prague and dedicated to offering the abandoned dogs and cats for adoption. Participants in the activities above include our volunteer "dogwalkers", who use this way to develop their passion for and taking care of animals (**Photo 2**).

In June 2013, Ústí nad Labem was hit by floods and the shelter received 34 dogs and 6 cats moved from flooded zones. They were placed free of any charge including veterinary care, which was necessary with these creatures. The cost was fully covered by the City of Ústí nad Labem. As the water level was dropping and owners' way of living returning to the standard, each of the pets went back home, one by one.

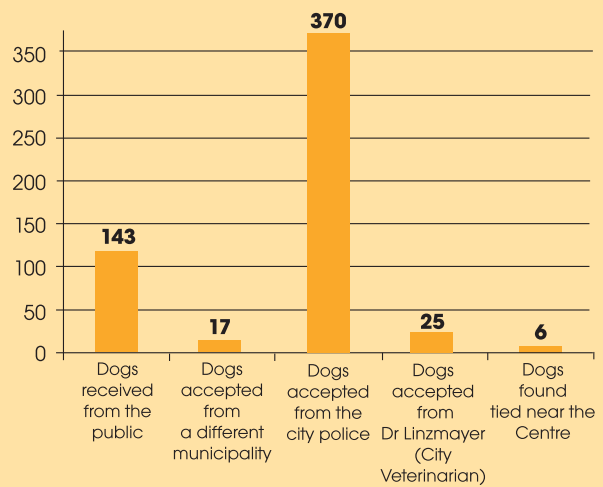
In 2013, our centre expanded its capacity to house dogs. Nine new pens were constructed (**Photo 3**), as were two pens for animals to be trapped by the city police to avoid the fact that captured animals come directly to the quarantine pens where they are exposed to a high risk of infection. Often, the owner is not very careful and does not have their dog vaccinated, while infection by some dog diseases (such as parvovirus) can be even fatal.

In some new pens there are heated floors and dishes, which significantly improved the quality of housing the creatures in the centre. All the pens were also made complete by adding some calorific plates to boxes, so such equipment is present in all pens at the moment.

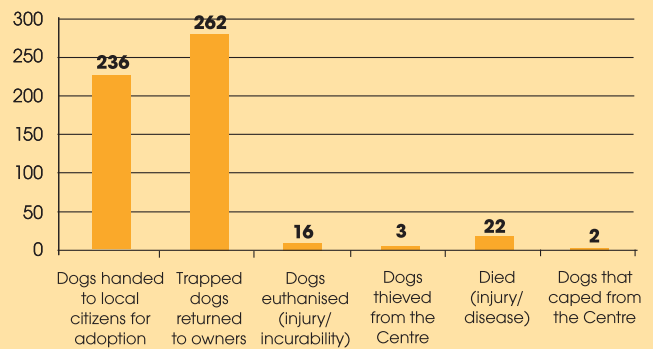




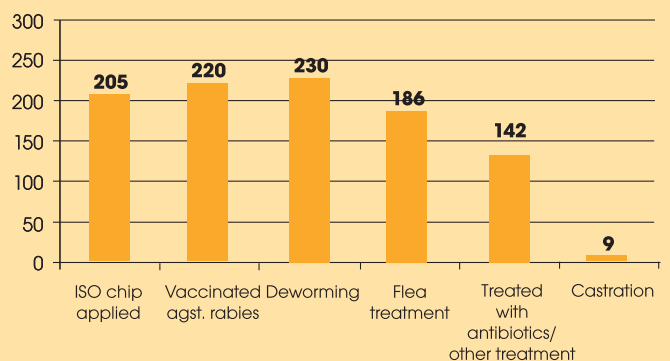
Dogs received for treatment (1 Jan - 31 Dec 2013)	
Dogs received from the public	143
Dogs accepted from a different municipality	17
Dogs accepted from the city police	370
Dogs accepted from Dr Linzmayer (City Veterinarian)	25
Dogs found tied near the Centre	6
Total dogs	561



Outgoing dogs (1 Jan - 31 Dec 2013)	
Dogs handed to local citizens for adoption	236
Trapped dogs returned to the owner	262
Dogs euthanised for injury/incurability	16
Dogs thieved from the Centre	3
Dogs died (injury/illness)	22
Dogs that escaped from the Centre	2
Total dogs	541

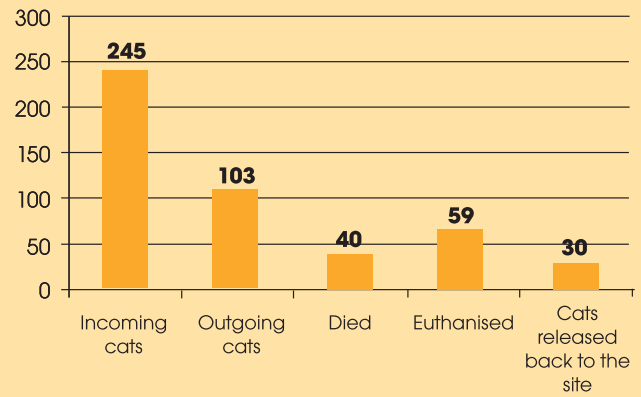


Dogs treated and vaccinated throughout the stay (1 Jan-31 Dec)	
ISO chip applied	205
Vaccinated against rabies	220
Dewormed	230
Flea controlled	186
Treated with antibiotics/other treatment (injury, skin disease)	142
Castration	9
Total services	992



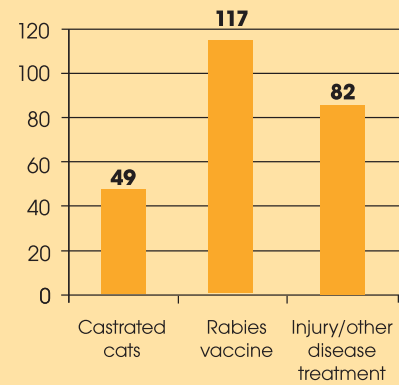
Cats received and treated (1 Jan - 31 Dec 2013)

Incoming cats	245
Outgoing cats	103
Died	40
Euthanised	59
Cats released back to the site	30



Cats treated (1 Jan - 31 Dec 2013)

Castrated cats	49
Rabies vaccine	117
Injury/other disease treatment	82



Financial summary

Fees received for outgoing dogs (vaccinated, microchipped)	300 CZK
Fees received for outgoing dogs (vaccinated, microchipped) outside the City	400 CZK
Dog housing fee per day	60 CZK
Transport fee, incoming dogs	100 CZK
Lump sum per dog stay (dogs 30 cm-)	1,000 CZK
Lump sum per dog stay (dogs 30+ cm)	1,500 CZK
Cadaver payment	22 CZK/kg

Centre funding in 2013

Materials consumed	554 555 CZK
Energy consumed	134 569 CZK
Repair and maintenance	21 200 CZK
Other services	250 240 CZK
Other costs	3 547 CZK
Payroll costs	550 777 CZK
Health and social insurance	222 471 CZK
Travel	1 970 CZK
Income (adoption fees, donations)	493 797 CZK
2013 subsidy	1 092 000 CZK

Pesisir Balikpapan: 2013 update

Mgr Stanislav Lhota, PhD

Underway with support of Ústí nad Labem Zoo since 2007, the project's objective is protecting and ensuring sustainable use of the marine ecosystem of the coast and the rain-forests of the Balikpapan Bay, East Kalimantan (Indonesia). In 2013, the project manager spent six months in Indonesia, while a number of Indonesian colleagues were active in the field over the remainder of the period under review with whom the author maintained regular connection via email. The project manager's aim after several years spent in the region is to gradually transfer, to the maximum extent, tasks and responsibilities for the programme of permanent protection of the Balikpapan Bay to Indonesian colleagues. The process will however need several years.

Monitoring and cooperation with authorities

The great success achieved as part of the project is the plan of monthly monitoring of major part of the coast and the rapid transmission of current news to both authorities and non-governmental organisations. Knowing what is happening in the field with a minimum delay enables everyone to respond by further actions in time. The monitoring activity has been underway, almost without interruption, since 2008 and



as a result, a few highly undesired projects could be stopped or at least slowed down.

The almost complete disappearance of the shrimp and fish farms in the Bay can serve as a good example. Historically, shrimp farming was the most serious reason for the disappearance of mangrove forests not only in the bay (**Figure 1 - courtesy Petr Slavík**), but also throughout Indonesia and

worldwide. While the activity brings good returns for individuals, income of other fishermen is, however, reduced because healthy mangroves are a key factor for the overall productivity of coastal ecosystems. Nonetheless, while elsewhere in Indonesia shrimp farms remain the issue number one, the situation in Balikpapan has changed over the last few years. The local government began to turn to us regarding the assessment of applications to build new shrimp farms, and in recent years, none of these was approved. There is even no illegal setting up of farms, which we would otherwise immediately report to authorities. There are however more circumstances that contribute to the fall of shrimp and fish farming in the Bay, that is, fishermen are finally starting to appreciate warnings that the local natural conditions are not appropriate for building shrimp farms. Water on the bed of brown coal is acidic, the mud from which they build dams is too easy to erode and a virus was introduced from Japan that is killing the shrimp. Dozens of fishermen went bankrupt and indebted for life through a futile attempt to become rich by farming shrimp. Their farms are gradually being abandoned and mangroves recover





there, which is expected to have a positive effect on the earnings of those fishermen who hunt fish and shrimp in a greener way in open waters. Partial success was achieved through monitoring even in limiting the further spread of brown coal mines in the Bay. We managed to stop two mining companies. Paradoxically, we were supported in this by PT Agro Indomas, a company focused on the production of palm oil, with which we have spent a long time disputing that it had illegally deforested dozens of kilometres of riverbanks along the Bay. In fact, coal mining and the construction of transshipment sites was planned to take place on the territory of PT Agro Indomas concession. The support from the corporation was one of the reasons why the local government eventually did not permit mining or even transport of coal through this area. Even though brown coal companies were successfully stopped through combined forces, the conflict alone with PT Agro Indomas still lasts. They are demanded to recover the riverbanks and coastlines that were planted with palm trees illegally. This, however, failed to be achieved even after two years.

Campaigns, negotiation and litigation

Creating pressure from the members of public the support of whose is essential for protecting the Balikpapan Bay forms one of the preconditions for the cooperation with Indonesian authorities to be successful. This is the purpose of our campaigning. After 2011, we experienced a decline

in the activities of non-governmental conservation organisations in Balikpapan due to repression by the local government. Their role in this critical period was assumed by Friends of the Balikpapan Bay (Peduli Teluk Balikpapan). A movement with some extent of anarchic thinking, this group of young activists consisting mainly of students of local universities became a fundamental pillar of conservation efforts in the Bay for almost two years. With great enthusiasm the forum was fighting against the plan to build a motor way along the Bay as well as tackling changes in the zoning plan, which includes an unacceptable extension of the industrial zones along the Bay coast (**Photo 2 - courtesy Danang Sutobudi**). In late 2012, however, the campaigning activities of this movement became slowly fade away, the forum ceasing to be active any more in 2013. At the end of 2013, we made an attempt of reviving the forum through a series of lectures, discussions and field trips. This unfortunately failed because the initial forum activists had mostly graduated and en-

tered into employment, some female students had got married and became housewives, some had moved and some others do not wish to work together due to various conflicts. With a number of new applicants recruited, the campaign to save the Balikpapan Bay has eventually moved on, which however is no longer underway as part of now defunct Friends of Balikpapan Bay - instead, it is running as part of initiatives of several smaller communities. A movement fragmented among several organisations does have some drawbacks, but it involves groups of people who know each other better and are more united by friendships, which could make sure a campaign on rather a long-term basis. The new plans of the young activists include a signature campaign, screening of the *Gone with the Tide* movie (which in 2011 was made by documentary filmmaker Lutfi Pratomo and produced by the Friends of Balikpapan Bay forum and won so far several awards at festivals in Indonesia), plus there are trips around the Balikpapan Bay to be organised for students of secondary schools and universities.

Along with the decline of the movement of young activists, fortunately, Balikpapan saw a revival of the activities of non-governmental organisations associated in the so-called Consortium, which thanks to some ambitious new members began, after a two-year decline, with pro-active support of conservation efforts in the Bay. It turns out that some environmental cases cannot be solved otherwise than through courts, which is where Consortium took the lead. We started to cooperate with lawyers and with the Faculty of Law to the University of Balikpapan. The great advantage is that some international NGOs financially support the activist-oriented Indonesian lawyers to be able to become involved (free of charge) in cases related to the





lack of transparency and corruption, which applies to Balikpapan Bay as well. Through the Consortium member organisations, we filed a suit against the governor of the province of East Kalimantan, City of Balikpapan Mayor, Office for the Environment, Regional Planning Commission, Office for Regional Development and Wilmar Company. This is an action concerning the development of a provincial motor way along the Bay, the fact that the road runs through the buffer zone along the Bay coast and the banks of rivers, while underlying documents such as environmental impact assessment (EIA) or documentation for planning and building permit are either lacking or in conflict with other legislation and actual events in the real life being the reason. As a result of the action filed, the works were suspended after the first 700 metres of the initial construction.

Ecotourism and environmental education

While the monitoring activities, negotiations, campaigning and legal actions aim to manage issues that occur right here and now, the objective of environmental education and the ecotourism activities associated is influencing the society to prevent any similar conflicts to occur so often.

As part of our environmental education plan, we now elaborate the exhibit of Balikpapan Bay KWPLH – an education centre located on the outskirts of City of Balikpapan (**Photo 3**). The facility keeps, as a major visitor attraction, several Malayan sun bears in a large

natural enclosure. These were confiscated to illegal owners and releasing them back into the wild was not possible. Set up in 2011, the display has the form of 14 information boards, but has not raised a very great acclaim so far since reading is not Indonesians' fancy, plus the amount of printed materials already available at KWPLH is too much for a standard visitor. As a result, we agreed with the local guides to make the exhibit a more interactive facility. On Saturdays, Sundays and public holidays, a movie featuring the Gulf will be on (*Gone with the Tide*) in addition to information boards, and will be followed by a discussion and a joint tour of the exhibit. In the near future, the framework of this programme is to contain selling tickets for trips to the Balikpapan Bay. Because KWPLH is visited by approximately 50,000 visitors every year, this will allow reaching a large number of people.

The ecotourism scheme that had been underway for two years in the Bay experienced a decline in 2013 to mere 100-200 visitors per year. While the capacity and a long-term target is 1,000 persons every year, it was necessary to fundamentally review the current strategy and engage new organisations with diverse kinds of focus. This helped to a total of three organisations becoming involved by early 2014. Of these, Landing Association that we established two years ago is dedicated chiefly on the programmes in schools; to a limited extent it also operates trips to the Bay for students and tourists. The other local organisation - Wapela – became involved in

the ecotourism project in late 2013. Targeting particularly wealthy tourists and official visitors, as well as media promotion of the Bay, its biggest local operation so far is organizing a plan of conference trips for participants of the Dermatology Congress to be held in Balikpapan. The third member is Parakayu – a travel agency that we established along with the KWPLH team and other local conservationists. Parakayu is to specialise on rather the “mass” tourism, which is meant to be a few hundred visitors per year, mostly of Indonesian origin. Parakayu earnings are intended to help fund the campaign to preserve the Balikpapan Bay.

Research

Research activities in the Bay were not a priority in 2013, but even so, there were at least two minor student efforts. Krisna Aditya Suharto - a student of the Faculty of Law at the Balikpapan University collected data, produced and defended his bachelor thesis on “Legal protection of mangroves in the industrial area of Kariangau”, which is chiefly analysing the possible strategies of legal action filed against two palm oil processing factories in the Bay. Krisna continues to collaborate with the team that had been carrying out the periodical monthly monitoring scheme. He is also planning to start his own NGO and we hope in him to become our new legal consultant. The other student research work was one of Anggi Prayogi, a student at Bogor Agricultural Institute, who was devoted to the effects of the planned project of bridging the island of Balang and that of the motor way to run along the Bay on the population of Irrawaddy dolphins (**Photo 4 - courtesy Yk Rasi**). Anggit is currently processing the data collected. A third student who is just beginning her work in the Bay is Mahdaleny - a student of the University of Gadjah Mada, Yogyakarta, as well as an official of the provincial government in Samarinda, who is to focus on the destruction of mangroves in the Bay from a legal aspect.

Being easily accessible, the Balikpapan Bay forms an ideal location for student research work and it is desired by the team to make use of this potential in the future. That was why we started the first year of a field training for university students, the objective of which is to present them research methods in Proboscis monkeys, Irrawaddy dolphins



and mangrove vegetation, whilst making them familiar with the way of life the local fishing community leads. The first year was attended by 28 students and teachers from Singapore, the local zoo being the organising person. The course will be repeated annually for diverse Indonesian and foreign universities, Indonesian students expected in the coming years to form at least one third of the participants. The second year of the course will be held in cooperation with Czech universities. It will be organised by Ústí nad Labem Zoo, with the Czech University of Life Sciences in Prague - Suchbát being the Czech partner.

However, it was decided to move the Proboscis research scheme (**Photo 5; courtesy Gabriella Fredriksson**) to a more quiet location due to intense conservation conflicts in the Bay as well as the possible impending threat of the local government starting to withdraw permits for foreign participants to conduct research. Having visited Berau District three times and travelled across several sites of primatological interest, the project manager chosen the bay of Sulaiman, located about three days of journey north of the Balikpapan Bay, as a possible new location for future research. The first research activities at the new site are planned for 2015.

Palm oil

Deforestation to cultivate oil palms (**Photo 6 - courtesy Michal Gálík**) became the highlight of conserva-

tion in Indonesia a few years ago, the Balikpapan Bay being no exception. Extensive talks continue with several palm oil companies about the possibilities of remedy for the damage caused across the Bay. The dispute with Wilmar has entered the stage of a complaint filed with RSPO (Roundtable on Sustainable Palm Oil), the consequence of which for the company is the certification of its products on the international market being suspended. Negotiations have not been recently leading to a turning point, so preparing a legal action against government authorities that issued the relevant permits for Wilmar is an alternative step of the project team. Discussions with the other company, already mentioned PT Agro Indomas, has not yet entered the stage of a formal complaint, meaning that the process of their certification has not been suspended. Recently, the company labelled the results of our monitoring activities (including photographs) as falsified. Therefore, we asked their management to undertake a joint inspection of the plantation at which the suspicion of falsifying evidence was overcome. It was agreed with the company that there would be a one-year period, and if no change had occurred by that time (i.e. the illegally deforested river banks being restored), the team shall place a complaint with RSPO as in the previous case. The third company with which there has been a long-term controversy is Kencana Agro Ltd. Since they are not RSPO members,

putting them under any pressure is a very difficult task. However, as the latest survey has revealed that Louis Dreyfus Co. is their key partner - a company that does belong to RSPO, the team intends to file a complaint and use the similar procedure as that in the case of Wilmar.

Yet there was a fundamental change as concerns the dispute with Wilmar; it happened on 5 December 2013, when the company signed a commitment to immediately stop logging in primary forests with a high conservation value. The commitment was signed under the support of Greenpeace, The Forest Trust (TFT) and Unilever - the largest buyer of palm oil. Since the Balikpapan Bay area falls within such a category, Wilmar should immediately stop all its future plans in this region. Sadly, this did not happen since Wilmar tried to circumvent their commitment as regards the Balikpapan Bay by carrying out an assessment of the forest within their concession without the participation of conservation organisations to conclude that the area had no conservation value. On 11 February 2014, a total of 18 local organisations and researchers who were not invited to join the meeting drawn up a protesting letter that was sent to Wilmar, organisations such as RSPO, Greenpeace and TFT, and the media. The Balikpapan Bay is thus becoming a place of beginning writing a very important chapter in the history of conservation in Indonesia.

Breeding the *Theلودerma stellatum* frog in Ústí nad Labem

Dagmar Toušová



Classified by the Red Data List as Near Threatened due to the extent of its occurrence which is likely not greater than 20 000 km² as well as its population that is on decline - the reason being the habitat deterioration as a result of logging and agricultural expansion, this frog comes from south-eastern Thailand (Khao Sebab). Mentioned is also a population in southern Vietnam (Cat Tien National Park) and the estimated range area is also in Cambodia. Natural habitats of the species are subtropical or tropical moist lowland/mountain forests as well as rubber plantations. It has been recorded at altitudes of 50-1,200 m, ranging both on the ground and in tree tops.

Along with the other 16 known species of the *Theلودerma* genus, this frog is a very intriguing animal. A member of the *Rhacophoridae* family, more specifically, the group also called flying frogs, *Theلودerma stellatum* is a brown and black creature, growing to about 3 cm, with skin featuring a pattern and structure similar to that of

rough tree bark. With such traits, it can perfectly blend with the background, whether found on trees or in undergrowth, making it hard for predators to track it down. The species lays eggs in cavities of decayed trees flooded by rainwater. Tadpoles feed on organic residues - leaves, dead insects, and even faeces of adult frogs.

According to the information retrieved from International Species Information System on 9 January 2014 (last updated on 31 Dec 2013), there are 15 zoos across Europe holding the species. Ústí nad Labem Zoo is the only Czech zoo institution to keep and, to date, successfully breed the species.

Our garden received 10 animals of nearly adult age from Riga Zoo in 2009, each of them measuring about 2.5 cm. They were placed behind the scenes inside the exotic animal house in plastic boxes, 50 x 40 x 30 cm (L x W x H) each. Every frog was put in a bowl with soft water (the water level of 3 cm), with each bowl measuring 20 x 15 x 8 cm (L x W x H) and containing a

rather large stone and a piece of the *Scindapsus* plant. The bottom of each box was completely covered with pieces of cork bark (**Photo 1**). The animals were leaving water only at night when feeding.

Substrate used in the terrarium was gravel, size from 0.3 to 0.8 cm. Coconut shells cut in half, cork bark and *Scindapsus* plants were used as shelters. The terrarium was lit by fluorescent lamps - a Philips Master TL-D58W/840 and a UVB lamp Narva Reptilight LT-18W (60 cm), both located 15 cm above the terrarium area. The temperature ranged from 23 to 25 °C. The feeding ration consisted of small crickets and flightless flies *Drosophila hydei* dusted at each feeding (i.e. three times per week) by Dendrocare - a mineral-vitamin preparation for poison dart frogs and other small amphibians. The terrarium was dewed with soft water on a daily basis.

After initial hardships and failures in rearing the young frogs, only three frogs remained and reached the

adult age by the end of 2009, these animals becoming the founders of our stock. To our delight, the first clutch of eggs was found at the turn of 2009 and 2010 on the wall of the rearing box with water, about 0.5-1 cm above the water surface. Since then, there have been repeated clutches on a periodical basis, with a relaxing pause of two to three months, which usually took place during autumn and winter **(Photo 2)**.



Proved very successful in breeding was an addition of a very weak leachate obtained from 1-2 dry oak leaves and 2 alder cones per 1.5 litre of soft water, a matter that has documented antibacterial, antifungal and antiseptic properties. This leachate is added to water when replacing 1/3 of water in the box with frogs once per week or as needed (this species is not fond of very frequent replacement of water). To feed tadpoles, we use New Life Spectrum Marine Fish Formula - pellets for aquarium fish, specifically the smallest pellet size of 1 mm (manufacturer: New Life USA), as well as flake food for tropical fish - Tetra Pro Algae and Tetra Pro Energy, frozen Cyclops, infused leaf of lettuce, lamb's lettuce, spinach and salad rocket, and soaked dry leaf of oak that tadpoles like to nibble. At Riga Zoo, they used to breed and

rear tadpoles of various age by keeping them in the same area as was one for their parents, eggs and near-to-complete metamorphosis individuals. Following this in our circumstances, however, was not enabling breeding success in every tadpole. Indeed, metamorphosis was completed with success in this manner only by a single tadpole or sometimes two individuals out of a clutch of five eggs, with the eggs being infested by rot or with already stuck-on eggs being pulled down into the water by adults when these were hunting insects. Freshly hatched tadpoles were eaten, whether immediately or within 1-2 days, by older tadpoles, although the rearing box contained enough shelters and food was served at multiple places. A less likely reason was that small tadpoles could have suffered hunger

because their food was consumed by the older tadpoles; it should be noted here, however, that tadpoles also feed on faeces of parents and nibble oak leaves. It is also possible that tadpoles hatching earlier can secrete hormones into water that prevent the younger tadpoles to develop. Mortalities also occurred in dewing throughout the terrarium, causing even wetting of eggs and continuous breaking of egg shells, which was resulting in the shell wall becoming dwindled, and the young hatching into the water too early. Particularly this was confirmed with time.

At present, therefore, we rear tadpoles in boxes used for sorting screws **(Photos 3 and 4)**. We have two ways for this: either (1) moving the eggs into the organiser immediately after laying and maintaining a very low water level to prevent the eggs to dry up and to slow down the development - which is more beneficial for the tadpoles, or (2) letting the development to take place in the company of parents, not dewing the clutch of eggs, waiting until the small tadpoles fall into the water, and then gradually separating them one by one into the organiser containing a soft "alder" water and a piece of oak leaf **(Photo 5)**.

During December 2012, F1 generation individuals started to reproduce with success, continuing to be prosperous to do so in 2013.

Example of the process of metamorphosis

Day 1: clutch of 5 black eggs, 25 °C, laid on the box wall

Day 3: tiny tadpoles already observed **(Photo 6)**

Day 9: the first tadpole hatched **(Photo 7)**

Day 48: Rear limbs appear on the first tadpole **(Photo 8)**

Day 60: Front limbs appear on the first tadpole **(Photo 9)**

Day 64: the first tadpole has almost

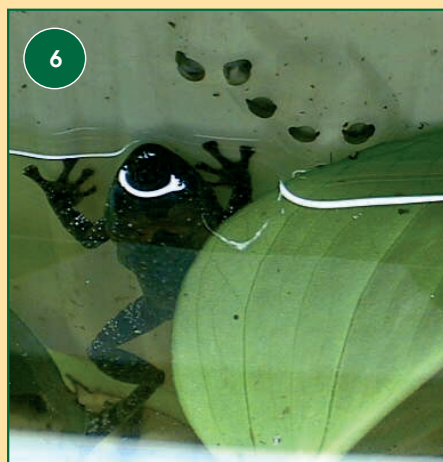


grown into a look of frog; it still has about 1 cm long tail (**Photo 10**)

During the next three to four days, the tail disappears in full, thus completing metamorphosis (**Photo 11**).

Of note is that the tadpoles that had developed front and rear limbs, but still possess a tail, feature white spots on heels and on the rearward, as if a bleached pattern, which they continue to wear until about 1.5 years (**Photo 12**); afterwards, they already get the same colour as the parents. The process of the metamorphosis is not of the same length in every tadpole.

The annexed plate shows that the constant removal of freshly laid eggs, as well as the inability to take care of the offspring, forces the breeding pair to lay repeated clutches within very short periods. Concerns about exhaustion of breeding animals have therefore made us to decide to leave the tadpoles once hatched along with the parents until the beginning of metamorphosis, and then they are already kept separated. This measure has extended the periods between clutches.



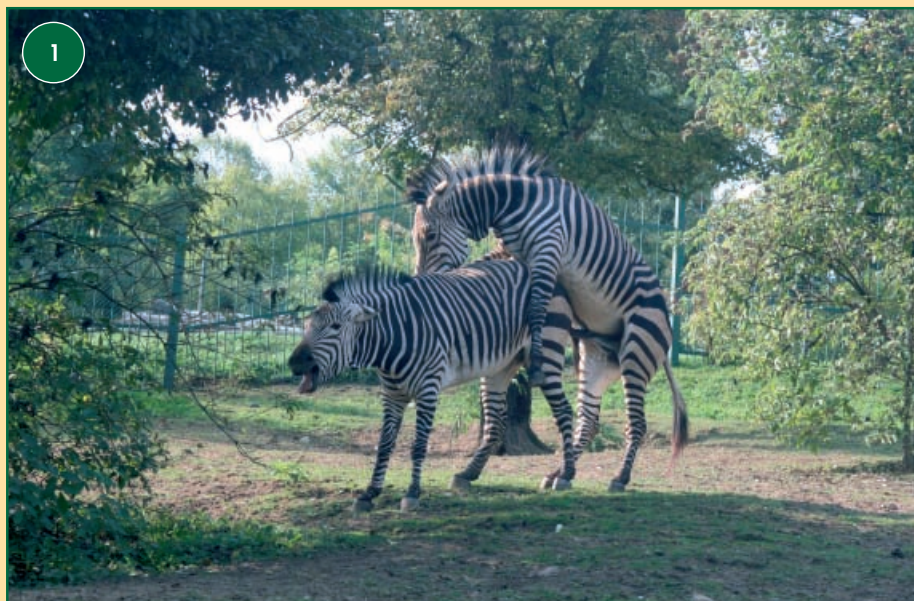
Theلودerma stellatum clutches - analysis for February to November 2013

Group 1 - 1.1 (breeding pair)

No	Date	Individuals	°C	LOCATION	EGGS LOST			HATCHED		DIED			COMPLETE META-MORPH.	Date
					Individuals	Date	Cause	Individuals	Date	Individuals	Date	Cause	Individuals	
1	6 Feb	2	26	Scindas leaf				2	13 Feb	2	13 Feb	Eggs too small		
2	19 Feb	5	25	Water	3	23 Feb	Rot	2	28 Feb				2	3 May
3	23 Feb	2	25	Box wall				2	6 Mar				2	26 Apr
4	9 Mar	5	24	Scindas leaf	5	12 Mar	Rot							
5	11 Apr	11	24	Scindas leaf	6	15 Apr	Not impregnated	5	22 Apr	4	30 Apr	Tiny tadpoles	1	28 Jun
6	16 Apr	4	26	Bark				4	28 Apr				4	5 Jul
7	21 Apr	7	25	Box wall	5	23 Apr	Slipped to the water	2	3 May				2	18 Jul
8	22 Apr	6	26	Bark	3	25 Apr	Rot	3	5 May				3	20 Jul
9	2 May	5	25	Box wall				5	13 May	1	14 May	Tiny tadpole	4	22 Jul
10	4 May	4	25	into the water	2	6 May	Not impregnated	2	14 May				2	24 Jul
11	13 May	5	25	Box wall	3	14 May	Rot	2	23 May	2	2 Jun	Tiny tadpoles		
12	20 May	4	26	Bark				4	29 May				4	10 Aug
13	23 May	6	25	Box wall	3	25 May	Slipped to the water	3	4 Jun	1	5 Jun	Tiny tadpole	2	15 Aug
14	27 May	3	25	Bark	2	30 May	Not impregnated	1	6 Jun				1	19 Aug
15	30 May	4	26	into the water	2	31 May	Rot	2	10 Jun	2	11 Jun	Tiny tadpoles		
16	6 Jun	5	25	Box wall				5	17 Jun				5	26 Aug
17	28 Sep	4	24	Box wall	1	29 Sep	Rot	3	7 Oct				3	15 Dec
18	9 Oct	4	25	Box wall				4	18 Oct				4	29 Dec
19	12 Oct	2	25	Water				2	20 Oct				2	31 Dec
20	8 Nov	10	26	Box wall	5	9 Nov	Not impregnated	5	18 Nov	1	24 Dec	Eaten by older tadpoles		

Four Hartmann's zebras born and reared

Ing Pavel Král

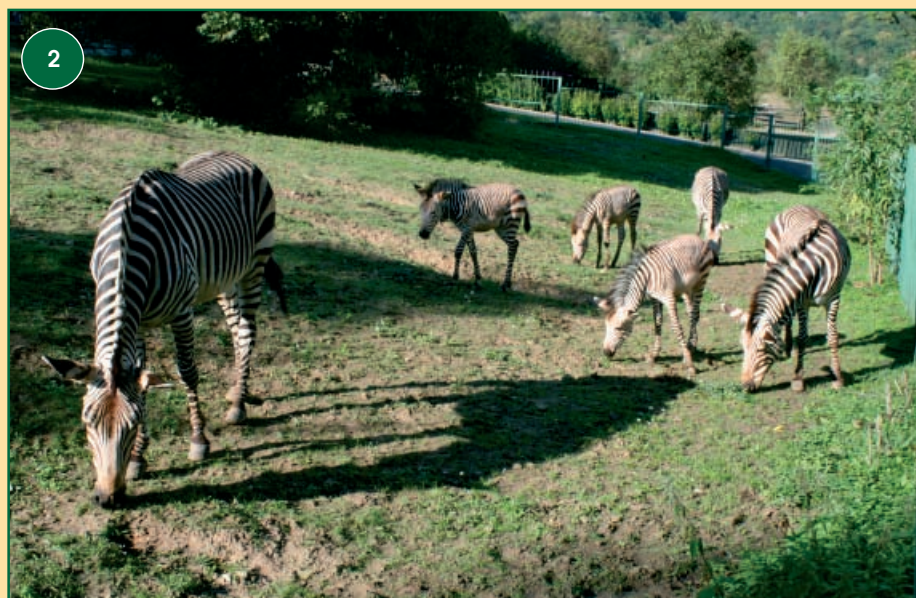


A new house for Hartmann's zebras for which the zoo was waiting for a long time was opened in late 2011. In addition to significantly improving housing standards and overall well-being of animals, the expectations included what effects this would have on the breeding and rearing of zebras. In 2012, first two foals were born to two most experienced mares. We however still needed mares that so far had no births to become involve in breeding. As we have observed, pregnancy lasts 360 to 382 days in Hartmann's zebra, with a shorter period producing a filly, while a longer pregnancy gives a colt. Dates of birth of individual foals in 2013 were therefore influenced a year in advance. In early 2012, we held two stallions and seven mares capable to produce a foal. Another mare Dorothy was still too young for mating. The first stallion Eddi - a more important one within the European population - came from Tierpark Berlin and fathered the first two foals at the new zebra house. A decision was made to get the second stallion Denda involved in breeding. Young and yet untested, the male was born in Ústí nad Labem on 26 April 2007. With another stallion becoming involved in breeding, we strive very much to make sure that the sire of foals to be born in the future is clearly identified. During the year, we were combining the controlled „in the pen” breeding with natural

breeding, i.e. letting the stallion to the mare paddock. In 2012, joining together with the sire was taking place in all the seven mares. The mare Denisa - the mother of Denda - had to be put together only with Eddie because of kinship issues. We had to discontinue this due to increased aggressive behaviour of Eddie towards the mare. Still in 2012 (on 5 September), pregnancy was confirmed following an ultrasonic check in mares Uliša and Doris. For the other four mares, mating or at least interest by the stallion (**Photo 1**) was recorded. 2013 had a successful start, with overall anaesthesia performed on 14

February in two mares - Dona and Unita, pregnancy testing by ultrasound being the main reason. The examination revealed that the two mares were pregnant. According to the observed size of the foetus, veterinarians were able to estimate their age, which was 6-7 months for mare Unita, and 4 months for mare Dona. Later on, the estimate proved to be correct. Every case of anaesthesia we carry out, there are efforts to make the most of it. Therefore, the long-time zoo worker Jaroslav Novák is always present and takes care of zebra hooves by hoof checking and subsequently correcting, if necessary. Blood is also sampled for preventive veterinary examination. If the animal is still not microchipped, this form of marking is also executed.

Pregnancy was thus confirmed in four zebras. Another ultrasonic examination was carried out as early as 28 February, this involving mares Bonka and Gábinka, with the result being however negative this time. After this, the two mares began to be joined together with another stallion, Denda. In zebras, any upcoming birth can be roughly estimated from some of symptoms - the mother is more relaxed, it increases the volume of the abdominal cavity, and most importantly, there is enlargement of the mammary glands about three weeks before delivery. Both these symptoms and our records and the ultrasound results were en-





bling us to expect Uliša to be the first to give birth. Late-pregnancy mares are mostly separated before birth - if there are no mutual attacks in the group, they are left in the group. Each mare has its own box. Before approaching birth, a deep litter bedding system is made available in the box, consisting of sawdust and mainly of straw. Although Uliša was about to give birth to her first foal, any major complications were not estimated since zebras are good mothers and accepting a newborn foal was no problem so far. Birth takes place mostly at night, with no complications. A newborn foal was found in the morning of 1 June after arriving at the zebra house. The mare Uliša was taking care of it since the beginning, with the process of rearing going without problems. Sex was determined on the very day of birth - the newborn foal was a colt. It was also the first descendant of the stallion Denda. For the other two mares, the signs of approaching delivery were showing that the females were to give birth almost simultaneously. This involved the two most experienced mares, Doris and Unita. Doris was the first to give birth, which took place on 27 July, with a filly being born. It was

the female's fifth foal, with exceptional sex ratio - all of the newborn animals were mares. As early as two days later, on 29 July, another filly was delivered by the mare Unita. This case was too one of the fifth foal per mare in the row, with the sex ratio of four mares to one stallion. Making use of the short period of time between all the births, we soon put all the three mares including foals together to form a single group being released into a separate enclosure (**Photo 2**).

Because the stallion Denda is not genetically suitable for every local mare due to the fact the male was born in Ústí Zoo, it was decided in collaboration with the EEP coordinator to import a different male. On 11 September 2013, Denda departed to the zoo in Montpellier, France, with a new stallion arriving two days later. Called Hodari, the zebra was born in Munich Zoo in 2007 and housed so far in a male bachelor group in Landau, Germany. Our concerns about the quality of the male as a sire proved to be unnecessary - in October we observed the mating with mares Uliša, Bonka and Gábinka.

Saturday, 14 September, created the occasion of formally naming the three

zebras born as part of the *Farewell to Holidays* event, the Aneboafro band being assigned the task. Since there is the habit of giving young zebras born in Ústí a name starting with the first letter of that of the dam, the colt produced by Uliša was named Urbi, the Doris's filly became Dara and the other filly of Unita was now called Uma.

The last remaining pregnant mare Dona gave birth on 3 November to a filly. Like Uliša and Dona, this mare produced her first foal (**Photo 3**).

The Ústí nad Labem herd grew this way by one stallion and three young mares in 2013. Adding these, the zoo stock now stands 14 animals - three stallions and 11 mares. The colt Urbi is definitely not going to stay with us, but to leave for another zoo due to a better genetic suitability. On the other hand, it is a good chance that all of the three mares born are to stay in Ústí. To conclude, the flow of the local stock counts a total of 118 Hartmann's zebras since 1975, with 98 foals born so far, of which six births have taken place at the new zebra house. It is zoo's desire for the future that there is the same success in every year to come.

Puncture wounds in Ústí Zoo zebras

MVDr Renata Poživilová



In the past year, there was an increased incidence of multiple events of puncture wounds occurred in several Hartmann zebras, which required seven cases of surgical intervention. Since animal health standards had not significantly changed, it can be assumed that the cause is the quality of gravel. Despite the permanent supplier it can be concluded that visually, the crushed gravel supplied appears to be sharper, more brittle and forms sharp edges when splitting.

In the early stages, puncture wounds exhibit the same symptoms - lameness, pain during foot-ground contact, and unwillingness to move. Statistically, we observe 100% cases to occur on the front limbs. In 50%, there is the spontaneous falling off and in such a case, there is mostly no need for medical or farrier intervention. The opposite is true for the other 50% - interventions required include stone removal, hoof trimming, treating the resulting abscess, administration of medications, and the like. Solutions often chosen initially are phenylbutazone administered orally or ketoprofen/meloxicam applied by injection. If the stone comes out spontaneously, the individual is only checked and hooves are treated when necessary. If the condition does not improve, intervention is required as in the case described below.

Zebra named Denisa, 12 years old

- acute manifestation of a strong, painful limping with limb relieving efforts and reluctance to move. After two days of resolution of symptoms, no signs of damage to the hoof. The case closed as a stone spontaneously coming out. After ten days, abscess bursting in the coronet. Anaesthetisation, stripping of the puncture site, a purulent, 7-cm deep fistula in the sole, lavage of the purulent fluid and slag by diluted Betadine, holes in the sole and coronet connected with each other. Tenazym Ointment applied, the ventral fistula opening closed with Gelaspon to achieve a longer effect of topical antibiotics. Given that a pressure dressing or bandage has no sustainable effect in wild zebras, the

hoof was left loose. Application of Shoptapen IM, Metacam inj. and a switch to oral administration of medicines. A soft-bottom stall recommended - deep bedding and feeding less energy. Day 10 following the treatment, limping displayed after staying in a concrete pen. Outside of limping, there was audible "squashing" - a sign of incipient taking off the hoof - and a strong fetlock joint swelling. After consultation with hippiatric specialists, euthanasia was suggested due to bad experience with the treatment of domestic horses. Before this final decision, the condition was revised where there was a slight improvement, so an opportunity of alternative therapy was agreed on: fixation with bone cement and a resting regime with a deep litter bedding system. The earlier solution was eventually not implemented at this stage due to the gradual relief of squashing symptoms, when there was laminitis and gradual accretion of the horny tissue. Over the next three months, the horny tissue was gradually regenerating with a demarcation mound on the hoof, which subsequently began to detach. The animal was showing no signs of pain or significant lameness.

In the subsequent anaesthetisation and scheduled hoof trimming, there was stripping of the sole with a surpris-



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ing finding. There was a stone in the newly created horny tissue – one of a triangular shape, with sides of about 4 cm each. Given the deep hoof damage extending as far as hoof bone and soft parts (tendons, cartilage of the toe pad), it was decided to make an alternative treatment because of the impossibility to treat the zebra on a daily basis. A thorough treatment of the punctured wound surrounding was made with exposing the “healthy” tissue. Bone cement was used for the tamponade of the opening, along with gentamicin, and fixation using the vet-lit splint, as we did with success in the past (**Photo 1-4**). This included administration of antibiotics and anti-inflammatory medications. Two months after, there was a spontaneous abra-

sion of the splint with no visible signs of lameness or deformity of the hoof. After two and a half months, the zebra was anaesthetised due to a puncture wound found on the other front limb, this opportunity also being used for reviewing the condition of the affected hoof. The condition was excellent, with no signs of any deformities or inflammation. To the layman, no pathological changes were present.

The amazing regenerative ability in wild and feral animals is astonishing and surprising. What is not solvable in equine pets with the possibility of daily treatment heals surprisingly without treatment in our zebras. We always consider all alternatives to decrease suffering of animals treated as much

as possible, and we must admit that even in our equine practice we would be primarily identified with the views of consulted experts, recommending euthanasia to the owner because of the risk of infectious arthritis, which therapeutically is a difficult-to-manage condition and requires arthroscopic lavage of the hoof joint and intense hospital care. The second reason is the separation of the hoof capsule, which is impossible to cure and also forms an indication for the euthanasia of the animal. Delaying euthanasia would lead to a complete separation of the hoof capsule, slipping of the toe and a condition incompatible with the fundamental principles of the protection of animals against cruelty.

4



A new breeding facility in wolverines (*Gulo gulo*)

Patrik Matějů



The wolverine pair held in Ústí nad Labem has two relatively large enclosures of 600 m² and 300 m² with a connecting gate. The half of the area of the enclosures extending on a sloped terrain is covered with trees, including the rampant dense shoots

of maples. Wolverines are rather suspicious animals and in the enclosure with such a wild character they feel comfortable. In the sense of threat, they can very quickly climb the tree. If they were pushed into a corner, they would not hesitate to attack the keep-

er. A problem occurred at this point of how we catch the animal if necessary. Any trapping using a hand net was not possible (i.e. given the size of the enclosure), a narcotisation using a blowpipe would be extremely difficult, and using a rifle would be dangerous for the animals alone. The option of setting a box trap in the area also did not seem an appropriate solution due to putting animals under stress in a confined space in the period before the arrival of the keeper. Also, there would be likely a risk of the box trap being damaged by the wolverines, as these are very curious and persistent animals. We thus dealt with the idea of how to set up a facility that enables capturing, veterinary treatment or separation of the animal, starting to use a scratch term of "catching pen" when referring to the one devised (**Photo 1**). This is a not very large, sheltered separation cage with installed capturing mechanism as known in box traps for animals considered to be vermin. Placed in the upper portion of the



lower enclosure and connected to the other enclosure by a small tunnel (**Photo 2**), the pen is equipped with a pair of trapdoors connected with treads for attaching bait, a gate for keepers and an external removable box that serves for the captured animal to seek shelter. The box can then also be used for releasing into a transport crate or for short-distance transports within the zoo. The box has a double ceiling. The outer hinged cover serves as a small shelter, below is a securing grille to provide safety during veterinary treatments. After opening the grille, the anaesthetised animal can be easily put out. As advised by the veterinarian, one plywood wall was adapted so that it can be removed to allow side access. The facility alone is made

of steel mesh that can withstand wolverine's strong claws, with waterproof plywood panels used as the outer lining (**Photo 3**). Locks of the trapping mechanism are protected by a grille from being targeted by the animals. As a precaution against undermining and to enhance the overall strength of the steel structure, the pen was erected on a concrete foundation slab. The trapping facility was designed and manufactured in cooperation with Mr. Krištof, an experienced and creative locksmith professional, while masonry and carpentry work were provided by the zoo's skilled craftsmen from the technical department.

Once the pen has been fabricated and installed, it was necessary to teach the animals to go inside. Since

wolverines have no winter hibernation, they consume a lot of energy to produce heat and are forced to constantly search for food. It was therefore not difficult to lure them to the meat that we were placing immediately on the tread platforms, the attractiveness of odour and visual perception of the presented food thus even raising the natural interest of wolverines in the new object. After a short time, we set the mechanism for capturing. The pen worked well so revaccinating the trapped animals was possible without problems. The unpleasant experience has not deterred the wolverines, so they continue to enter the pen for food.



Wildlife Rescue Centre update

Mgr Martina Kocábková



In 2013, the Centre received 131 animals of 36 species. Of these, mammals turned out to be the group of the largest representation with 75 individuals of 14 species, followed by birds (50 individuals, 18 species).

Mammals

Clearly, spiny members of the local fauna - hedgehogs are our particular focus from autumn until early spring, with a total of 49 received by the end of 2013. Releasing some of them back into the wild in time was still possible. With 17 animals hibernating in our care on the last day of the year, while remaining 24 unfortunately died, it is clear at the moment that the 2013-2014 "hedgehog season" will not be probably as successful as the previous ones, when we successfully returned 31 individuals into the wild.

In contrast, summer and early autumn periods are marked by winged mammals - bats. This time we took charge of 12 animals of three species, of which however only three individuals needed long-term care. They still remain at our rescue centre and will be released only in the spring. Out of all these creatures, there was just a single small bat of the *Pipistrellus* genus we were unable to save.

Sadly, most of the remainder of the animals received had a tragic fate. It mostly involved cases of animals featuring a critical condition when being received, and saving them was not possible despite all the care of vets. Perhaps the saddest case was that of the female beaver. When arrived, this late-pregnancy animal was wasted and malnourished, and succumbed the condition very soon. Other unnecessary deaths were involving three young hares (**Photo 1**). The general public is still not aware enough that a seemingly abandoned "bunny" (but also a fawn or roe calf) is just patiently awaiting the arrival of its mother. In captivity, any artificial rearing of such unnecessarily "rescued" young is a very difficult, even almost impossible task.

Birds

Numbers of injured birds were sig-



nificantly less in 2013 than in previous seasons. Again, common kestrels (11 individuals) and common swifts (8 birds) prevailed, but their numbers were still less than half compared with the previous season. Of both species mentioned above, five birds were returned into the wild with success. Another event of impressive release ensured a grey heron which we received very wasted and exhausted. It took her nearly four months to get into shape to be able to go back into the wild (**Photo 2**). We also successfully released both of the tawny owls received. In doing so, we added an individual dwelling at the Centre since the previous year. The same was done with an eagle owl - another bird that had been held since the previous season as being treated for a compound fracture of the wing. While this owl was released with success in the spring (**Photo 3**), sadly, another bird of this species arrived soon. Injured after colliding with a car as with the previous case, this eagle owl was retained for the time being and it is hoped that its story will have a happy ending as well.

Pets

Stray and/or intentionally released pets constitute a very specific category of creatures we take care of. Of these, reptiles formed the largest group - four turtles and one corn

snake. Concerns however exist that the issue of small abandoned turtles, especially the aquatic member named the yellow-bellied turtle, is much larger than shown in our review. It is assumed that there are hundreds of these unwanted pets to range in the wild in this country.

Of feathered pets, the Centre received two parrots in 2013 - a cockatiel and an African grey parrot, and one carrier

pigeon. While the African grey parrot was soon returned to its original owner (**Photo 4**) as a result of a very rapid and extensive cooperation of our zoo supporters, tracking down the holder of the cockatiel was not possible, so it was transferred to an alternative owner. For the carrier pigeon to wait for its big day, a little more time was needed as it healed a fractures of its limb. Once the process was complete, there was a celebration and release and it is hoped that it found its way home. The saddest end was that of the case of the abandoned or maybe stray ferret. Having struggled and ranging freely probably a few months before they managed to catch it and transport to our Centre, this creature was impossible to save any longer. Though distant relatives of the wild-ranging European polecat, ferrets are not able to survive a long time in the "wilderness" as a result of hundreds of years of domestication. This individual probably spent a long time wandering around the gardens of family houses, nurturing on dog or cat food. These "raids" were however not enough to protect the abandoned ferret from the harsh fate.



LIST OF DISABLED WILDLIFE IN 2013

	INDIVIDUALS	RELEASED	DIED	OTHER	FEED DAYS	Comment
MAMMALS						
European beaver (<i>Castor fiber</i>)	1		1		2	
Ferret (<i>Mustela putorius furo</i>)	1		1		2	
European badger (<i>Meles meles</i>)	1		1		1	
Hedgehogs (<i>Erinaceus sp.</i>)	49	8	24	17	2603	Retained for the time being
Stone marten (<i>Martes foina</i>)	2		1	1	211	One retained for the time being
European mouflon (<i>Ovis orientalis musimon</i>)	1		1		1	
Parti-coloured bat (<i>Vespertilio murinus</i>)	5	3		2	154	Two retained for the time being
Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	3	2	1		40	
Noctule (<i>Nyctalus noctula</i>)	4	3		1	90	One retained for the time being
Edible dormouse (<i>Glis glis</i>)	1		1		2	
Wild boar (<i>Sus scrofa</i>)	1		1		3	
European roe deer (<i>Capreolus capreolus</i>)	1		1		1	
European red squirrel (<i>Sciurus vulgaris</i>)	2		2		2	
European hare (<i>Lepus europaeus</i>)	3		3		25	
BIRDS						
Redpoll (<i>Carduelis sp.</i>)	1		1		1	
Rock dove - carrier pigeon (<i>Columba livia f. domestica</i>)	1	1			142	
Rock dove (<i>Columba livia</i>)	3	1	2		51	
Northern house-martin (<i>Delichon urbica</i>)	6	2	4		16	
Buzzard (<i>Buteo buteo</i>)	1		1		5	
Cocatiel (<i>Nymphicus hollandicus</i>)	1			1	5	New owner
Eurasian blackbird (<i>Turdus merula</i>)	2		2		6	
Eurasian sparrowhawk (<i>Accipiter nisus</i>)	2		2		6	
Finch (<i>Fringilla sp.</i>)	4		4		116	
Eurasian kestrel (<i>Falco tinnunculus</i>)	11	5	6		133	
Tawny owl (<i>Strix aluco</i>)	2	3			156	1 individual from 2012
Swift (<i>Apus apus</i>)	8	5	3		17	
Jay (<i>Garrulus glandarius</i>)	1	1			35	Predated after release
Woodpecker (<i>Dendrocopos sp.</i>)	1		1		2	
Grey heron (<i>Ardea cinerea</i>)	1	1			114	
Hooded crow (<i>Corvus cornix</i>)	1	1			7	
Eagle owl (<i>Bubo bubo</i>)	1	1		1	355	1 from 2012, 1 retained
African grey parrot (<i>Psittacus erithacus</i>)	1			1	5	Returned to the owner

REPTILES

Sand lizzard (<i>Lacerta agilis</i>)	1		1		3	
Corn snake (<i>Pantherophis guttatus</i>)	1		1		2	
Yellow-bellied turtle (<i>Trachemys scripta elegans</i>)	3			3	494	2 retained, 1 with a new owner
Margined tortoise (<i>Testudo marginata</i>)	1			1	34	Alternative home

GROUP	SPECIES	INDIVIDUALS	RELEASED	DIED	OTHER	FEED DAYS
Mammals (<i>Mammalia</i>)	14	75	16	38	21	3137
Birds (<i>Aves</i>)	18	50	21	26	3	1172
Reptiles (<i>Reptilia</i>)	4	6	0	2	4	533
Amphibians (<i>Amphibia</i>)	0	0	0	0	0	0
TOTAL	36	131	37	66	28	4842

Rate of success in releasing hedgehogs

SEASON	RECEIVED	RELEASED	BALANCE	%
2007-2008	78	16		20.5
2008-2009	63	25		39.7
2009-2010	59	25		42.4
2010-2011	72	28		38.9
2011-2012	51	43		84.3
2012-2013	40	31		77.5
2013-2014	49+	8+	17	

Using a camera trap when studying animals at the zoo

Ing Pavel Král



A camera trap Acorn Ltl 5210 was purchased early in 2013 to assist in animal management operations. Benefits of this device include an extremely sensitive 12 MP sensor and a brand new type of light with a wavelength of 940 nm for shooting at night; completely invisible, it works discreetly. Options for this equipment include a box with a GSM gateway to send captured images as MMS to a mobile phone or to an email box. The menu allows choices such as taking pictures of animals with an optional image quality or shooting a video, or a combination of both, which can result in obtaining both photographs and videos of the animal in focus. The focusing distance for a moving animal is up to 15 metres. Taken pictures can be viewed right on the spot.

The first tasks included evaluating the behaviour of does of white-lipped deer towards newborn fawns. Expected outcomes included checking fawns as regards drinking the milk from the mother and identifying the presence of contact individual does are making towards the born offspring or their disinterest, if any. After the fawn was born and left aside, the camera

trap was placed to the animal so left at a distance of approximately 10 metres, while there was routine feeding of the animals. The size of the deer enclosure was making it possible for the camera trap to stay unnoticed, with neither doe nor the young knowing about the location. If the fawn was left aside near the feeding facility, in

the vicinity of the mother, the animals were not tracked. The next morning, again during the routine feeding of the herd, images were evaluated on the spot, and because in most cases the fawn had been found elsewhere in the enclosure, the camera trap was relocated or removed if applicable. Entry into the enclosure took place only once per day. We evaluated certain does that at least came to the newborn fawn, as well as those that never took care of the fawn after birth at all (**Photo 1**).

Another opportunity for making use of the camera trap was with the Himalayan griffon. The birds range freely in the paddock of the nilgai, this bringing the necessity of cutting feathers on one of the wings several times per year. The main reason for the application was to monitor feeding in the griffons. We evaluated the possibility of supplementing the diet with a different type of food - Norwegian rats, rabbits, chicken, bowels, as well as the weekly feeding frequency in the griffons. A "by-product" of the monitoring involved the determination of use of the diet in connection with "visitors" to



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the paddock in the form of local wildlife, which particularly involved most of Corvidae birds, certain birds of prey and, in the evening and during the night, the fox.

Any potential loss of food due to wild birds was also addressed in red-crowned cranes. It was shown that there is only a slight influence of the amount of feedstuffs by these birds.

Similarly, we needed to find any loss of quantity of food presented to red pandas and placed in the boxes in the enclosure. While a camera trap can capture even a mouse-sized animal, it was found that only the pandas were consuming the presented diet. We also determined the frequency of feeding of both the animals during 24 hours.

An issue investigated in wolverines involved whether or not female Xala was visiting the newly-built trapping cage. While male Marco was entering the cage without fear, the female was very careful. Although the animals monitored so far were ignoring the placed camera trap, things were different with wolverines. Despite the fact that the camera was installed on a tree at a height of about 1.9 metres and even placed above the safety metal sheet, Marco was constantly trying to reach the device and failing

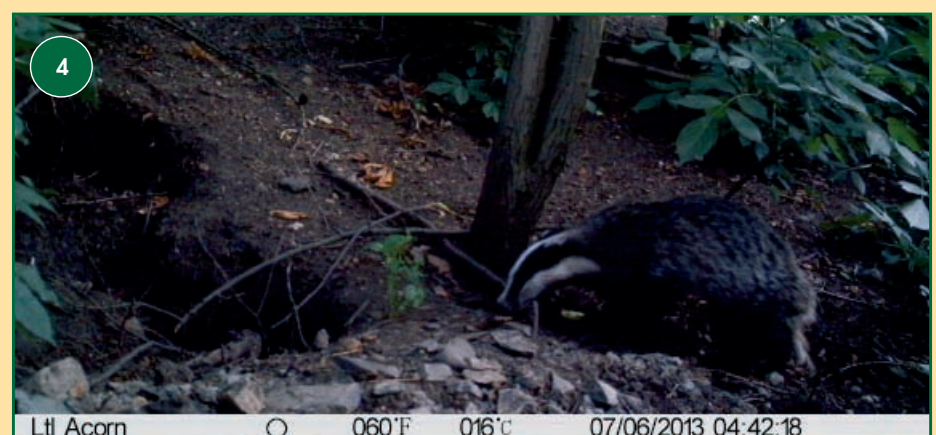
to do so meant nothing to the animal. The next morning I was not at all sure whether or not my check finds the unit is complete. Fortunately, no damage was done by the wolverine, making it possible to evaluate the duration of night visits of Xala in the trapping cage (**Photo 2**).

In addition to the use in the direct association with the animals kept at the zoo, the device can monitor free-ranging wildlife throughout the zoo. This way a movement was identified of a group of a male roe deer and two females in the wood above the carnivore house as well as the presence of a group of five badgers near the paddock called "game preserve", while tracking the occurrence of a marten near the old elephant house and foxes ranging throughout the zoo (**Photo 3**). Wild boars were recorded

to move only sporadically, with however the damaged grassy surface along enclosures in the upper part of the zoo being indicative of the occurrence of greater animal numbers. Other uses included identifying numbers of foxes in the giraffe enclosure, determining the number of badgers within a patch of woodland in the middle of the Vietnamese sika deer enclosure (**Photo 4**), or checking the species of wildlife to range within the central dung-yard.

The camera trap can be employed as a source of additional data when watching and studying particular animal species. In addition to proving to be a significant help in animal management and rearing in different animal species, it is also an essential tool in sourcing data on numbers and movement of wildlife ranging in the zoo grounds.

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Stock list as per 31/12/2013

	1 January 2013	Births	Arrivals	Deaths	Departures	31 December 2013
Mammals (<i>Mammalia</i>)						
Addax	2.0					2.0
<i>Addax nasomaculatus</i>	<i>EEP,ISB,RDB=CR,CITES=I</i>					
Alpaca	5.13	4.3		0.1	2.1	7.14
<i>Vicugna pacos</i>						
Amur Leopard	1.3	0.1			0.2	1.2
<i>Panthera pardus orientalis</i>	<i>EEP,ISB,RDB=CR,CITES=I</i>					
Angola Lion	1.1					1.1
<i>Panthera leo bleyenberghi</i>	<i>RDB=VU</i>					
Asiatic Lion	0.0		0.1		0.1	0.0
<i>Panthera leo persica</i>	<i>EEP,ISB,RDB=EN,CITES=I</i>					
Baringo Giraffe	1.3					1.3
<i>Giraffa camelopardalis rothschildi</i>	<i>EEP,RDB=EN</i>					
Bengal Elephant	0.2					0.2
<i>Elephas maximus bengalensis</i>	<i>EEP,RDB=EN,CITES=I</i>					
Black and White Ruffed Lemur	4.1					4.1
<i>Varecia variegata</i>	<i>EEP,ISB,RDB=CR,CITES=I</i>					
Blackbuck	3.6	1.2	2.0	3.1		3.7
<i>Antilope cervicapra</i>	<i>RDB=NT</i>					
Blue Monkey	1.1					1.1
<i>Cercopithecus mitis</i>	<i>RDB=LR</i>					
Bonnet Macaque	4.3			0.1		4.2
<i>Macaca radiata</i>	<i>RDB=LR</i>					
Bornean Orangutan	2.2					2.2
<i>Pongo pygmaeus</i>	<i>EEP,ISB,RDB=EN,CITES=I</i>					
Brazilian Tapir	1.1					1.1
<i>Tapirus terrestris</i>	<i>EEP,RDB=VU</i>					
Californian Sea Lion	1.0					1.0
<i>Zalophus californianus</i>	<i>ESB,RDB=LR</i>					
Central American Agouti	0.1					0.1
<i>Dasyprocta punctata</i>	<i>RDB=LR</i>					
Clouded Leopard	3.1				1.0	2.1
<i>Pardofelis nebulosa</i>	<i>EEP,ISB,RDB=VU,CITES=I</i>					
Collared Peccary	0.2					0.2
<i>Pecari tajacu</i>	<i>RDB=LR</i>					

	1 January 2013	Births	Arrivals	Deaths	Departures	31 December 2013
Mammals (<i>Mammalia</i>)						
Cotton-top Tamarin	2.3.2	0.0.2		0.1		2.2.4
<i>Saguinus oedipus</i>	<i>EEP,ISB,RDB=CR,CITES=I</i>					
De Brazza's Monkey	2.3				1.0	1.3
<i>Cercopithecus neglectus</i>	<i>ESB,RDB=LR</i>					
Defassa Waterbuck	2.3					2.3
<i>Kobus ellipsiprymnus defassa</i>	<i>RDB=NT</i>					
Domestic Bactrian Camel	1.5					1.5
<i>Camelus bactrianus</i>	<i>RDB=CR</i>					
Domestic Dog	0.1					0.1
<i>Canis familiaris</i>						
Domestic Goat	0.1					0.1
<i>Capra hircus</i>						
Domestic Sheep	1.13	7.6		0.1	2.1	6.17
<i>Ovis aries aries</i>						
Domestic Sheep	1.3	2.1				3.4
<i>Ovis aries aries</i>						
Eastern Pygmy Marmoset	2.2	0.0.2		0.1		2.1.2
<i>Callithrix pygmaea niveiventris</i>	<i>RDB=LC</i>					
Fishing Cat	1.1					1.1
<i>Prionailurus viverrinus</i>	<i>EEP,ISB,RDB=EN</i>					
Geoffroy's Cat	1.2					1.2
<i>Oncifelis geoffroyi</i>	<i>EEP,RDB=NT,CITES=I</i>					
Golden Lion Tamarin	2.5	0.0.3				2.5.3
<i>Leontopithecus rosalia</i>	<i>EEP,ISB,RDB=EN,CITES=I</i>					
Guanaco	1.1					1.1
<i>Lama guanicoe</i>	<i>RDB=LR</i>					
Guianan Saki	2.0					2.0
<i>Pithecia pithecia</i>	<i>EEP,RDB=LC</i>					
Harbour Seal	1.1		0.1			1.2
<i>Phoca vitulina</i>	<i>RDB=LR</i>					
Hartmann's Mountain Zebra	2.8	1.3	1.0		1.0	3.11
<i>Equus zebra hartmannae</i>	<i>EEP,ISB,RDB=VU</i>					
Cheetah	2.1		0.1	1.0		1.2
<i>Acinonyx jubatus</i>	<i>EEP,ISB,RDB=VU,CITES=I</i>					
Japanese Serow	0.1					0.1
<i>Naemorhedus crispus</i>	<i>ESB,ISB,RDB=LR</i>					
Javan Langur	1.3					1.3
Trachypithecus auratus	RDB=VU					

	1 January 2013	Births	Arrivals	Deaths	Departures	31 December 2013
Mammals (<i>Mammalia</i>)						
Kafue Lechwe	2.2	1.0				3.2
<i>Kobus leche kafuensis</i>	ISB,RDB=VU					
Kilimanjaro Colobus	1.4	1.2				2.6
<i>Colobus guereza caudatus</i>	ESB,RDB=LR					
Llama	2.2	1.0			1.0	2.2
<i>Lama glama</i>						
Lowland Anoa	2.2					2.2
<i>Bubalus depressicornis</i>	EEP,ISB,RDB=EN,CITES=I					
Malayan Tiger	0.1		1.0			1.1
<i>Panthera tigris jacksonii</i>	ISB,RDB=EN,CITES=I					
Mandrill	2.7	0.2.1				2.9.1
<i>Mandrillus sphinx</i>	EEP,RDB=VU,CITES=I					
Maned Wolf	1.1			1.0		0.1
<i>Chrysocyon brachyurus</i>	EEP,ISB,RDB=NT					
Meerkat	1.2					1.2
<i>Suricata suricatta</i>	RDB=LR					
Nilgai	5.4	2.1			4.2	3.3
<i>Boselaphus tragocamelus</i>	RDB=LC					
Northern White-cheeked Gibbon	2.2					2.2
<i>Nomascus leucogenys</i>	EEP,ISB,RDB=CR,CITES=I					
Orangutan	1.0					1.0
<i>Pongo sp.</i>	EEP,ISB,RDB=EN,CITES=I					
Oriental Small-clawed Otter	2.2			0.1	1.0	1.1
<i>Amblonyx cinerea</i>	ISB,RDB=VU					
Patagonian Mara	2.3	3.1		1.1	2.3	2.0
<i>Dolichotis patagonum</i>	RDB=NT					
Pony	1.3	1.1			1.1	1.3
<i>Equus caballus</i>						
Prevost's Squirrel	1.0					1.0
<i>Callosciurus prevostii</i>	RDB=LR					
Red Panda	1.1					1.1
<i>Ailurus fulgens fulgens</i>	EEP,ISB,RDB=VU,CITES=I					
Red-handed Tamarin	2.0					2.0
<i>Saguinus midas</i>	ESB,RDB=LC					
Red-chested Moustached Tamarin	4.1	0.0.2			1.0	3.1.2
<i>Saguinus labiatus</i>	ESB,RDB=LC					
Red Ruffed Lemur	0.0		2.0		2.0	0.0
<i>Varecia rubra</i>	EEP,ISB,RDB=EN,CITES=I					

	1 January 2013	Births	Arrivals	Deaths	Departures	31 December 2013
Mammals (Mammalia)						
Reeves' Muntjac	1.2.1	0.0.1	1.0	1.0		1.2.2
<i>Muntiacus reevesi</i>	RDB=LR					
Ring-tailed Lemur	3.6	1.1			2.2	2.5
<i>Lemur catta</i>	ESB,RDB=NT,CITES=I					
Silvered Leaf Monkey	0.2					0.2
<i>Trachypithecus cristatus</i>	RDB=NT					
Snow Leopard	2.1				1.0	1.1
<i>Uncia uncia</i>	EEP,ISB,RDB=EN,CITES=I					
Somali Wild Ass	3.5	1.1			1.1	3.5
<i>Equus africanus somalicus</i>	EEP,ISB,RDB=CR,CITES=I					
South American Coati	3.0					3.0
<i>Nasua nasua</i>	RDB=LR					
Southern Two-toed Sloth	1.1	0.0.1	0.2			1.3.1
<i>Choloepus didactylus</i>	ESB,RDB=LC					
Southern White Rhinoceros	0.1					0.1
<i>Ceratotherium simum simum</i>	EEP,ISB,RDB=NT					
Sun Bear	2.4			0.1		2.3
<i>Helarctos malayanus</i>	ESB,RDB=VU,CITES=I					
Thorold's Deer	3.9	0.0.2		0.1		3.8.2
<i>Cervus albirostris</i>	RDB=VU					
Variable Flying Fox	2.3			0.1		2.2
<i>Pteropus hypomelanus</i>	RDB=LR					
Vietnamese Sika Deer	3.10	1.1.1		0.1		4.10.1
<i>Cervus nippon pseudaxis</i>	EEP,ISB,RDB=LC					
Western Hedgehog	0.0.12		0.0.49	0.0.22	0.0.22	0.0.17
<i>Erinaceus europaeus</i>	RDB=LR					
Wolverine	1.1					1.1
<i>Gulo gulo sibirica</i>	EEP,RDB=LC					
Birds (Aves)						
Blue-and-yellow Macaw	2.3					2.3
<i>Ara ararauna</i>	RDB=LC					
Blue-fronted Amazon	1.0					1.0
<i>Amazona aestiva</i>	RDB=LC					
Blue-throated Macaw	1.1					1.1
<i>Ara glaucogularis</i>	EEP,ISB,RDB=CR,CITES=I					
Budgerigar	0.0.59	0.0.44		0.0.9	0.0.70	0.0.24
<i>Melopsittacus undulatus</i>	RDB=LC					

	1 January 2013	Births	Arrivals	Deaths	Departures	31 December 2013
Birds (Aves)						
California Quail	0.1			0.1		0.0
<i>Lophortyx californica</i>	RDB=LC					
Cattle Egret			2.3	2.0		0.3
<i>Bubulcus ibis</i>	RDB=LC					
Cockatiel	1.1					1.1
<i>Nymphicus hollandicus</i>	RDB=LC					
Common Barn-owl	1.1					1.1
<i>Tyto alba</i>	CROH=SOH,RDB=LC					
Common Kestrel			0.0.11	0.0.6	0.0.5	0.0
<i>Falco tinnunculus</i>	RDB=LC					
Crested Pigeon	1.1					1.1
<i>Ocyphaps lophotes</i>	RDB=LC					
Crested Wood-partridge	1.1		1.1	1.0		1.2
<i>Rollulus rouloul</i>	RDB=NT					
Demoiselle Crane	1.1					1.1
<i>Anthropoides virgo</i>	RDB=LC					
Emerald Dove	1.0.2					1.0.2
<i>Chalcophaps indica indica</i>	RDB=LC					
Emu	1.1					1.1
<i>Dromaius novaehollandiae</i>	RDB=LC					
Eurasian Eagle-Owl	1.1.1		0.1		0.0.1	1.2
<i>Bubo bubo</i>	CROH=OH,RDB=LC					
Ferruginous Duck	2.2					2.2
<i>Aythya nyroca</i>	CROH=KOH,RDB=NT					
Greater Rhea	2.1.3	0.0.2		1.0.2		1.1.3
<i>Rhea americana</i>	RDB=NT					
Grey Parrot	1.1	1.1			1.1	1.1
<i>Psittacus erithacus</i>	RDB=NT					
Himalayan Griffon	1.1					1.1
<i>Gyps himalayensis</i>	RDB=LC					
Hottentot Teal			1.0			1.0
<i>Anas punctata</i>						
Hyacinth Macaw	1.1					1.1
<i>Anodorhynchus hyacinthinus</i>	EEP,RDB=EN,CITES=I					
Chestnut-eared Finch	2.3	0.0.6				2.3.6
<i>Taeniopygia guttata castanotis</i>						
Indian Peafowl	3.5			1.2		2.3
<i>Pavo cristatus</i>	RDB=LC					

	1 January 2013	Births	Arrivals	Deaths	Departures	31 December 2013
Birds (Aves)						
Little Owl	1.1	0.0.1				1.1.1
<i>Athene noctua</i>	<i>CROH=SOH,RDB=LC</i>					
Malaysian Peacock-pheasant	0.0		0.0.2		0.0.2	0.0
<i>Polyplectron malacense</i>	<i>EEP,ISB,RDB=VU,CITES=II</i>					
Mandarin Duck	3.3		1.1		2.1	2.3
<i>Aix galericulata</i>	<i>RDB=LC</i>					
Marabou	1.0			1.0		0.0
<i>Leptoptilos crumeniferus</i>	<i>ESB,RDB=LC</i>					
Mealy Amazon	2.1	1.1		1.0		2.2
<i>Amazona farinosa farinosa</i>	<i>RDB=LC</i>					
Mexican Military Macaw			1.1			1.1
<i>Ara militaris mexicana</i>	<i>ESB,ISB,RDB=VU,CITES=I</i>					
Military Macaw	1.1					1.1
<i>Ara militaris</i>	<i>ISB,RDB=VU,CITES=I</i>					
Palm Cockatoo	2.1					2.1
<i>Probosciger aterrimus</i>	<i>EEP,RDB=LC,CITES=I</i>					
Raven	1.1					1.1
<i>Corvus corax</i>	<i>CROH=OH,RDB=LC</i>					
Red-and-green Macaw	1.1					1.1
<i>Ara chloroptera</i>	<i>RDB=LC</i>					
Red-crowned Crane			1.1			1.1
<i>Grus japonensis</i>	<i>EEP,ISB,RDB=EN,CITES=I</i>					
Red-fronted Macaw	1.1					1.1
<i>Ara rubrogenys</i>	<i>EEP,RDB=EN,CITES=I</i>					
Ringed Teal	1.1					1.1
<i>Callonetta leucophrys</i>	<i>RDB=LC</i>					
Rose-ringed Parakeet	0.1					0.1
<i>Psittacula krameri</i>	<i>RDB=LC</i>					
Rothschild's Mynah	1.1					1.1
<i>Leucopsar rothschildi</i>	<i>EEP,RDB=CR,CITES=I</i>					
Saker Falcon	1.1	0.0.3			0.0.3	1.1
<i>Falco cherrug</i>	<i>CROH=KOH,RDB=VU</i>					
Salmon-crested Cockatoo	2.1					2.1
<i>Cacatua moluccensis</i>	<i>EEP,RDB=VU,CITES=I</i>					
Scarlet Macaw	1.1					1.1
<i>Ara macao</i>	<i>RDB=LC,CITES=I</i>					
Senegal Parrot	1.1					1.1
<i>Poicephalus senegalus</i>	<i>RDB=LC</i>					

	1 January 2013	Births	Arrivals	Deaths	Departures	31 December 2013
Birds (Aves)						
Silver Teal	0.2		1.1			1.3
<i>Anas versicolor</i>	RDB=LC					
Smew	1.1					1.1
<i>Mergus albellus</i>	RDB=LC					
Snowy Owl	2.3			0.1		2.2
<i>Nyctea scandiaca</i>	RDB=LC					
Southern Ground-Hornbill	0.1			0.1		0.0
<i>Bucorvus leadbeateri</i>	ESB,RDB=VU					
Stone-curlew	0.0		0.0.2		0.0.2	0.0
<i>Burhinus oedicephalus</i>	CROH=KOH, RDB=LC					
Sun Parakeet	1.1					1.1
<i>Aratinga solstitialis</i>	RDB=EN					
Tawny Owl	0.1.1		0.0.2	0.1	0.0.3	0.0
<i>Strix aluco</i>	RDB=LC					
Ural Owl	1.0					1.0
<i>Strix uralensis liturata</i>	CROH=KOH,RDB=LC					
Victoria Crowned-Pigeon	1.1					1.1
<i>Goura victoria</i>	ESB,ISB,RDB=VU					
Violet Turaco	0.1		1.0			1.1
<i>Musophaga violacea</i>	ESB,RDB=LC					
White-bellied Go-away-bird	0.0		0.1		0.1	0.0
<i>Corythaixoides leucogaster</i>	RDB=LC					
White-faced Whistling-Duck	1.2					1.2
<i>Dendrocygna viduata</i>	RDB=LC					
Wrinkled Hornbill	3.3	2.1	1.0		2.1	4.3
<i>Aceros corrugatus</i>	EEP,RDB=NT					
Yellow-bibbed Lory	1.2					1.2
<i>Lorius chlorocercus</i>	RDB=LC					
Reptiles (Reptilia)						
African House Snake			1.0			1.0
<i>Lamprophis fuliginosus</i>						
African Spiny-tailed Lizard	2.7	0.0.1				2.7.1
<i>Uromastyx acanthinura</i>						
African Spurred Tortoise	0.0.3					0.0.3
<i>Centrochelys sulcata</i>	RDB=VU					
American Alligator	1.0		0.1			1.1
<i>Alligator mississippiensis</i>	RDB=LR					

	1 January 2013	Births	Arrivals	Deaths	Departures	31 December 2013
Reptiles (Reptilia)						
Annam Leaf Turtle	0.05					0.05
<i>Mauremys annamensis</i>	RDB=CR					
Asian Leaf Turtle	2.0					2.0
<i>Cyclemys dentata</i>	RDB=LR					
Ball Python	1.1	0.04			0.04	1.1
<i>Python regius</i>	RDB=LC					
Black Marsh Turtle	0.1					0.1
<i>Siebenrockiella crassicollis</i>	ESB,RDB=VU					
Black-bridged Leaf Turtle	1.2.13	0.04			0.04	1.2.13
<i>Cyclemys pulchristriata</i>						
Black-lipped Forest Dragon			1.0			1.0
<i>Hypsilurus nigrigularis</i>						
Blue-tailed Monitor	1.0					1.0
<i>Varanus doreanus</i>						
Boa Constrictor	0.2				0.1	0.1
<i>Boa constrictor</i>						
Brazilian Rainbow Boa	2.2	0.05			0.05	2.2
<i>Epicrates cenchria cenchria</i>						
Brown Basilisk			0.08		0.05	0.03
<i>Basiliscus vittatus</i>						
Burmese Python	1.0					1.0
<i>Python bivittatus</i>	RDB=LR					
California Kingsnake	0.2				0.2	0.0
<i>Lampropeltis getula californiae</i>	RDB=LC					
Central American River Turtle			0.2			0.2
<i>Dermatemys mawii</i>	RDB=CR					
Central Asian Tortoise	3.2					3.2
<i>Testudo horsfieldii</i>	RDB=VU					
Common Iguana			0.1			0.1
<i>Iguana iguana</i>						
Corn Snake			0.1			0.1
<i>Pantherophis guttatus</i>						
Cuban Boa	1.0					1.0
<i>Epicrates angulifer</i>	EEP,RDB=LR					
Cuban Iguana	1.2		1.0	0.1	1.0	1.1
<i>Cyclura nubila nubila</i>	ISB,RDB=VU,CITES=I					
Desert Spiny Lizard			0.03			0.03
<i>Sceloporus magister</i>						

	1 January 2013	Births	Arrivals	Deaths	Departures	31 December 2013
Reptiles (Reptilia)						
Dumeril's Ground Boa	1.1			1.0		0.1
<i>Acrantophis dumerili</i>	<i>RDB=VU,CITES=I</i>					
Eurasian Pond Turtle	0.0.1					0.0.1
<i>Mauremys rivulata</i>						
Fly River Turtle	2.0					2.0
<i>Carettochelys insculpta</i>	<i>RDB=VU</i>					
Giant Asian Pond Turtle			0.0.2			0.0.2
<i>Heosemys grandis</i>	<i>ESB,RDB=VU</i>					
Green Crested Basilisk			1.2	1.0		0.2
<i>Basiliscus plumifrons</i>						
Green Tree Python	0.1			0.1		0.0
<i>Morelia viridis</i>	<i>RDB=LC</i>					
Greer's Kingsnake	1.1					1.1
<i>Lampropeltis mexicana greeri</i>	<i>RDB=LC</i>					
Grey-banded King Snake	1.1			0.1	1.0	0.0
<i>Lampropeltis alterna</i>	<i>RDB=LC</i>					
Hermann's Tortoise	0.1.1		1.0			1.1.1
<i>Testudo hermanni</i>	<i>RDB=NT</i>					
Honduran Milk Snake	1.1					1.1
<i>Lampropeltis triangulum hondurensis</i>						
Horn's Monitor	1.0			1.0		0.0
<i>Varanus panoptes horni</i>						
Chinese Softshell Turtle	0.0.1					0.0.1
<i>Pelodiscus sinensis</i>	<i>RDB=VU</i>					
Inland Bearded Dragon	1.1					1.1
<i>Pogona vitticeps</i>						
Leopard Gecko	1.3	0.0.5		0.1	0.0.5	1.2
<i>Eublepharis macularius</i>						
Madagascar Giant Day Gecko	1.1.2	0.0.4		0.1	0.0.4	1.0.2
<i>Phelsuma madagascariensis</i>	<i>RDB=LC</i>					
Mexican Beaded Lizard			1.2			1.2
<i>Heloderma horridum</i>	<i>EEP,ISB,RDB=VU</i>					
Northern Chuckwalla	1.2					1.2
<i>Sauromalus obesus</i>	<i>RDB=LC</i>					
Oriental Water Dragon	2.5		1.0	1.1		2.4
<i>Physignathus cocincinus</i>						
Ouachita Map Turtle	0.0.1					0.0.1
<i>Graptemys ouachitensis</i>						

	1 January 2013	Births	Arrivals	Deaths	Departures	31 December 2013
Reptiles (Reptilia)						
Panther Chameleon	1.0					1.0
<i>Furcifer pardalis</i>						
Red-bellied Short-necked Turtle	0.0.2					0.0.2
<i>Emydura subglobosa</i>	<i>RDB=LR</i>					
Red-eared Slider	0.2		1.3.4	0.2	0.0.4	1.3
<i>Trachemys scripta</i>	<i>RDB=LR</i>					
Schneider´s Skink	1.1					1.1
<i>Eumeces schneideri</i>						
Siebenrock´s Snake-necked Turtle	2.0.1					2.0.1
<i>Macrochelodina rugosa</i>						
Sinaloan Milk Snake	2.2.9				0.0.8	2.2.1
<i>Lampropeltis triangulum sinaloae</i>						
Smooth-fronted Caiman	1.1					1.1
<i>Paleosuchus trigonatus</i>	<i>RDB=LR</i>					
South American Red-footed Tortoise	7.6.2	0.0.1		3.1	0.0.1	4.5.2
<i>Chelonoidis carbonaria</i>						
Southeast Asian Box Turtle	3.0					3.0
<i>Cuora amboinensis</i>	<i>ESB,RDB=VU</i>					
Spur-thighed Tortoise	1.0					1.0
<i>Testudo graeca</i>	<i>RDB=VU</i>					
Taiwan Beauty Rat Snake	1.1	0.0.15			0.0.15	1.1
<i>Orthriophis taeniurus ridleyi</i>						
Veiled Chameleon		0.0.22			0.0.16	0.0.6
<i>Chamaeleo calypttratus</i>						

	State in 31 Dec. 2013	Births
Amphibians (Amphibia)		
Aplash-backed Poison-arrow Frog	0.0.5	
<i>Dendrobates galactonotus</i>	RDB=LC	
Argentine Common Toad	0.0.3	
<i>Bufo arenarum</i>	RDB=LC	
Blue Poison-arrow Frog	0.0.1	
<i>Dendrobates azureus</i>	RDB=LC	
Dyeing Poison-arrow Frog	0.0.5	
<i>Dendrobates tinctorius</i>	RDB=LC	
Golden Poison Frog	0.0.4	
<i>Phyllobates terribilis</i>	RDB=EN	
Golfodulcean Poison-arrow Frog	0.0.8	
<i>Phyllobates vittatus</i>	RDB=EN	
Green And Golden Poison-arrow Frog	0.0.7	
<i>Dendrobates auratus</i>	RDB=LC	
Green Tree Frog	0.0.6	
<i>Hyla cinerea</i>	RDB=LC	
Java Whipping Frog	0.0.1	
<i>Polypedates leucomystax</i>	RDB=LC	
Malayan Bullfrog	0.0.1	
<i>Kaloula pulchra</i>	RDB=LC	
Mission Golden-eyed Trefrog	0.0.3	
<i>Phrynohyas resinifictrix</i>	RDB=LC	
Orange-legged Leaf Frog	0.0.2	
<i>Phyllomedusa hypochondrialis</i>	RDB=LC	
Ribbed Newt	0.0.8	
<i>Pleurodeles waltl</i>	RDB=NT	
Sambava Tomato Frog	0.0.3	
<i>Dyscophus guineti</i>	RDB=LC	
Smooth Clawed Frog	1.1.11	
<i>Xenopus laevis laevis</i>	RDB=LC	
Taylor's bug-eyed frog	0.0.12	25
<i>Thelodermata stellatum</i>	RDB=NT	
White's Treefrog	0.0.8	
<i>Pelodytes caerulea</i>		
Yellow-banded Poison-arrow Frog	0.0.9	43
<i>Dendrobates leucomelas</i>	RDB=LC	
Yucatecan Shovel-headed Treefrog	0.0.1	
<i>Tripidon petasatus</i>	RDB=LC	

	State in 31 Dec. 2013	Births
Fish (Pisces)		
Marbled Hatchetfish	0.0.15	
<i>Carnegiella strigata</i>		
African Butter Catfish	0.0.3	
<i>Schilbe mystus</i>	RDB=LC	
Altum Angelfish	0.0.7	
<i>Pterophyllum altum</i>		
Angelfish	0.0.1	
<i>Pterophyllum scalare</i>		
Bleeding Heart Tetra	0.0.25	
<i>Hyphessobrycon erythrostigma</i>		
Bristlenose Catfish	0.0.20	
<i>Ancistrus cirrhosus</i>		
Cardinal Tetra	0.0.70	
<i>Paracheirodon axelrodi</i>		
Carpooth Catfish	0.0.2	
<i>Clarias gariepinus</i>		
Clown Loach	0.0.4	
<i>Botia macracantha</i>		
Featherfin Squeaker	0.0.11	
<i>Synodontis eupterus</i>	RDB=LC	
Giant Gourami	0.0.3	
<i>Osphronemus goramy</i>		
Golden Belly Barb	0.0.2	
<i>Hypsibarbus wetmorei</i>		
Green Discus	0.0.1	
<i>Symphysodon aequifasciatus</i>		
Harlequin Rasbora	0.0.26	
<i>Trigonostigma heteromorpha</i>		
Cherry Barb	0.0.3	
<i>Puntius tittैया</i>	RDB=LR	
Iridescent Shark	0.0.2	
<i>Pangasianodon hypophthalmus</i>		
Iridescent Mystus Catfish	0.0.1	
<i>Mystus vittatus</i>	RDB=LC	
Kenyi mbuna	0.0.39	
<i>Metriaclyma lombardoi</i>		
Kingsley's Ctenopoma	0.0.3	
<i>Ctenopoma kingsleyae</i>	RDB=LC	

	State in 31 Dec. 2013	Births
Fish (Pisces)		
Knifefish	0.0.1	
<i>Xenomystus sp.</i>		
Maylandia	0.0.21	
<i>Maylandia zebra</i>		
Midget Suckermouth Catfish	0.0.15	
<i>Otocinclus affinis</i>		
Oscar Fish	0.0.1	
<i>Astronotus ocellatus</i>		
Peacock Bass	0.0.2	
Cichla ocellaris		
Red Bellied Piranha	0.0.12	
<i>Pygocentrus nattereri</i>		
Red Hook Myleus	0.0.4	
<i>Myloplus rubripinnis</i>		
Redfin Shark	0.0.8	
<i>Epalzeorhynchus frenatum</i>		
Rummy Nose Tetra	0.0.50	
<i>Hemigrammus rhodostomus</i>		
Siamese Algae Eater	0.0.26	
<i>Crossocheilus siamensis</i>		
Spotted sailfin pleco	0.0.1	
<i>Glyptoperichthys gibbiceps</i>		
Spotted Talking Catfish	0.0.6	
<i>Agamyxis pectinifrons</i>		
Sterba´s Corydoras	0.0.8	
<i>Corydoras sterbai</i>		
Stinging Catfish	0.0.3	
<i>Heteropneustes fossilis</i>	RDB=LC	
Tinfoil Barb	0.0.21	
<i>Barbodes schwanenfeldii</i>		
Yoyo Loach	0.0.3	
<i>Botia almorhae</i>	RDB=LC	
Cartilaginous Fish (Chondrichthyes)		
Ocellate river stingray	1.1	
<i>Potamotrygon motoro</i>	RDB=DD	

	State in 31 Dec. 2013	Births
Invertebrates (Invertebrata)		
Honduras Curly Hair Tarantula	0.0.1	
<i>Brachypelma albopilosum</i>		
Mexican Flame Knee Tarantula	0.0.1	
<i>Brachypelma auratum</i>		
Giant Prickly Stick Insect	0.0.15	
<i>Extatosoma tiaratum</i>		
New Guinea Walking Stick	0.0.1	
<i>Heteropteryx dilatata</i>		
Crowned Stick Insect	0.0.1	
<i>Onchestus rentzi</i>		
Pachnoda thoracica	0.0.8	
<i>Pachnoda thoracica</i>		
Black Beauty Stick Insect	0.0.30	
<i>Peruphasma schultzei</i>		
Leaf Insect	0.0.1	
<i>Phyllium siccifolium</i>		

Animal census 2013	1 January 2013		31 December 2013	
	Species	Individuals	Species	Individuals
Mammals (<i>Mammalia</i>)	67	303	67	332
Birds (<i>Aves</i>)	48	182	48	157
Reptiles (<i>Reptilia</i>)	43	141	50	147
Amphibians (<i>Amphibia</i>)	16	62	19	100
Fish (<i>Pisces</i>)	34	369	36	445
Cartilaginous fish (<i>Chondrichthyes</i>)	1	2	1	2
Invertebrates (<i>Invertebrata</i>)	5	61	8	58
Total	214	1120	229	1241

Animals reared

Mammals <i>Mammalia</i>	Births
Blackbuck	1.2
<i>Antilope cervicapra</i>	
Nilgai	2.1
<i>Boselaphus tragocamelus</i>	
Eastern Pygmy Marmoset	0.0.2
<i>Callithrix pygmaea niveiventris</i>	
Thorold's Deer	0.0.2
<i>Cervus albirostris</i>	
Vietnamese Sika Deer	1.1.1
<i>Cervus nippon pseudaxis</i>	
Kilimanjaro Colobus	1.2
<i>Colobus guereza caudatus</i>	
Patagonian Mara	3.1
<i>Dolichotis patagonum</i>	
Somali Wild Ass	1.1
<i>Equus africanus somalicus</i>	
Pony	1.1
<i>Equus caballus</i>	
Hartmann's Mountain Zebra	1.3
<i>Equus zebra hartmannae</i>	
Southern Two-toed Sloth	0.0.1
<i>Choloepus didactylus</i>	
Kafue Lechwe	1.0
<i>Kobus leche kafuensis</i>	
Llama	1.0
<i>Lama glama</i>	
Ring-tailed Lemur	1.1
<i>Lemur catta</i>	
Golden Lion Tamarin	0.0.3
<i>Leontopithecus rosalia</i>	
Mandrill	0.2.1
<i>Mandrillus sphinx</i>	
Reeves' Muntjac	0.0.1
<i>Muntiacus reevesi</i>	
Domestic Sheep	7.6
<i>Ovis aries aries</i>	

Mammals <i>Mammalia</i>	Births
Domestic Sheep	2.1
<i>Ovis aries aries</i>	
Amur Leopard	0.1
<i>Panthera pardus orientalis</i>	
Red-chested Moustached Tamarin	0.0.2
<i>Saguinus labiatus</i>	
Cotton-top Tamarin	0.0.2
<i>Saguinus oedipus</i>	
Alpaca	4.3
<i>Vicugna pacos</i>	

Birds <i>Aves</i>	Hatched
Wrinkled Hornbill	2.1
<i>Aceros corrugatus</i>	
Mealy Amazon	1.1
<i>Amazona farinosa farinosa</i>	
Little Owl	0.0.1
<i>Athene noctua</i>	
Saker Falcon	0.0.3
<i>Falco cherrug</i>	
Budgerigar	0.0.44
<i>Melopsittacus undulatus</i>	
Grey Parrot	1.1
<i>Psittacus erithacus</i>	
Greater Rhea	0.0.2
<i>Rhea americana</i>	
Chestnut-eared Finch	0.0.6
<i>Taeniopygia guttata castanotis</i>	

Reptiles	Births
<i>Reptilia</i>	
Black-bridged Leaf Turtle	0.0.4
<i>Cyclemys pulchristriata</i>	
Brazilian Rainbow Boa	0.0.5
<i>Epicrates cenchria cenchria</i>	
Leopard Gecko	0.0.5
<i>Eublepharis macularius</i>	
Veiled Chameleon	0.0.22
<i>Chamaeleo calyptrotus</i>	
South American Red-footed Tortoise	0.0.1
<i>Chelonoidis carbonaria</i>	
Taiwan Beauty Rat Snake	0.0.15
<i>Orthriophis taeniurus ridleyi</i>	
Madagascar Giant Day Gecko	0.0.4
<i>Phelsuma madagascariensis</i>	
Ball Python	0.0.4
<i>Python regius</i>	
African Spiny-tailed Lizard	0.0.1
<i>Uromastyx acanthinura</i>	

Financial Management



Financial update

Jana Černá

In 2013, the zoo staff counted **69** employees (FTE basis).

Overview of the financial situation

In 2013, the zoo managed a budget of 45,987.78 CZK, incorporating also its income from secondary activities amounting to 1,328.55 CZK.

More detailed overview of the actual costs and revenues is presented below:

	Thousand CZK
Material consumption	2,950.96
Feedstuffs	4,704.83
Fuel consumption	646.06
Electricity	3,551.02
Water and sewerage	1,593.82
Repairs of long-term assets	1,043.52
Payroll costs	14,870.00
Payroll taxes	5,019.31
Depreciation of long-term assets	7,765.53
Other costs	5,104.75
Total costs	47,249.80
Revenues from entrance fees	7,542.88
Other revenues (donations, etc.)	2,226.48
Inclusion of the profit from secondary business activities (sales, advertising, rental fees, etc.)	1,328.55
Activation of funds	0.00
Allocation from founder's budget	30,377.56
Allocation from MoE's budget for operations	711.23
Allocation from the Labour Office budget	1,239.80
Allocation from the budget of the Region of Ústí nad Labem	178.00
Use of funds	2,000.00
Other revenues	1,711.83
Total revenues	47,316.33
Profit/loss (profit)	66.53





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Staff costs that made up 31.4 % of the total costs were the highest cost item of the organisation, the average 2013 salary amounting to 15,247 CZK per employee.

Depreciation of long-term assets represented another major cost item, amounting in 2013 to 7,765.53 CZK, of which 5,765.53 CZK was covered by funds, while the remainder, not covered by the funds, was settled against the use of funds.

The cost of feeding amounted to 4,704.83 CZK, this including feedstuffs from the zoo's own production, amounting to 1,250.05 thousand CZK. It involved production of hay, green forage, feeding mice, rats, rabbits, plus there were other miscellaneous feedstuffs consumed during the year. The cost of feedstuffs consumed at the Animal Rescue Centre, which is a facility managed by the zoo, was 145.45 thousand CZK.

The electricity costs, structured as the power for common use and that for heat pumps deployed as part of the zoo's heating system, reached CZK 1,652.54 thousand and 1,898.48 thou-

sand, respectively. For the Animal Rescue Centre, the amount spent for electricity was 101.65 thousand.

The cost of water including sewerage amounted to 1,593.82 thousand CZK. The increase in the cost was determined by a higher price in 2013.

Funding from zoo's operational budget for the repair of long-term assets was allocated to cover the cost of repair of motor vehicles, housing resources, zoo office and leased premises, machinery and facilities and totalled 1,043.52 thousand CZK.

For more details, including those related to capital projects executed in 2013, please see the report of Operations & Technology.

Own institution's revenues consisted of income from entrance fees, rental fees, advertising, and donations.

In 2013, visitor numbers dropped by 6,750 persons, which in terms of sales means a decrease in revenues of 373.68 thousand CZK. The achieved average admission price for January to December, including zoo train fee,

was 61.15 CZK, which is 5.79 CZK more than in the same period of 2012. This is due to changes in entrance fees in 2013, when the rate increased by 20 CZK per adult, while children, students and old-age pensioners were paying 10 CZK more per person. The increase mentioned above helped us to manage the drop of revenues from entrance fees, when the zoo was visited by 21,087 guests less compared with 2012 as a result of long winter, cold springtime and floods of June 2013 (**Photo 2**).

The average cost per ticket in 2013 was 383.08 CZK, the difference between the real cost and that actually paid balanced as follows:

- income from secondary activities (rental fees, adverts, sales, etc.) amounting to 10.77 CZK;
- founder's co-financing of 305.40 CZK;
- funding allocated by the Czech Ministry of Environment (MoE) and amounting to 5.76 CZK. MoE co-funds the costs of keeping endangered animal species as well as injured wildlife placed in the zoo premises. The MoE funds were also used for co-financing the cost of animal feeding, energy and veterinary care.

Secondary activities

Costs

The cost of secondary activities consists of payroll costs, energy recharged to lessees, and acquisition prices of goods.

Income

The income from secondary business comprised the following items in 2013: 905.43 thousand CZK from renting apartments and non-residential premises, 316.58 thousand CZK from advertisements, 511.52 thousand CZK from merchant activities, and 942.96 thousand CZK from other activities, this including operating the trampoline tower, sales of animal food as part of the animal petting yard (**Photo 3**), commission from suppliers of merchandise, re-invoiced energy in rental activities, etc.



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**Operations
& Technology**

Operations & Technology update

Jiří Hanzlík



The department was active in 2013 in every field of repair, investment, and routine maintenance. A major focus of the activities, in addition to managing work of department staff within all of the centres, is the coordination of outsourcers working on contracts, procurement of materials and, last but not least, servicing other zoo departments.

As regards recruitment and human resources, we succeeded in making a highly beneficial agreement with Ústí nad Labem Labour Office even in 2013 to employ 14 workers as part of public works in the late period of the year. A contract for traineeship was also made to place a vocational school student (grade 3) as part of joiner work. With respect to other needed services, contracts were made and orders placed; this involved e.g. locksmith, plumber, heating installation and masonry work of a rather greater scope. This way the department was able to ensure the necessary basic repairs and elimination of accidents, as well as to perform capital projects that resulted from daily operations.

In June 2013, the River Elbe once again left its channel, flooding both

waterfront areas connecting the city with the zoo. Although the zoo was not hit immediately and the consequences were not such as in the largest flood in 2002, this event certainly had an impact on the operation of the zoo in terms of decreased visitor rate, plus there was the involvement of the zoo in the work of rescue units during and after the flood.

Daily activities involved the following shop tasks

- Masonry work when repairing indoor/outdoor surfaces of the animal houses, concreting structures, fixing brick/stone walls, pavements and roads
- Carpentry and joinery work associated with servicing animal management department, especially producing shelters, repairing roofing and replacing wooden elements of facilities, enclosures and indoor/outdoor exhibits of unsatisfactory condition
- Full-range electrical maintenance (**Photo 1**), including supply of new installations and technology as well as cheaper and cost-saving lighting systems, refurbishment of distribution systems to seek compliance with standards and regulations
- Locksmith repairs of metal fencing structures, minor locksmith repairs of

all equipment in operations, production of atypical crates and educational components, and quite crucial share in servicing the car fleet;

- Waste management system, including sorting, storage and collection of garbage and, to some extent, animal waste (applies to the waste generated by activities of both the zoo and lessees)
- The provision of inspection of electric tools and wiring as well as gas/air distribution system for the respective facilities in accordance with the schedule, fire safety and chimney inspection
- The provision of 24/7 guarding and security services in the zoo grounds as well as cleaning services in operating three visitor toilets and the dead animal box, the last mentioned serving the needs of the City of Ústí nad Labem - all of this in cooperation with an outsourcer company; an electronic security system was put into service with a facility to record information and send messages to the central desk of municipal police and specific employees of the zoo
- Necessary repairs in the service apartments in partnership with the housing resources manager; since unfortunately the city was not successful in selling the family house near the zoo in its property even in 2013, the zoo will





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have to continue to look after it as a manager-in-charge.

Major operations

Project documentation developed

Two projects were being processed on the basis of tenders: redesigning the Borneo house and redesigning the exotic animal house. Both of these will contain details required for issuing building permits and must also comply with specifications for tender calls. Each of the design is addressing critical and much-needed refurbishments of two outdated animal houses; needless to say that animal breeding is thriving there even despite less appropriate conditions.

Paths, pavements and roads serviced

In the summertime, surface was fixed on some paths (**Photo 2**), sidewalks, visitor routes and service roads. This operation involved paving of more than 600 m² of surfaces of low-quality. Some extent of visitor-only pavements was paved using cut granite blocks.

Terrace and background facilities of the Koliba Restaurant redesigned

Before the main season arrived, the repair was completely finished of the wooden and already unsatisfactory terrace for visitors to the restaurant. Poor condition was affecting mainly supporting elements such as columns

or beams, but also the terrace floor structures, previously repaired several times. When servicing the background, new dressing rooms were created for artists as well as storage area for the Promotion Department. The new terrace was in terms of the designed lifetime of 50 years rendered as a classic building structure of masonry walls and panel roofing.

Visitor toilet serviced

As the zoo was getting ready for the main season, the public toilet found in the middle of the zoo grounds was repaired. There was the replacement of certain fixtures that were out of service or much worn (**Photo 3**). The entire facility received a new tiling and paving. Utilities were also refurbished,

which chiefly involved the drainage of the toilets. Eventually, paintwork was renewed.

Freezer refurbished (feed preparation facility)

At the very beginning of the year, the freezer of insufficient capacity was refurbished in the central feed preparation facility. The volume of the original box was doubled, while reducing the unnecessarily large box for cooling meat. Full-scope replacement of sheathing was performed as part of the operation. A new and more efficient unit was supplied, the heat insulation of walls improved and a new metal floor produced.

Zoo office serviced

The process of replacing old wooden windows with new thermal insulated plastic windows was gradually completed, while fixing the lighting in the offices. The CEO's office underwent alterations as well, which in addition to the finishes involved the restoration of the original parquet flooring, like in other offices. PVC flooring was renewed in the hallway and on the main staircase.

Dog kennels extended at Animal Rescue Centre

As a result of the extreme increase in the numbers of dogs received during the flood of June 2013, it was decided was after discussion with the management of the City of Ústí



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nad Labem that the temporary boxes acquired at the flood would be modified to serve as permanent facilities of Animal Rescue Centre. As part of the completion, sloped paving floors were serviced (including underfloor heating), wall tiling was completed, and the temporary roofing was replaced with a new Cembrit covering that is in use in other facilities of the Centre. Additionally, the repair work was completed of two separate boxes placed in the entrance zone of the complex that serve for the receipt of caught dogs. The extent of the repair was the same as with the nine new row boxes. Sidewalks were newly executed along the boxes, which included the drainage system for rainwater and washing water. Subsequently, planting will be executed within the surrounding landscaped areas.

South American tapir facility repaired

In parallel with the floor repairs at the elephant house, the same contractor (Relatex) repaired floors of two indoor boxes for tapirs. The work included the subsequent insulation of the roof, the redesign of the roof structure, and the repair of all tinsmith components. Eventually, both indoor and outdoor surfaces were fixed to some extent in that part of the building that had suffered leaking. Surfaces (wall tiling) in the keeper area also underwent some extent of modernisation; in addition, mixer taps were replaced and fixtures serviced (kitchen unit & lighting units).

Red-crowned crane enclosure alterations

In the summertime, the upgrade of the red-crowned crane exhibit was under-

way as scheduled, consisting of repairing the fence and, as the main focus, the execution of a small concrete pool with a volume of about 10 m³ in the front section of the display area (**Photo 4**), which included laying the water supply pipe and connecting the area to the existing sewerage system. The pool was equipped with a circulation pump technology to ensure water movement and purification.

Indoor caiman exhibit serviced

Just before the launch of the main season, the services focused on the floor and surfaces of the indoor caiman exhibit at the house of exotic animals. The existing pool was deepened and widened, the water circulation system redesigned for the water to run via a sand filter and an artificial waterfall placed in the wall, the latter also contributing with its new decoration to improved appearance from the visitor area.

Restraint box for wolverines

In order to optimise the settings for housing wolverines, work was launched in consultation with the Animal Management Department to produce and then install a restraint box into the lower enclosure of the wolverine exhibit. It is a metal, galvanised box, anchored to a concrete slab and fully roofed, its dimensions being 3.5 x 2.4 x 2.2 m. The box was connected to both of the enclosures and equipped with a trap box enabling to capture animals without having to put them to sleep, and feeding places for crate training of both of the animals held. The box connects to some extent to the fence separating the two enclosures.

Terrace by the giraffe exhibit serviced and extended

Once the main season was over, the surface and fencing was repaired on the terrace above the water reservoir that serves as the main viewing point for the giraffe exhibit. When the adjustment process was underway, carried out solely by the zoo personnel, the existing terrace area was extended by 50 m² as far as the edge of the ditch that separates the enclosure from the visitor. With modified feeding places for giraffes, visitors can now watch the narrated feeding of giraffes from close. The terrace was paved with interlocking tiles all over the area. In addition, new wooden fence elements of oak were installed and two visitor benches added.

Other examples of minor maintenance as part of repair work

- Camel shelter repaired
- Patagonian mara facility repaired
- Surfaces renewed in the summer orang-utan playroom
- Tinsmith components serviced at the giraffe house
- Paints renewed of wooden components - palisades, children's attractions, fencing
- Directional signs in the zoo grounds renewed to the full extent
- Fishing cat cage dismantled (**Photo 5**)
- New feed troughs produced for the camel paddock
- Electric fence installed in the hornbill exhibit
- The process of replacing windows and doors completed in the feed preparation facility.

Major operations done in 2013

Redesigning the seal exhibit

After moving our seals to the indoor pool at the sea lion house, fairly extensive groundwork was launched, with all the concrete demolished in both the former seal pool in its vicinity. Subsequently, the bottom was deepened by more than 1.2 metres using



excavators. To ensure the stability of the substrate, a 200 mm thick slab was made by concreting **(Photo 6)**, on which the final shape of the pool was gradually created by erecting a permanent concrete formwork. From the very start, the set priority for the operation was broadening and deepening the area of water and creating an extra housing box allowing animals to be separated in the case of offspring. After modelling the ground plan, there was the gradual execution of artificial concrete “ice floes” and varied pool floor levels that will be used for demonstrating the animals’ skills as part of feeding the seals **(Photo 7)**. Subjected to refurbishment was the system of feeding water as well as the discharge system, particularly when we needed to release about 200 m³ of water as soon as possible during periodical cleaning operations. Thus, an underground drain shaft (3 x 4 x 2 m) was set up under the neighbouring road and fitted with a slit outlet secured by four ball valves, which allows draining all the water within 2 hours from the start point of the process. A spillway opens into the shaft under normal operation circumstances, enabling continuous outflow of floating leaves from the surrounding trees. During final landscaping operations, a little over 200 tonnes of rubble stone were brought into the site, taking the form of both gravel and



large stones to serve as decoration (**Photo 8**). These were used for creating the surrounding block that is quite well imitating a rocky coast. The water supply to the pool was made via a tubular inlet with a waterfall added, sculpted from stone and concrete. The entire exhibit is enclosed by a concrete wall combined with a wooden fence made of oak planks fastened to steel columns using wooden snibs. To enhance the visitor watching the seals, two observation points were created and fitted with glass (**Photo 9**). Based on the management's decision to increase the budget, we were even able to treat the immediate surroundings. As a result, the very helpful seating area for visitors was redesigned to become an imitation of a coastline and, to some extent, a seaside fishing village. Extensive treatment was also used for redesigning the previously installed wooden board (2 x 18 m), this now serving as the basis for six educational units depicting the life of pinnipeds. Modifications were also extended to all the surfaces of surrounding roads and sidewalks to complete the appearance of the surroundings



in a quite distinctive manner. After the concrete has been soaked with colour and its surface sealed, the new area was filled with water. After doing measurements, we observed that the volume of water has increased from 30 m³ to 210 m³, the new water area has tripled (**Photo 10**) and in the deepest part, the seals can dive to a depth of

up to 180 cm. The exhibit was rated to be the best building of the year in the zoo grounds. Total costs amounted to 1.8 million CZK, with the main source being the funds of the zoo founder, supplemented by a grant from ČEZ Foundation and zoo's own operational funds. The opening ceremony was held as part of the day of donors.





Essential for this operation to complete was the work done by the zoo staff themselves, minimising the cost. Thanks for the overall tone of the final rendering go to Mr Pavel Tománek, who significantly contributed to the design and eventual execution of the shapes of the redesigned seal display.

Improving the welfare of female elephants and treating the visitor area

After discussion by the zoo management, a project was executed to significantly improve the housing standard of zoo's female elephants as well as the visitor experience while watching demonstrations of elephant training in the outdoor exhibit. A new floor was installed in the bedrooms of both females; made of Relatex (a cast rubber system) that had been successfully applied and tested in Ostrava and other European zoos where it fully proved, this flooring solution making use of cast and sloped rubber technology, the layer of 12 to 18 cm (**Photo 11**), now meets the requirements for housing elephants to the best-possible extent. The primary structure was a concrete visitor stand (**Photo 12**), which now takes up to 200 spectators. An attractive view was set up for the youngest visitors by demolishing and glazing a part of the concrete panel fence, thus creating a better opportunity for the visitor to watch the animals. Paved surfaces were also treated and oak wood lining installed in three more visitor areas along the outdoor exhibit. Finally, new educational components were produced by zoo's own joinery and locksmith shops as designed by the educational department. Once these were finished, horticulture treatment was carried out all around the outdoor elephant display. Making use of bamboos, park vegetation and oak/locust-tree wood, an impression of a bamboo grove was created. A great dot behind the whole operation was a shelter for animals to provide shading, made of steel, 6 metre high posts (**Photo 13**) with a lightweight shading fabric of an area of 70 m² anchored to them. Financial support for the project arrived from the Region of Ústí nad Labem that contributed 1 million CZK. Total cost of this capital project reached 1.7 million CZK.



**Marketing, Publicity
& Conservation Education**



Marketing, Promotion and Conservation Education update

Bc Tereza Limburská & Ing Věra Vrabcová



Visitor numbers

In 2013, the zoo was visited by a total of 123,343 visitors, the number comprising 60,511 children guests and 62,832 adults. Compared to 2012, there was a decline of 21,087 persons. This was due to a long, cold winter and rainy spring, when freezing and snowing and/or raining occurred on most of usually best-attended events, the flood that hit the City of Ústí nad Labem in June (**Photo 1**), and last but not least, high temperatures in the summertime. The subsequent increased rates in the last quarter of the year did not change the great drop anymore.

Partnership with the media

Collaborative activities with the media have been running for many years based on mailing brief press releases related to updates in the field of animal management (newborns, new imports etc.) or events taking place at the zoo. Contact details are added into the mailing list when necessary, thus emails can reach and inform journalists from newspapers, magazines and other periodical press, as well as crews of radio and TV stations.

Television - several reports on newborns or zoo events were broadcast

as part of nation-wide coverage of television stations. Later in the year, the zoo began cooperation with the crew of Regional TV active in the north of the country.

Radio - For several years, Rádio Blaník and Český rozhlas Sever have been the major partners informing about zoo updates.

Press - As regards Ústí nad Labem Region, residents are kept updated primarily through Ústecký deník (a local newspaper) and other local variants of the Deníky Bohemia Group as relevant, plus there are reports in the regional sections of other newspapers, such as MF Dnes, Právo, Blesk, Aha and Metro, and various weekly newspapers (Naše Ústí, 5+2 dny). Other regions receive updates via the Czech Press Agency. Other means to inform on updates are Nové ústecké přehledy and Městské noviny (city newspapers).

Internet - information about the zoo are posted on a periodical basis on zoo's websites (www.zoousti.cz; www.choboti.cz). News and invitations for events are being published via the zoo's Facebook profile, which is actively used, as well as on several web portals dedicated to leisure activities, tips for trips, etc.

Events for the public

In 2013, the zoo organised a total of 22 events for the public, of which five took place with the support of other partners. Four competitions and quizzes were arranged for visitors to gain new information, use existing knowledge



and testing skills, in which participants had the opportunity of winning great prizes or taking a small reward immediately after the submission of the completed ticket. Promotion of events was by default underway on the zoo website and Facebook profile, as well as by posting flyers in public transport vehicles or posters on advertisement boards of Rengl, making use of a billboard on the square of Lidické náměstí, mailing information to nursery and primary schools or cultural centres. Various online portals dedicated to leisure activities and tips for trips were also in use to no fewer extent. Unfortunately, the weather did not favour events with the greatest attendance every year, which is the Grand Season Opening Ceremony (**Photo 2**) or Children's Day. In contrast, events held in the last quarter of the year, e.g. Zoo of Ghosts, St. Nicholas' Day or Christmas Day, were a great success, the last-mentioned activity becoming one with the highest attendance in 2013. At least one new event is included in the schedule every year. This year it was the celebration of Father's Day, which in terms of weather, programme and the visitor number was very successful. The zoo also became involved in the Napoleonic Festival, organised by the City of Ústí nad Labem by preparing special-theme quizzes as part of two weeks - German Week and French Week.

It's the Half-term Break!
(1 to 3 February)

A have-fun quiz focusing on the theme of EAZA's 2011/2013 Southeast Asia Campaign was prepared for visitors throughout the three days. Entitled "Guess who I am!" it rewarded each of the participants with a small prize. Children with honours were invited to enjoy that free of any charge.

Carnival at the Zoo (16 February)

The first year of this activity focused on the carnival tradition took place inside and around the carnivore house and involved an entertaining programme for children who additionally received the opportunity of dancing with the Bear. After the programme, the carnival parade, accompanied by the Ústečanka musical band, headed for the sea lion pool to see the established animal show. Entry for this event was free of charge, with any kid arriving in the mask obtaining a gift.



Spring Break at the Zoo
(9 to 17 March)

The particular focus of this event was the EAZA - IUCN/SSC 2011/2013 Southeast Asia Campaign. Sites were made available inside the Carnivore House to fulfil tasks and carry out physical activities, the programme entitled "Become a Researcher in the South Asian Jungle" (**Photo 3**). Each of the participants received a prize, while five winners selected by draw received two tickets per person to visit the performance of the Chinese National Circus Feng-Shui.

Win the Rhea Egg
(28 March to 1 April)

A well-established Easter quiz. Each

of the participants took home a stylish prize and was also included in the draw to win three real rhea eggs.

Grand Season Opening Ceremony
(1 April)

A well-established event to celebrate the grand opening of the main season. Children attractions and face-painting activities were available for free. Near the Koliba Restaurant, guests were welcome to enjoy announcing the winners of the 2012 Animal of the Year contest, the show of the Těžkej Pokondr band and a programme of the DanceMission entertaining team. Towards the close, Miloš Pokorný and Roman Ondráček became complimentary "godfathers"



to young cotton-top tamarins.

The Earth's Day: The Colourful Planet in a Little Different Way (21 April)

The particular focus was the EAZA - IUCN/SSC 2011/2013 Campaign to protect Southeast Asian habitats. Children from primary schools prepared sites with competitions and activities made available in the zoo grounds (**Photo 4**), an exhibition of nursery school children products was opened at the exotarium house and dedicated to the "Story of the Tree" theme, and the Carnivore House hosted slide shows made by secondary school students and focusing on the "What You Put into Your Shopping Cart" topic. Small shops were available throughout the day, offering ethnic products (Africa, Georgia, Armenia, etc.). The main programme was underway near the Koliba Restaurant, featuring a theatre/dance performance of primary school students (ZŠ Anežky České and ZŠ Vojnovičova), evaluation of the competition for secondary school students, African drumming show, oriental dancing, and a Mexican musical band.

The Day of Birds at the Zoo (1 May)

This early-morning event enabled the participants to watch wild birds, listen to their singing and see birdlife catching and ringing activities.

The May Day (1 May)

A quiz called "Love in the Wild" was available for visitors, with each participant getting a small prize. Families with kids were invited to take a tour outside the zoo grounds and fulfil various tasks

dedicated to the EAZA/IUCN 2011/2013 Southeast Asia Campaign, the activity called "Paths of Southeast Asia".

Tracking the Fox (11 May)

The year 10 of this traditional programme arranged by the Bílý javor scout centre was underway throughout the zoo grounds and comprised sites dedicated to education, sports and knowledge gaining.

The Children's Day at the Zoo (26 May)

An entertaining and diverse programme was underway throughout the day, with attractions deployed throughout the zoo grounds along with competitions arranged for kids by scouts of Ústí nad Labem. The lesser

guests were also invited to make use of face painting activities. The main programme was taking place by the Koliba Restaurant and involved a fairytale theatre show by Sváťovo divadlo, a musical performance of Maxim Turbulenc, and DanceMission's pirate-style entertaining programme. Members of Maxim Turbulenc became complimentary "godfathers" of young moor sheep, named by them *Kudrlinka*, *Rarášek* and *Ouško*.

Children's Holiday Wandering (1 June to 31 August)

The zoo shared organisational efforts as regards this competition with Dopravní podnik města Ústí nad Labem, a. s. (city transport company) and other city-based tourist destinations; the activity was targeting kids from 6 to 15.

Napoleonic Festival (1 to 30 June)

This event managed by the City of Ústí nad Labem to commemorate 200th anniversary of the Battle of Chlumec included participation by the zoo. Over four weeks, four nations that met in the battle were presenting to the residents of Ústí. Special-theme quizzes were prepared as part of German Week and French Week.

Fathers Day (16 June)

The first-ever annual event for fathers with kids to celebrate Father's Day, which falls on the third Sunday of June every year. Several competitions were made ready in the upper part





of the zoo grounds (**Photo 5**), for the completion of which everyone had the opportunity of getting snacks (e.g. drinks for kids) as well as participate in a drawing for fabulous prizes (family tickets to the zoo, to the Museum of Ústí nad Labem or the local swimming pool in Klíše). Kids had the choice of participating in an entertaining programme of the DanceMission team by the Koliba Restaurant, as well as tasting a bike-trial show by Martin Šimůnek. The event created the opportunity of grand opening of a trail along the elephant enclosure featuring new educational elements and a new stand from which visitors can more comfortably watch one of the standard animal demonstration events – elephants' exercise. At the end of the programme, there was a celebration of the 15th birthday of Moritz the sea lion.

The exhibition of cacti and succulents (18 to 23 June)

The local cacti grower community held this well-established event presenting cacti, succulents and carnivorous plants. Visitors were invited to see a large number of cultivated plants and buy some of the cultivars.

Dreamnight at the Zoo (21 June)

The zoo joined this event running throughout Europe and dedicated for chronically ill and disabled children already for the sixth time. As usual, the activity took place in the evening. The initial date of 7 June was moved because of floods that hit the City of Ústí nad Labem. Split into groups, participants enjoyed an out-of-scenes tour of

the zoo and encountered certain animals, such as elephants or ponies. A programme was available by the Koliba Restaurant that featured songs and competitions, to continue with a tour of the houses of carnivores and exotic animals, each of them being a site of more various activities prepared for the kids. Closed with a sea lion exercise and a fire show, the event was one that received the support of the Region of Ústí nad Labem.

Yippee! Let's Leave for Holiday! (28 - 30 June)

No particular programme was prepared for the visitors for this period, just a surprise in the form of free entry for children who showed their certificate with full marks.

Tracking TV Heros (1 July - 31 August)

A competition for prizes organised

by the Czech TV for families with kids of up to 15 years. Ústí Zoo was one of the 80 destinations, where participants were able to obtain the necessary stamp.

Farewell to Holidays: All Sorts of Africa Stories (14 September)

An all-day programme focusing mainly on Africa. An African-style musical performance by Aneboafro was available by the Koliba Restaurant, along with a moderator's Zdeněk Lukesle programme for kids. The schedule included a naming ceremony featuring young African animals - three Hartmann's zebras and two Somali asses.

Seniors Day (1 October)

Seniors were invited to enjoy the programme with free entry into the zoo.

The World Animal Day (12 October)

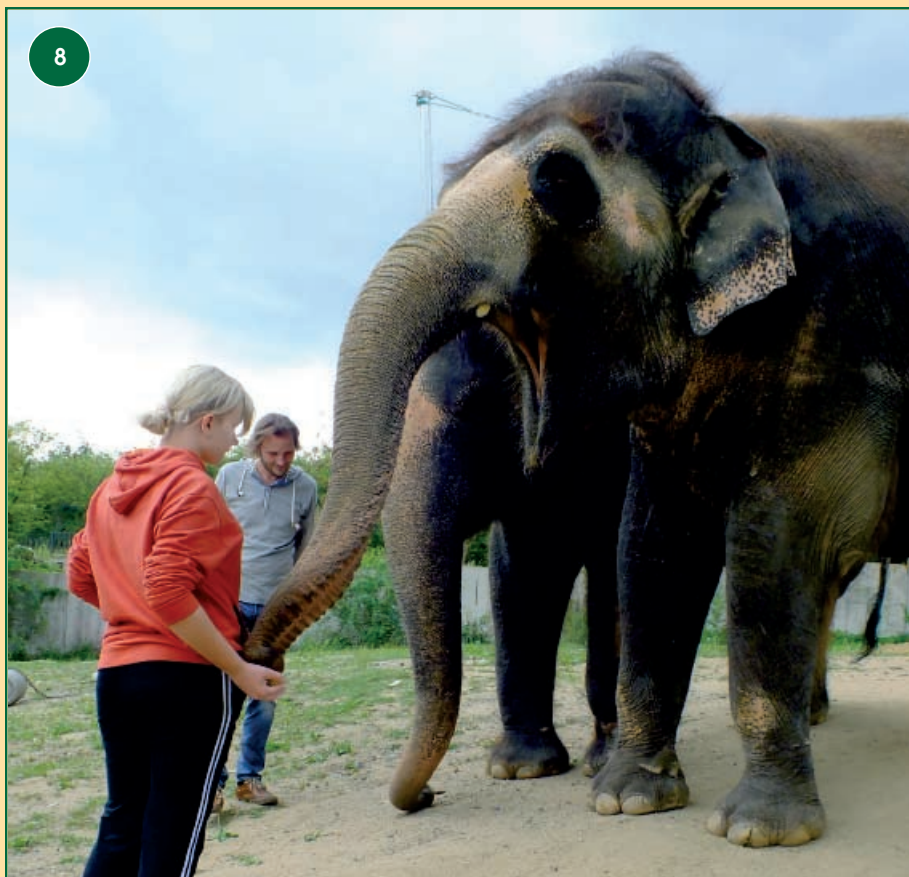
A well-established event for invited guests organised for animal fosters, patrons, donors and other zoo partners. As part of this event, there was grand opening of the newly renovated pool for harbour seals in the lower part of the zoo, where three new adoptive parents were also introduced. A supporting programme was on by the Koliba Restaurant, taking a form of a musical performance by BrassBombers and a wizard's show.

Zoo Trails (26 - 30 October)

A traditional quiz was prepared for visitors during the autumn break, the theme of which was "Discover who I am..." Photographs showing details of particular animals were placed on ten sites. Ten winners received books about animals and nature.



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The Zoo of Ghosts (2 November)

The third year of the joint activity of Union of Czech and Slovak Zoological Gardens members. Inside the Carnivore House, a programme combining dancing and competitions was available for children, as was a "ghostly workshop" to test fine art skills and a face-painting activity for free. The Exotarium house provided the opportunity of carving jack-o'-lanterns and taking them home or decorating visitor routes in the zoo grounds. After dark, a lantern procession started near the Carnivore House, heading to the lower part of the zoo, with ghostly sites along the way. The programme was closed with an evening show featuring Moritz the sea lion.

It's Zamba's Birthday! (19 November)

Celebrating 43rd birthday of Zamba, the white rhino female, combined with the 33rd anniversary of her arrival at the zoo. The activity was underway on a weekday in the morning, attended by children from Ústí nursery and primary schools (**Photo 6**).

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The African Week (28 - 30 November)

The African Week was underway in cooperation with Power 4 Africa, a German-based NGO, who have been organising this event since 2005 in Dresden in various cultural and shopping centres. The aim was to establish a connection between the European and African culture and facilitate intercultural exchange of information and experience, present African markets to Europeans, and allow Africans better knowledge of European countries, which in this case was the Czech Republic. The event was held at the Carnivore House and visitors were able to enjoy the display of paintings, show of African crafts and articles, African music and dancing, African cooking demonstration, and video clips on African countries.

St Nicholas' Day (1 December)

Underway throughout the afternoon, this special-theme event focusing especially on children was underway at the Carnivore House, where there was an entertaining programme for kids, a fine arts workshop and face painting, and at Exotarium, a site of arrival of St. Nicholas accompanied by the Devil and the Angel and distribution of St. Nicholas' gift packs. In addition,



a trail called Devil's Path was running from Exotarium towards the lower part of the grounds, enabling the kids to get small rewards for fulfilling small "devilish" tasks. A grand switch-on of a Christmas tree and Christmas decorations was eventually underway near the zoo office.

Advent at the Zoo (14 December)

A children fine arts workshop was available inside the Carnivore House where they had the opportunity of making Christmas ornaments, a New Year greeting, or a Christmas candlestick.

The Christmas Day (24 December)

The annual present-giving event, within which animals had the opportunity to enjoy wrapped gifts and decorated trees. In terms of visitor numbers, this was the most successful event of the year.

Schools and conservation education

All types of schools are offered a wide range of educational and learning programmes. In 2013, the range comprised 13 different schemes, some of which prepared in several options according to participant age. A guided tour using the zoo train is also an option. The teaching schemes make full use of the Heinrich Lumpe Zoo School that suits the needs in terms of technical support as well as equipment containing a number of natural products and dermoplastic materials. The facility is by default not accessible to stand-

ard visitors. Education programmes are charged, with 20 CZK to be paid per student. In 2013, 53 classes participated in the schemes and came from one nursery school, 38 primary schools and 12 secondary schools. A total of 1,222 children and students took part in the programmes.

Activities included a special two-round competition. Called "Take a Zoo Risk", it was designed for three-member crews of students coming from primary schools and secondary schools (lower grades). Round 1 was underway as a quiz, with the competing enabled to support themselves using information from books, Internet, etc. Ten best crews advanced into the grand finale. Prepared directly inside the Zoo School, it consisted of various competitions and activities (**Photo 7**). A total of 85 teams from 22 schools participated in the activity.

Teaching the subject of "role of modern zoos in conservation" is organised for students of the local university in the zoo grounds on an annual basis. Both standard and distance learning students (a total of 33 persons) attended the activity.

The zoo researcher managed a two-weekend course entitled "Protection of primates and tropical ecosystems" at the Czech University of Life Sciences.

Late in the year, the zoo offered local nursery schools and primary schools (grades 1 & 2) the already established

and much-sought opportunity of decorating their own Christmas tree at the zoo.

For several years, the zoo has been offering school groups a free entry into the grounds, which applies to the period from early November to the end of February of the subsequent year.

Lectures and discussions

A total of seven lectures and discussions with participation of the zoo staff were held in/outside the zoo grounds. A diversity of target groups were involved - primary and secondary school students, residents of retirement homes, general public, or participants of a mini-workshop discussing palm oil issues.

Three days for Southeast Asia - under this name, a special event was prepared for secondary school students. It included screening of a documentary called *The Green Desert*, discussion about the movie as well as about the latest threat of South Asian rainforests (i.e. oil palms), and a display of food containing or not containing palm oil. Four schools registered for this event, with a total of 136 participants. Some of them subsequently participated in the competition called "What You Put into Your Shopping Cart" for which secondary school students were the audience targeted. The essence of the activity is creating students' own video documentary on the issue of palm oil.

Animal shows

The series of standard animal demonstrations continued to run in 2013, which were certainly seasoning the visitor experience. Of these, exercises of Moritz the sea lion or the elephants, elephant walks around the zoo, enrichment in the orang-utans, the honey tree for Malayan sun bears, feeding piranhas, and pony rides raised the greatest attraction.

Experience programmes

Experience programmes have been on offer for several years and enjoy ever-greater attention. Alternatives involved are spending a day by tending elephants or creatures at Exotarium (this intended for persons of 18 years and more), and a single feeding session focused on particular animal



species (seals, elephants, giraffes). All details, including the terms and conditions or prices, are by default published on the zoo website. As regards the traffic, there were 13 persons that made use of the "elephant keeper for a day" option, 44 persons desired to get in touch and feed elephants (**Photo 8**), 22 persons showed an interest in feeding giraffes and three people booked the seal feeding session. In September, one wedding ceremony took place inside the Elephant House.

Animal of the Year 2012

The seventh call to vote for the animal of the year was posted on the zoo website as usual. With seven creatures nominated, a total of 1,834 voting participants decided on the ultimate winner, this being the female Asian elephant Delhi receiving 41% of the votes. Participants were able to vote from 7 January to 24 February 2013 and attempt to win a plenty of exciting prizes that in addition to the zoo was provided by various partners, such as photographer Petr Slavík, ČEZ Distribuce, Magazín Koktejl, RWE Energie and YMCA. The announcement of winners and awarding took place during 2013 Grand Season Opening Ceremony.

Zoological Society

Through a close cooperation with Ústí Zoo, the society has continued joint activities that are chiefly dedicated to deepening the relationship of the organisation's members and the zoo. This year, the members offered

a helping hand in organising zoo's events for the public. They assist with programmes, by providing services as part of fine arts workshops for kids, and the like. During the year, four meetings of the society were held at the Heinrich Lumpe Zoo School. The zoo published another volume of Fauna Bohemiae Septentrionalis (technical journal), Tomus 37 (2012). It contained reports and papers of zoo staff as well as society's members. The publication is circulated to various scientific institutions in the Czech Republic and abroad.

In April, the society held along with the zoo a benefit concert to support Pesisir Balikpapan, the conservation project. Underway in the Ústí-based club "Doma", the programme included a screening of the documentary called *The Green Desert*, and discussions with the movie's author Michal Gálik (**Photo 9**) and the zoo researcher Standa Lhota, as well as with singer Dan Bárta, who visited Borneo in the past. The programme reached its peak with Dan Bárta's performance and was topped off with Ústí band No Discipline. The show also included selling newly produced promotional materials related to the project flagship species - the Proboscis monkey.

Other activities

The team members participate in periodical meetings of the UCSZOO's education and marketing committees, which this year was underway in Ostrava. They took part in developing

several presentations that covered the way Ústí Zoo was supporting the EAZA campaign and outcomes of the IZEA conference. They also gave a separate report (a ppt slide show) to outline new educational items executed near the elephant and seal enclosures.

A department staff member participated in the EZE conference organised by Burger's Zoo (Arnhem) in March 2013. She presented here a report on how the EAZA campaign was supported in Czech and Slovak zoos, while presenting the foreign participants with the documentary entitled *The Green Desert* and other joint activities of UCSZOO (**Photo 10**).

During the year, visitors are periodically updated on what is happening at the zoo via the zoo's website (www.zoousti.cz), whilst having the opportunity of making use of the other website (www.choboti.cz) that was moved under the same administrator and its graphic design was upgraded. In addition, the zoo has been posting news on UCSZOO's website, using not just the "News" column, but also the calendar of events.

Since September 2013, the zoo has been providing (in cooperation with House for Children and Youth) a nature club for children aged 9-13 for the period of the 2013/2014 school year. Meetings are held at Heinrich Lumpe Zoo School as well as in the zoo grounds (**Photo 11**).

In September 2013, there was a special tour to Leipzig Zoo, the visitor group comprising Ústí nad Labem staff members, personnel from other zoos, members of the Zoological Society, and other persons attracted by this opportunity.

In late August, the zoo received 95 German-speaking visitors associated in Friends of Erfurt Zoo. Part of this visit was a ride by the zoo train to see the upper part of the zoo, followed by walking back and making stops at each animal display.

The zoo presented itself with its promotional materials at all the fairs and exhibitions attended by the City of Ústí nad Labem.

Adoption and animal patrons, donations and advertising

Bc Tereza Limburská

Financial support from both individuals and various organisations through donations continued, whether it was taking the form of so-called animal adoption/patronage or placing an ad in the zoo grounds. Adopting or becoming a patron of an animal is being increasingly used as an unusual birthday/Christmas gift. Raised in 2013 was 587,017 CZK through the adopt-an-animal scheme, 641,092 CZK through financial donations and 316,058 CZK through advertising.



New educational and interactive components near animal exhibits

Ing Věra Vrabcová

In 2013, the zoo managed to set up in two places new educational and interactive components that in each case are thematically related to that animal species.

The first project involved the elephants. The changes made created standards for improved well-being of animals, be it the elephant house with new floors being set up and making use of more favourable and softer materials, or the paddock with a new shelter allowing the animals to hide from the sun on hot summer days. In addition, the latter case held in mind visitors, for whom two stands were erected at the viewing site, from which those seeking to watch their favourite elephant training can do that while staying in comfort (**Photo 1**). The rear face of the stands was used for placement of information boards presenting texts, as well as photographs. On one of the stands, there is a life-size model of an elephant, where visitors can measure



and take a picture of themselves, while the other stand bears two plates measuring 120 x 200 cm that detail facts about the enrichment scheme

that is in use with elephants. There was also a revitalisation of the paddock surroundings, which more specifically involved the area between the visitor





path and the concrete fence of enclosure where a part of the slope was dredged and planted with new vegetation. Information boards were installed in this zone; equally spaced and measuring 70 x 120 cm, they describe the different types of enrichment. There are also interactive elements near each large-size boards, where children can test similar activities that serve the elephants as well, be it for entertainment or to source food (**Photo 2**). The sites are labelled as Elephants and Toys, Working Elephants, Food enrichment, Crucial Sand and Elephant Senses. This is complete with a ball from fireman hoses for playing, lifting wooden blocks using a pulley,

a rotating barrel with small balls, models of food buried in the sand, and five kinds of hidden scents. The project as such was executed thanks to the funding we received from the Regional Office of Ústí nad Labem Region, which amounted to 1,000,000 CZK. The stands were formally put into operation and all other sites were made available on Sunday, 16 June (**Photo 3**) on the *Father's Day at the Zoo* event where dads with kids were given the opportunity of testing the moving elements for the first time within competitions.

The second project involved a new pool for harbour seals and its

surroundings for which funds were donated by the zoo founder - the City of Ústí nad Labem (1.5 million CZK) and a donor - ČEZ Foundation (300,000 CZK). A major refurbishment was made to the entire pool for seals, which was a significant increase in well-being of animals. In addition, it resulted in treatments of the exhibit surroundings, which we wanted to render so that the individual elements of the complex connect to each other. The stepped visitor area from which one can watch the animals in the pool was designed as an example of the different levels of the underwater world, from the deepest place in the ocean - the Marian Trench, to the coast, where pinnipeds give birth to cubs. Individual steps feature different tones of colour, from the darkest blue to light blue for step 8. The "sea coast" was made complete with an authentic sea barge that we sourced from as far as Hamburg, with fishing nets and with large coastal boulders (**Photo 4**). Along the pool, there has been a large advertising panel installed since 2006, serving as a means for the "1000 Elephant Feet" project, which was however terminated in 2012. Consequently, we decided to make use of this fifteen-metre area for placing interactive educational plates where the visitor can learn detailed information about the life of pinnipeds (**Photo 5**). Consisting of six thematic





units and generally entitled *Seal Trail*, the individual boards contain facts, photos that we received for free from renowned photographers (thank you!), and interactive components. The board names are as follows: *The Closest Relatives*, *How We Are Born*, *Water - Our Element*, *Living Underwater*, *Hunter and Prey*, and *Ref.: Protection Necessary*. Of 3D objects, worth-mentioning are the harbour seal's skeleton, the cylinder showing the level of red blood cells in humans and in pinnipeds or the stop-watch, where kids can test, how long they can hold their breath. Part of the last board is a quiz where everyone can check the knowledge acquired. The last remaining attraction involves photographic models of three members of each pinniped family - the walrus, the sea lion and the



seal, where visitors can even take a picture standing amidst these (**Photo 6**). The grand opening of the area was held on Saturday, 12 October, when the zoo held the Day of Donors

and celebrated the World Animal Day. According to visitor feedback, this operation was found to be highly successful.

**Staff
members**



Staffing on 31 December 2013

Senior management

Marina Vančatová, PhD - Director & CEO (since 1 Oct 2013)

Jana Černá - Deputy Director; Head of Financial Management; CEO until 30 Sep 2013

Ing Petra Padalíková - Head of Animal Management

Jiří Hanzlík - Head of Operations & Technology

Bc Tereza Limburská - Head of Marketing, Promotion and Conservation Education

Specialist personnel

Ing Pavel Král - Curator

Bc Tomáš Anděl - Curator

Other senior staff members

Hana Roháčková - Head of Horticulture and Landscaping

Jaroslava Ježková - Head of Animal Rescue Centre to Ústí nad Labem Zoo

Staff members

Animal Management 30 persons & 2 persons on maternity leave

Financial Management 5

Operations & Technology: 10

Marketing, Promotion & Conservation Education

2 persons & 1 person on maternity leave

Animal Rescue Centre 2

Public works personnel 14

TOTAL as per 31 Dec 2013: 72 persons & 3 persons on maternity leave

**Legal
information**



Legal information

Zoologická zahrada Ústí nad Labem, příspěvková organizace (co-funded entity)

Drážďanská 23

400 07 Ústí nad Labem

Czech Republic

Legal form: CZ: příspěvková organizace / EN: non-profit, city co-funded organisation

Registration number: 00081582

VAT ID: CZ00081582

Telephone: +420 475 503 354

Telephone/facsimile: +420 475 503 421

Email: zoo@zoousti.cz

Internet: www.zoousti.cz, www.choboti.cz

Legal name in Czech: Zoologická zahrada Ústí nad Labem, příspěvková organizace

Registered address: Drážďanská 23, 400 07 Ústí nad Labem, Czech Republic

Founder: Statutární město Ústí nad Labem / Statutory City of Ústí nad Labem

Registered address: Velká Hradební 8, 400 01 Ústí nad Labem, Czech Republic

Registration number: 00081531

Mayor: Ing Vít Mandík

Zoo's Chief Executive Officer: Marina Vančatová (since 1 Oct 2013)

Jana Černá (until 30 Sep 2013)

Ústí nad Labem Zoo is a proud member of:

