

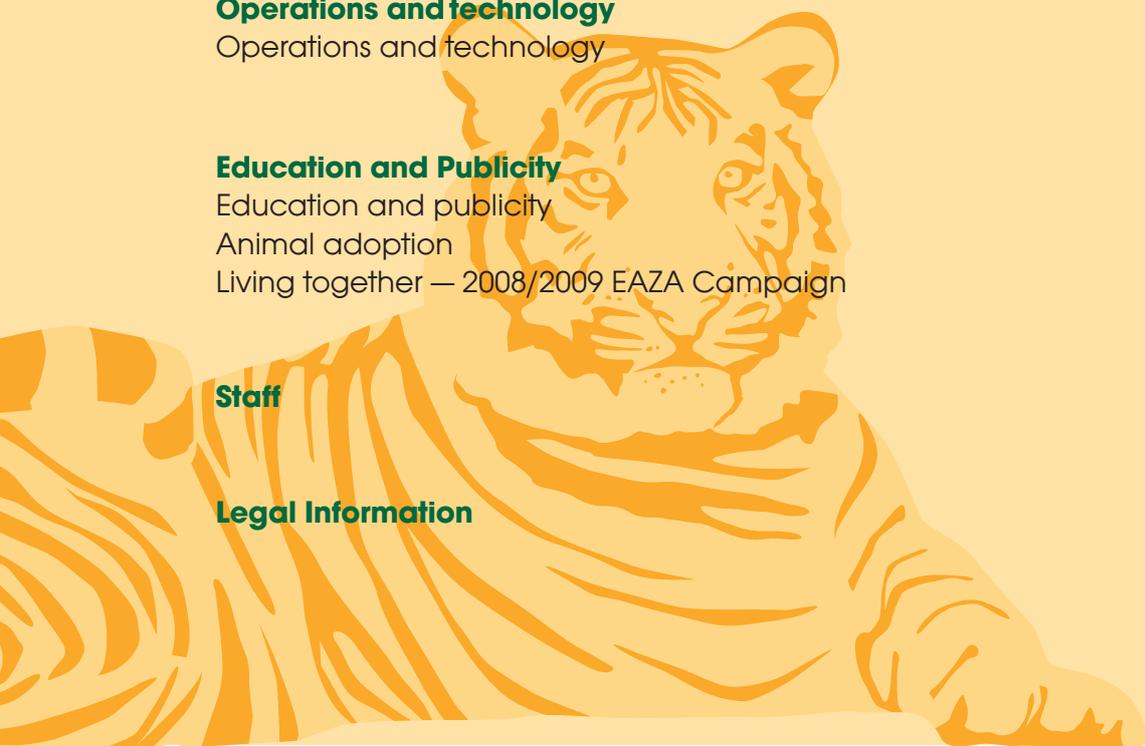


Annual Report 2009



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From the Director's desk

The year of 2009 was indeed quite challenging for everyone, be it in our private lives or in everything happening around us. The political vacuum, the nightmare and onset of the economic crisis have reflected greatly on our zoo. Struggling for survival, the zoo began to weaken financially and eventually funds became exhausted. The necessary austerity measures have not only affected capital projects, but the budget adopted has mainly impeded the level of development that had been set in previous years. However, despite these adverse factors, we tried to avoid restricting the essential activities of the zoo, especially those regarding animal care, and to reduce visitor services as little as possible. I think we have succeeded, thanks to slightly higher visitor numbers compared to 2008, in addition to other factors.

I believe that we will get over the bad times to be able to pay full attention to the development of the park so we can enhance our breeding facilities and improve animal management of every species at the zoo. Opening the large feline outdoor enclosures became the main event of the year, when not only everyone at the zoo but also the visitors could feel warm seeing the birth of the first snow leopard cub and two Amur leopards.

Looking into the future as the new director of the zoo, I would like to wish not only a lot of fans, visitors and raised animals, but mainly continued focus of the founder, the City of Usti nad Labem, on what is amongst the principal points of interest within the town. We have a wonderful animal collection here with precious stones that the largest and most prestigious zoos of the world boast. We have committed to something, which cannot be left or set aside into an animal shelter as an unwanted puppy or kitten; we made a commitment to keep the zoo for future generations so that it could contribute and fulfil its main function - the preservation of endangered exotic and native wildlife species and retaining biological diversity.

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I would like to say thanks to all visitors, donors, foster parents, and especially to every employee, to whom Usti nad Labem Zoo is a matter of the heart, for their loyalty, for their support and their patriotism.

In conclusion, I would also like to thank and wish good health, happiness and personal success to the previous director, Mgr Tomas Kraus, who managed Usti nad Labem Zoo from 2005 to June 2009.



MVDr Vaclav Pozivil

Vladimir Mikulica: Obituary

By MVDr Petr Skalka

On 16 September 2009, MVDr Vladimir Mikulica, CSc, the first director of Usti nad Labem Zoo following the ‚velvet revolution‘ passed away.

Vladimir was born on 15 April 1947 in Brno. In 1972, he graduated from the Veterinary Faculty of University of Agriculture (now the Veterinary University) in Brno. Canine enthusiast, he entered the army and served in the dog training centre, Grabstejn, Czech Republic. His experience and research in pet dogs and wild canids gave a basis for Vladimir’s book titled Learn More about Your Dog (in Czech: Poznej sveho psa). A great work on dog behaviour, the book attracted deserved attention in professional circles.

Vladimir left the army with a Captain’s rank and joined the zoo in Dvur Kralove as a pathologist. Soon he became a skilled expert, and so investigated materials delivered from other sources than just around the zoo. When deciding on a topic of his candidate thesis, Vladimir’s choice was ethology of rhinoceroses, which he elaborated in a comprehensive manner and defended his work.

He left Dvur Kralove to work with the zoo in Chomutov (Podkrusnohorsky zopark) as an animal manager, where he was found at the end of 1989. Invited by the Usti nad Labem Zoo’s team, Vladimir enrolled in a vacancy for a director, succeeded, and held the post over the next seven years.

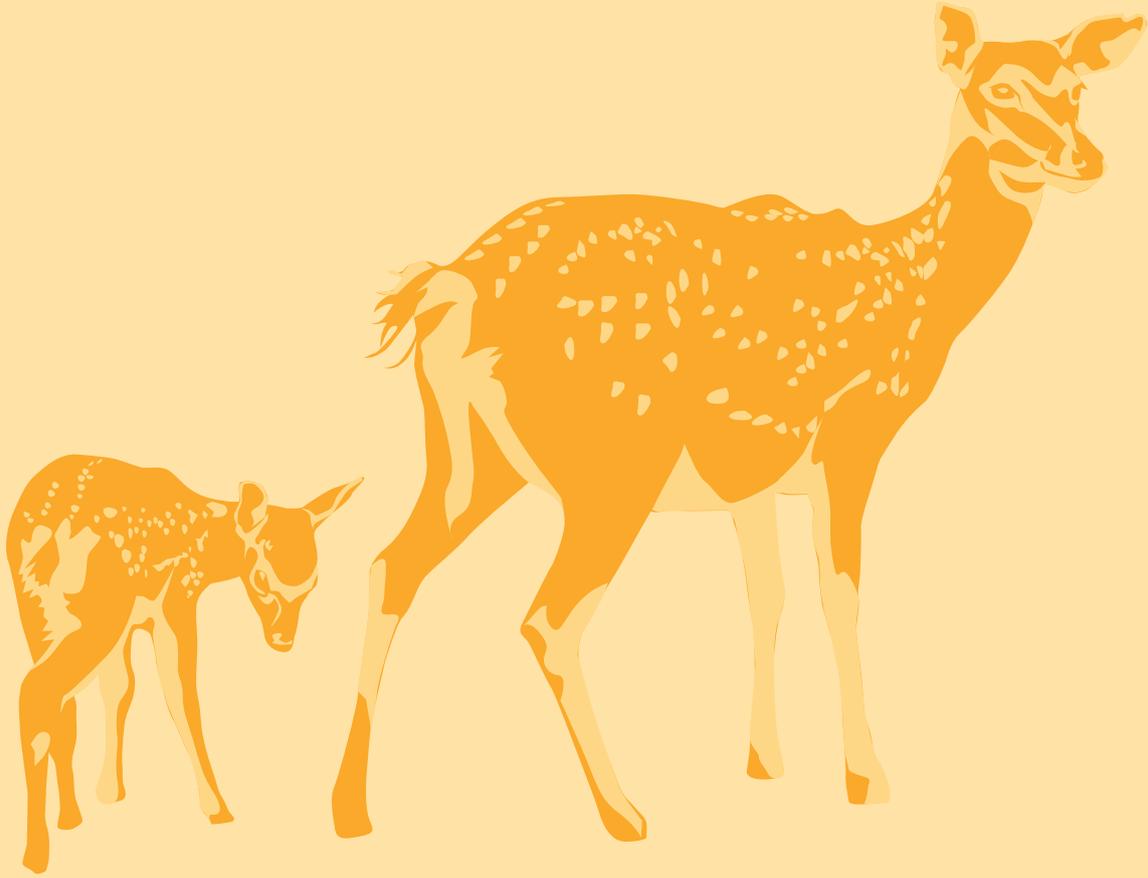


That time was not easy. Everything was changing - legislation, administration, as well as international relations. Although left with a number of unfinished buildings in the zoo grounds, some of which designed as megalomaniac structures with no hope of completion, Vladimir settled all issues fairly and finished everything that could be finished. He also invented and managed to complete successfully a bunch of new exhibits. Thanks to the good contacts established with foreign zoos and Vladimir’s best efforts, Usti Zoo could get animals from which some were never exhibited in the park before, like the lowland anoa, red panda and much more. When

Vladimir was leaving, he handed the zoo as a stable institution of a modern look and operating methods.

Vladimir retired at his own request. In the subsequent years, he dedicated time to managing his private projects and travelling to exotic countries, learning the wildlife in its native habitat. Severe disease ended his life when he was 62.

The indelible signature that Vladimir Mikulica left at Usti nad Labem Zoo should never be forgotten.



**Animal
Husbandry**

Animal husbandry

Ing Petra Padalikova

The reconstruction of outdoor enclosures for leopards and tigers was a major 2009 capital project. Three obsolete cage-like exhibits were demolished and replaced by three new large enclosures with natural substrate and vegetation. The work was completed and formally opened in the beginning of the season in early April. This topped the six-year period of alterations of what is the largest animal house of Usti nad Labem Zoo. The new enclosures fundamentally contributed to improving the welfare of animals, while catering the visitors with an unobstructed view of the carnivores through the large glass (**Picture 1**).

Further, the zoo managed to reconstruct a part of the Borneo House, serving formerly for mandrills. This section we decided to adapt for housing of the orang-utan male Ferda, who had arrived in 2002 in the course of devastating high water in Prague Zoo. The male ranking amongst the iconic animals of the zoo celebrated forty years in 2009. Modification of the house is also to increase the breeding comfort of the Bornean orang-utan family group, who so far had to share their outdoor enclosure with Ferda.

Compared with the previous year, the number of species declined by a total of 13 taxa. This was mainly due to deaths of aged individuals of species which are to be phased out from the zoo's master plan anyway, like the crab-eating raccoon, jungle cat, ocelot, Travancore tortoise, etc, and removing other species held only out of scenes over a long period without any perspective of including in breeding programmes, such as the dwarf crocodile, South American water cobra or Egyptian goose. As per 31/12/2009, the zoo held 207 animal species. The number of individuals decreased as well a little bit, with 997 animals held towards the end of the year. The zoo's international cooperation comprised involvement in 32 European Endangered Species Breeding Programmes (EEP), with another 15 species regis-



tered in European Studbooks (ESB).

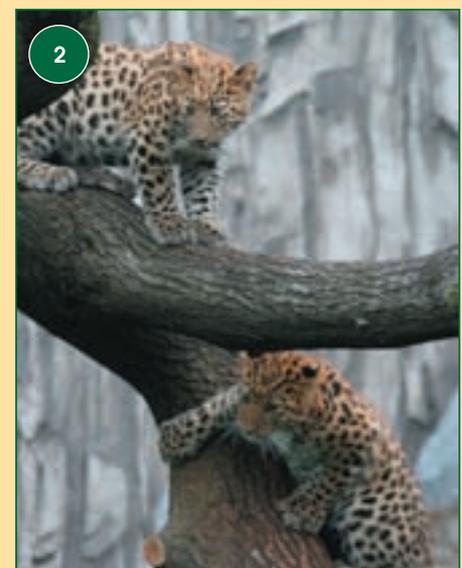
The most notable species reared in 2009 included a female **snow leopard**, the first individual of this carnivore reared in the history of Usti Zoo. It was great collaboration with colleagues from Jihlava Zoo what largely contributed to the success, as Usti and Jihlava exchanged their breeding males in the previous year. Makan, the former male, spent with the female Nima two breeding seasons, but with no success in the form of birth of cubs. The reason for this was the inexperience of these young animals. The male Salwin, a proven breeder coming from Jihlava in late 2008 fulfilled his role perfectly. The change was beneficial even for Makan, who produced a descendant in Jihlava with their experienced female as well.

The birth of **Amur leopard** twins (**Picture 2**) was an equally important event in the Carnivore House. This most endangered leopard species reproduced in 2009 in only three European zoos in addition to Usti (source: ISIS). The mother of the young, Kiara, is currently the most valuable female within the European breeding programme in terms of genetics, as her parents came directly from the wild.

As the year went by, sad events also

could not be avoided, a sudden death of two young **Southwest African lion** females being one of these, where the post-mortem report showed feline panleucopenia, a viral disease. A mutant strain was involved, against which there is currently no vaccination. The disease took place in a peracute form, with animals failing to respond to the supportive therapy.

Changes occurred in the small feline collection as well. During the year, the aged male **ocelot** died, followed by the last **jungle cat**. As the breeding facility for the species above is now largely outworn, the stock will not be re-established. Both the **Geoffroy's**





and **fishing cat** remain prospective species. For the former, a self-contained aviary-like exhibit with adjacent inner quarters was created by reconstruction during the year. The young fishing cat pair was established in the previous year, with the first offspring seen in spring 2009; all three cubs now thrive successfully. It was also the first successful rearing of this species in the history of the zoo.

At the Old World Primate House, positive developments occurred in the **mandrill** group. The situation, where male Albert never got involved in reproduction despite staying in the company of four females since 2005, reached its turning point that came in March 2009, when a first young was born to the female Jarmila (**Picture 3**). Before the end of the same year, another female named Gorila gave birth, and again and unexpectedly, Jarmila bore a baby at the very end of 2009. Rearing of two young by a single female over a period of a year is quite exceptional, since the birth interval in this species is around 13 months. The birth of young significantly revived the life in the group; however, a lack of space seems to be a problem in future. Mandrills currently inhabit two interconnected aviary-like cages of the obsolete Old World Primate House. A new-style open enclosure is projected to replace the current emu exhibit, which adjoins the western side of the primate house; however, alteration of the outdoor space as well as the inner

facility cannot be managed without a financial support of the founder.

The **De Brazza's monkey** group increased in numbers with another young born (**Picture 4**); this time it was a female. Due to concerns about the female's successful rearing, a two-year-old male Rico, whose naughty behaviour was threatening the life of the newborn shortly after birth, was temporarily separated from the group. Two months after, Rico was reunited with its parents, which took place without problems and the group has now settled. Further, an old non-breeding female died in the early 2009, reducing the group to a couple with two infants.

The **entellus langur** group continued to diminish, with another dead female found to have digestive problems, leaving a group of two females. For space reasons, the zoo plans to finish this species.

In the Exotarium, two callitrichid species reproduced successfully, with two young born in the **cotton-top tamarin** and three in the **pygmy marmoset** group. Death of a breeding female occurred in **golden-handed tamarin**; however, the spare group of this species held at the Carnivore House was increased by two young animals. A positive development took place in the **golden lion tamarins**. Following two years of breeding a single male, a female was recommended by the European species coordinator, so

the male lion tamarin that had been loaned to Olomouc Zoo was moved back to the sloth exhibit. The young female arrived from Dvur Kralove nad Labem (**Picture 5**). Both animals got familiar with each other immediately and it was apparent very soon that the female was pregnant. The birth of two cubs was spontaneous to everyone's delight, but rearing failed for the inexperience of the pair.

At the beginning of the year, three **ring-tailed lemur** females from Jihlava were successfully integrated into the three-member group; with onset of first oestrus, however, the group ceased to be compatible and two original females had to be separated. Also, one of the Jihlava females gave birth and reared a young. As with every year, two **ruffed lemur** pairs reproduced. Subsequently, a male group consisting of offspring from the previous year went to French Romagne Zoo.

As part of cooperation within the UCSZ network, Usti had received a **two-toed sloth** female on loan from Olomouc to breed with the Usti male. In 2009, having returned to its home zoo, this animal soon gave birth to a young, which confirmed the good fertility of Usti's male. In the future, the two-toed sloth stock is to be expanded with another female to arrive.

The **South American coati**, a species that attracts the visitors' attention very much, bred in 2009 once again. Two females gave birth to eight cubs. Three



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cubs were born to the **Asian small-clawed offets**. Once the main season was over, the young left the zoo and went as far as Japan.

In the amphibian section, **black poison dart frogs** reproduced as usually. In the second part of the year, three rare species obtained from Riga Zoo were added to the frog collection, with the **false tomato frog** native to Madagascar and characterised by attractive brown and orange colour being the first of these. The other two species are placed amongst so-called flying frogs, members of the *Rhacophoridae* family (shrub frogs). Five males of the **mossy frog (Picture 6)**, whose appearance reminds a tuft of moss, were added to a frog section exhibit, while ten young **Taylor's bug-eyed frogs** were placed behind the scene to test their capability of breeding.

Twelve individuals of the **North African spiny-tailed lizard**, the attractive and new species to the reptile section, were obtained from the Ministry of Environment. The reptiles come from a seized shipment of 900 animals that had been smuggled from Morocco through the Czech Republic's territory.

The first offspring could be finally seen in the South American **red-footed tortoise**, a species that the zoo had been keeping for almost fifteen years. In 1995, a group of juveniles was obtained from Brazil's Sao Paulo. Having found out they were all males,

the zoo added to the group four juvenile turtles from Dvur Kralove stock and an adult female from a private holder, where the latter laid in 2009 the first fertile clutch, with three young hatched subsequently (**Picture 7**). The terrarium section further bred **Cuban boas, Asian leaf turtles** and the two **milk snake** subspecies as usually.

In late February during the wintering period, the **American alligator** female Eliska was bitten by the male and died from injuries after a month of being treated unsuccessfully. In the year to follow, alligators were about to finally see their new comfortable house; however, the project was suspended at the end of the year due to the overall financial crisis.

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The ungulate section successfully produced **Defassa waterbuck** and **Kafue lechwe** offspring, with two females of the former and three males of the latter species reared. A pair of Kafue lechwes was successfully located in Bussolengo, Italy. In the **blackbuck** breeding group, another five calves were born. In the course of the year, the breeding male had to be separated and moved to a male group, which suspended the reproduction until the calves born in 2009 and 2008 would be located in other institutions. At the beginning of the year, a sudden death of a female from the **nilgai** breeding trio occurred. Successfully completed during the year thanks to an unrelated female from Dresden, the new group reared no less than three calves.

For the **Hartmann's zebra** stock, the zoo has long struggled with a lack of breeding stallions within the EEP. Therefore, an exchange of males with Tierpark Berlin took place based on the recommendation of the programme coordinator with an eight-year-old stud Eddie arriving from Berlin. Within the European Breeding Programme, the zoo managed to place a genetically valuable stud **Somali ass** to the zoo in Montpellier.

In autumn 2009, all the three **Rothschild giraffe** calves born the previous year reached the weaning age. Departure of all young animals by the end of the year was seen necessary, as the breeding herd was expected to come up with another series of births

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early in the year. However, locating the offspring to other zoos became complicated due to retirement of the European species coordinator. The young male was recommended to leave to Montpellier, where at that time a new facility was under development, but this zoo did not manage to finish the construction in 2009, and Usti's old elephant facility had to be temporarily redesigned for this young giraffe so that it could stay in Usti through the winter. For two young females, the new location was successfully discussed at the EAZA Annual Conference, with the French zoo in Peaugres (**Picture 8**) agreed to become a new home to these animals. The giraffes were transported by the Ekipa company in early November. Sadly, in spite of being a successful giraffe breeder, Usti nad Labem Zoo still faces an unsatisfactory capacity of their giraffe breeding facility. Currently, there are no side facilities

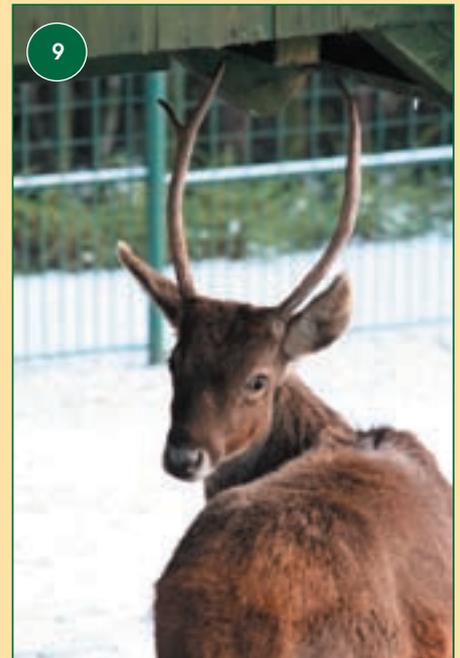
for the temporary location of weanlings, so in order to comply with the safety of the animals, the zoo is forced to reduce the giraffe breeding group of three females to just two. What makes the fact above even sadder is that the animals get along very well, and thus it will be an intervention into a compatible group of animals.

Changes occurred in the deer stock as well. A female from Italian zoo in Bussolengo was added to the **Reeves' muntjac** pair; however, a young female born in the spring unfortunately died at the end of the year. The **sika deer** numbers increased by five young, meaning the two young deer imported the previous year from Dutch Hilvarenbeek got involved in breeding. In the **white-lipped deer** group, an old female died of uterine prolapse - this animal was the founder of the rare deer species stock in Usti nad Labem.

Fortunately, daughters of this female bred two young this year. A yearling that arrived from Tierpark Berlin (**Picture 9**) was added to the group. In 2009, the zoo also bred the two **llama** species held, while three calves were reared by the **Bactrian camels**.

The cooperation with the IZW Berlin team on the project of artificial fertilisation of the **female elephant** Delhi continued also in 2009. At the beginning of the year, Delhi underwent ultrasound examination to check her health status, which unfortunately revealed the re-accumulation of fluid in female's uterus and therefore the fact the elephant was not ready for artificial insemination. The fluid had been present in the uterus periodically in connection with the birth back in 2004. In April, we applied the hormonal treatment and the follow-up examina-

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tion in June confirmed it was successful. We started discussing the possibility of artificial insemination within the oestrous cycle to follow, with Calvin - a bull elephant who had recently completed the group of females at Ostrava Zoo - considered a potential semen donor. Based on the analysis of hormone levels in blood, the insemination period was set to late October. Sperm was collected from the male in cooperation with Ostrava and Hannover colleagues; however, showing low motility, it was found inappropriate for insemination. Delhi in the final phase of her oestrous cycle underwent three checks monitoring the progress of follicle maturing. The insemination as such was carried out on 1 November using frozen semen. The beginning of the subsequent year will only tell if that attempt was successful or not.

2009 was a prolific season at the parrot breeding centre, with two chicks reared by the **military macaws** and one by the **blue and yellow macaws**. Again, offspring was produced by the **mealy** as well as **red-lored amazons**. As usually, the **Jardin parrots** reproduced well. The most significant breeding success occurred in the

wrinkled hornbill (Picture 10). The indoor quarters of this species were renovated, and the birds nested after a two-year period. The entire rearing process was for the first time monitored by a camera placed in the ceiling of the nesting box. Successful was the season also in **barn owls**; these birds produced one chick that was handed over to the AVES Rescue Station for the reintroduction. The **snowy owls** bred two young. The owl collection was expanded by adding a pair of **little owls**. The birds of prey breeding facility consisting of several wooden boxes placed out of scenes deteriorated to such extent in 2009 that it posed a risk of imminent release of the birds housed. Lacking the funds needed to repair the breeding grounds, the zoo had to reduce the animal numbers. For this reason, the **tawny eagle** stock was finished, and one of the **saker falcon** breeding pairs removed. The ten-member **greater flamingo** flock met the same fate as described above. As long-term attempts to add new individuals to the group and stimulate the birds to reproduce failed and flamingos can additionally be ranked amongst the cost-consuming species, the zoo decided to discontinue the fla-

mingo holding at the end of the year due to the financial crisis and the birds were returned to the owners, ie Prague and Jihlava zoos.

As part of professional activities, the animal husbandry team members took part in 2009 meetings of UCSZ professional committees held in different zoos: primates and felines (Bratislava Zoo), ungulates (Olomouc), pinnipeds (Prague), amphibians and reptiles (again Prague), parrots and elephants (Ostrava) and deer (Olomouc). The Animal Husbandry Manager attended the 2009 EAZA Annual Conference held in Copenhagen, plus the training course 'Captive breeding and conservation of callitrichids and lemurs' at Jersey Zoo taking a week.

In the late 2009, the department had to reduce the personnel numbers as a result of the intended cut in founder's operating grant for the coming year, with four permanent employees temporarily replaced by workers obtained within the public works scheme, and graduates funded from governmental grants. This way the personnel issues were successfully settled.



Veterinary care

MVDr Vaclav Pozivil

In the first half of 2009, Veterinarni ordinace Strekov (Strekov Veterinary Clinic) with a head veterinarian MVDr Vaclav Pozivil and his team was responsible for veterinary services at the zoo. After the principal veterinarian left to become a zoo director, a new call for tenders was announced for the provision of veterinary care at Usti nad Labem Zoo. The tender was awarded to Sdruzeni veterinarnich lekaru a sluzeb (Association of Veterinarian Doctors and Services), which was a sole tenderer that submitted their tender. Although it is a new group of doctors, most of them feature professional experience and zoo-related practice from recent years being former members of the Strekov Veterinary Clinic.

2009 was a stable year in terms of animal disease status. The swine flu threat passed the zoo by and even the emergency animal health measures related to the blue tongue disease in Europe posed a minimum limit to the zoo operations and did not cause major problems. In 2009, 79 post-mortem tests and over 320 laboratory tests to ensure the provision of preventive and therapeutic activities according to the approved scope were carried out, plus 46 inspections by the State Veterinary Administration inspectors as part of the state supervision, which were concluded with no observations. 60 animals entered the zoo, 136 individuals left or were sold, 117 animals including fish and amphibians died, and 242 were born.

In addition to other deaths, two peracute mortalities occurred in fourteen months old lions, associated with suspected intoxication (**Picture 1**). Based on laboratory tests carried out at the State Veterinary Institute Prague, intoxication was excluded; however, the tests proved the presence of herpes virus infection similar to cat panleucopenia. The entire lion group has been regularly vaccinated using commercial cat vaccines according to the recommended immunisation schedule designed for cats. Clinical disease or other disease manifestation in parents and surviving



sibling did not occur. Given that post-vaccination antibody titres are not normally measured, neither lowering immunity following vaccination nor the possibility of the vaccination failing could be justified. Comparison of post-vaccination immunity of commercially produced pet vaccines used for large carnivores would certainly be of interest, and not only in zoos. In addition, viral strains mutated or modified to some extent and the virulence of those strains could also play some role.

As in the previous years, the female elephant Delhi was periodically examined for health and fertility in 2009. Based on favourable results and tests, artificial insemination was carried out, with a proven breeder Calvin selected as a sperm donor. Former a Hannover Zoo animal, the male is currently located at Ostrava Zoo. Unfortunately, following the semen collection, for which keepers from Hannover were invited as well, the fresh semen was found to fail matching the pre-requisites for the

use in terms of quality, so another alternative had to be sought in form of using Calvin's frozen semen (**Picture 2**). We will have to wait for the results until 2010.

Born mandrills, which is a species with a history of andrological examinations of the male and fertility in females present a great reproductive success. As examinations did not find any pathologies and even semen quality was satisfactory, the problem of infertility therefore could have consisted in female obesity and male inexperience and problems with frequent premature ejaculation (*ejaculatio praecox*) rather than pathology.

Laboratory work is carried out by cooperating reference laboratories - the State Veterinary Institute Prague (accredited examinations, post-mortem exams), Vyzkumny ustav veterinarniho lekarstvi / Veterinary Research Institute (accredited laboratory for TBC), Analyticke laboratore / Analytical Laboratory Pilsen (IG investigation), Genservice

Brno Ltd (accredited DNA-based sex determining and PCR), Diagnostika Ltd (biochemical and haematological testing), Mikrobiologicka laborator RNDr Veselska, Usti n/L (microbiology and parasitology). The vet service provider's lab carried out quick microbiological and bacteriological tests plus tests in parasitology, coprology, comprehensive examination of urine, microscopy, trichinelloscopy and vaginal cytology. A standard part of the services included the IDEXX biochemical testing with reference values from over 196 species of animals, and QBC hematological analyser.

Veterinarians involved in animal health activities: MVDr Vaclav Pozivil, MVDr Renata Pozivilova (**Picture 3**), MVDr Jana Matouskova, MVDr Eva Jerabkova and MVDr Vladimir Spinar. The IZW Berlin team and zoo keepers from Hannover and Ostrava took part in the insemination of Delhi, the elephant female.



Nutrition and feeding

Bc Anna Hrudkova

Like other organizations, Usti Zoo did not escape the financial crisis and subsequent saving measures. We were forced to save the cost of feeding. I can say that the issue was successfully handled without any major impact on the stock. The Usti Zoo 2009 feeding and nutrition budget was CZK 3,765,180 and the actual costs spent on feeding amounted to CZK 3,758,820. Although it may seem only CZK 6,360 were saved, we tried to achieve savings in other areas of our activities, so the amount saved was actually much greater.

Compared to the last year, we reduced the volume procured from Teplice-based company Hoka who supply vegetables and fruit (**Picture 1**) twice a week by CZK 100,159. It could be achieved mainly due to the food rejected at the former Hypernova store (today Albert Hypermarket) and the Tesco Vseborice store that we receive in form of donation, paying just for the transport.

We tried to replace more expensive diet components by cheaper commodities. The consumption of apples was reduced by 2.5 tonnes compared to 2008, with a total of 25.5 tonnes fed in 2009. In contrast, the volume of carrots used increased by 2.7 tonnes, making a total of 19 tonnes fed in 2009. Bananas are a special commodity, which is too difficult to replace - while almost 9 tonnes were fed, the overall consumption could be successfully reduced by two tonnes compared to the previous year thanks to the discarded products from supermarkets above and compensation in the form of jams and stewed fruits donated by individuals.

Meat (**Picture 2**) is still taken from the Mimon-based company Vasa. In 2009, our carnivores consumed a total of 7,852 kg of beef and 57.7 kg of beef hearts, which were supplied by the firm above and cost CZK 369,112 and 2,355 respectively. In a single case, we were able to enrich the diet of carni-



vores thanks to 567.2 kg of horsemeat worth CZK 24,112. Then there were goatlings from a private breeder, where the whole lot weighed 50 kg and cost CZK 4,000 but this experiment turned out to be not very attractive to the animals unlike another one in the form of boar meat supplied from a hunting association, of which a total of 270 kg were fed.

The chicken meat range is taken from Vetamix, which in 2009 amounted to 4,375 kg totalling CZK 116,921. Krmiva Posvar is another meat supplier, with 1,223 kg of chicken at a price of CZK 36,690, 245 kg of chicken carcasses that cost CZK 2,450 and 55 kg of poultry stomachs costing CZK 1,540 procured in 2009.

The volume of herrings consumed by seals returned to the limit of 5.4 tonnes, which was the level used in 2007. The significant increase in consumption in the meantime, which totalled 8.9 tonnes, was due to the seal girls loaned from Prague Zoo.

A noticeable increase can be seen in the consumption of rabbit meat, which was procured from Mr Drba from Roudnice nad Labem alike the last year. The annual increase is approximately 260 kg, with 3.6 tonnes fed costing approximately CZK 217,421.

To improve the hygiene and quality, a new meat chopping block that cost-

ed the zoo CZK 16,160 was purchased for the feed preparation section; additionally, we also bought a special chipping tool for CZK 1,300.

Feed rodents present an essential part of diet not only in small carnivores, but also in predatory birds. Although the zoo is capable to cover a certain proportion by its own production (**Picture 3**) the balance has to be outsourced. We were pleased to see the reduced volume of rodents purchased compared to the previous year. The same applies to the consumption, probably as a result of the decision to not keep the rescued wild birds of prey over a long term. Currently, these animals



normally stay at the zoo over a limited time of necessary treatment and then are released back into the wild. Compared with the previous year, 100 Norwegian rats, 7,000 mice and 3,000 hamsters fewer than in the previous year were fed in 2009, which makes a total of 9,518 Norwegian rats, 37,564 mice and 4,626 hamsters.

Feeding insects are another integral and essential part of diet in some species. Here, mealworms are the only item bred and produced by the zoo; other insects are purchased from Kober, an outsourcer based in Dvur Kralove nad Labem, from whom the zoo receives weekly supplies of insects upon a phone order by the Czech Railways courier service. Last year, the zoo procured a total of 8 l of crickets of the micro developmental stage, 5.5 l of medium-sized crickets and 36 l of adults. Regarding adult locusts, 7,250 specimens were purchased; in several cases, buying mealworms was found necessary, but in terms of total consumption of 34 l, this was a negligible item compared to the volume of own production.

Concentrates form a considerable component of feeding rations (**Picture 4**), with the Volec-based company Sehnoutek a synove, partnership, being a standing supplier delivering the required amount upon agreement by telephone approximately bi-monthly. The long period of feeding the green grass the last year and the efforts of the company Sehnoutek who managed to procure less expensive commodities for their pellets, thus making their products cheaper, helped the zoo achieving slight cost savings. Compared to the last year, the consumption of the ruminant compound feed was reduced by almost 2 q, meaning that only 1.9 tonnes were fed instead of 2.1. The volume of the compound mixture designed exclusively for the giraffe fed was by 8 q higher than the previous year as three young giraffes were produced. The volume of the special Zoo Compound designed for animal feed vending machines purchased and released was 7.5 quintals, which at the same time reflects the level of visitor numbers in Usti. Other pellet feeds, such as special compounds for the fallow deer, horses, ostriches and mice



are at the same level of consumption as in previous years.

Obviously, vitamin preparations need to be administered to the animals aside from the routine feedstuffs and pellets, with almost 5 q at diverse price levels added to the diets in 2009.

Besides the generally standard demands on feeding, there are some special circumstances from time to time, such as the anniversary of keeping or birthday in some individuals or other important events. On such occasions, a special financial amount is allocated and spent on extra components, like a 'birthday cake' for orang-utans or a 'sea flower bouquet' for seals (**Picture 5**). Any of the commodities above can be consumed by the animal celebrate without any damage to its health. These events are always consulted by the feed preparation section with the department of education and publicity.



Daily feed preparation is provided through three staff members, which includes two full-time workers. We thank all the suppliers for cooperation in 2009 and look forward to work with them in 2010.

Blanka — the eldest zebra

Ing Pavel Kral



Usti Zoo has been keeping Hartmann's zebras since 15 November 1975, when two stallions and ten mares were imported, all wild-caught in Namibia, Africa. Adding 92 foals born at the zoo and seven zebras imported over time from other European zoos, this totals 111 zebras throughout the long breeding history. In 2009, one of the mares cut the highest country's record of zebra age. So far, the female Unga born in Usti was recorded as the eldest zebra; this animal survived 24 years plus less than five months. In July 2009, this was beaten by the Hartmann's zebra female Blanka (**Picture 1**) celebrating her 25th birthday on 24 July 2009. Surviving twenty five years is something exceptional in zebras, even at a global level. Blanka is now the world's third eldest living zebra

according to the Hartmann's Zebra International Studbook. Historically, records related to zebras have been kept since 1893, with 27 years and 9 months being the greatest age ever achieved by a Hartmann's zebra within a pan-European collection. This animal was a zebra female named Betty held at Munich Zoo. As regards the worldwide stock, the age over 30 years has been recorded in two mares.

The studbook number assigned to Blanka is 1092. The mare's sire is a stud Korn, the mother is a mare Bela. Korn was born in Usti, became a stud here and fathered 18 foals born at the zoo. Bela was one of those imported from Africa; thus Blanka is amongst the first generation offspring of the wild-caught zebras. Blanka gave birth to her first foal on 13 January 1990, with six more young to follow, some of which expanded stocks in other zoos, such as Sigean, France, or Bojnice, Slovakia. The last of them, a mare Bonka, was born on 6 April 2002. This animal was retained at the zoo as a breeding mare. Within our breeding herd, we have always been sticking to a rule of naming every foal by a name starting with the initial letter of the respective female.

Currently, Blanka is kept separately and not released out together with other herd members. Due to a strict social hierarchy amongst mares and Blanka's impaired moving skills due to aging, this animal would stand on the last position within the herd, and

thus attacked by the others. Therefore, this female has available a separate paddock with a fine-gravel cover near the main enclosure. In the wild, zebras would not achieve such a high age; indeed, they would rather fall prey to some predator.

On Friday 24 July 2009, a small celebration of Blanka's birthday was held, with a birthday cake containing nothing but zebra goodies like apples, carrots, bread and fresh grass (**Picture 2**).

Currently, the female is in a good condition, apart from a slightly impaired ability to move, which fills us with the hope that we might be watching this mare in her outdoor pen for many more years.



Breeding mandrills (*Mandrillus sphinx*)

Patrik Mateju

By the time the group of mandrills (1.6) had been moved into the orangutan facility from the Carnivore House on 22 October 2004, the mandrill females Gorila and Jarmila showed severe overweight. The latter was then a dominant female. Unfortunately, Gorila with her weight of 20 kg was not lucky when landing during her capture and suffered a complicated fracture of her hind limb. The male Gregor II, then fourteen years old, was not in good condition, almost unable to control any young female. In December of that year, the old female Pampeliska died, which reduced the group to 1.5.

Prior to the arrival of a new male Albert (**Picture 1**) born 14 February 1998 from Plaisance Zoo, Gregor and the older female Bzuk were moved to another section where they were to rest until the end of their lives. The group consisting of four females lived separately nearly a week and once the new male arrived, which was on 24 June 2005, the females united in opposition. Albert arrived with the experience of coexisting within another group to which it used to be introduced only in the absence of the older male. The newcomer lacked confidence, showing stress behaviour by biting his legs. At that time, Gorila took over the control, and Albert was hardly fighting his way being a half-year younger than the female. Only five months after, the male first mated Jarmila, daring to do the same with the dominant Gorila just four months later. Since that time, he was never seen mating with any other female than Gorila.

Regrettably, these animals gained too much weight within three years. Therefore, we changed the daily diet, splitting it into four sub-rations. As none of the females got pregnant, it was decided that Albert's semen should be examined (7 July 2008) - **Picture 2**. The result was surprising, as the male turned out to be fertile.

Due to the poor condition of the facil-



ity, the mandrill group was moved to the Primate House on 13 October 2008, which included collection of necessary samples during the narcotisation. The findings confirmed increased blood sugar and elevated liver enzymes, which was treated by altered diet, without any other measures in the meantime.

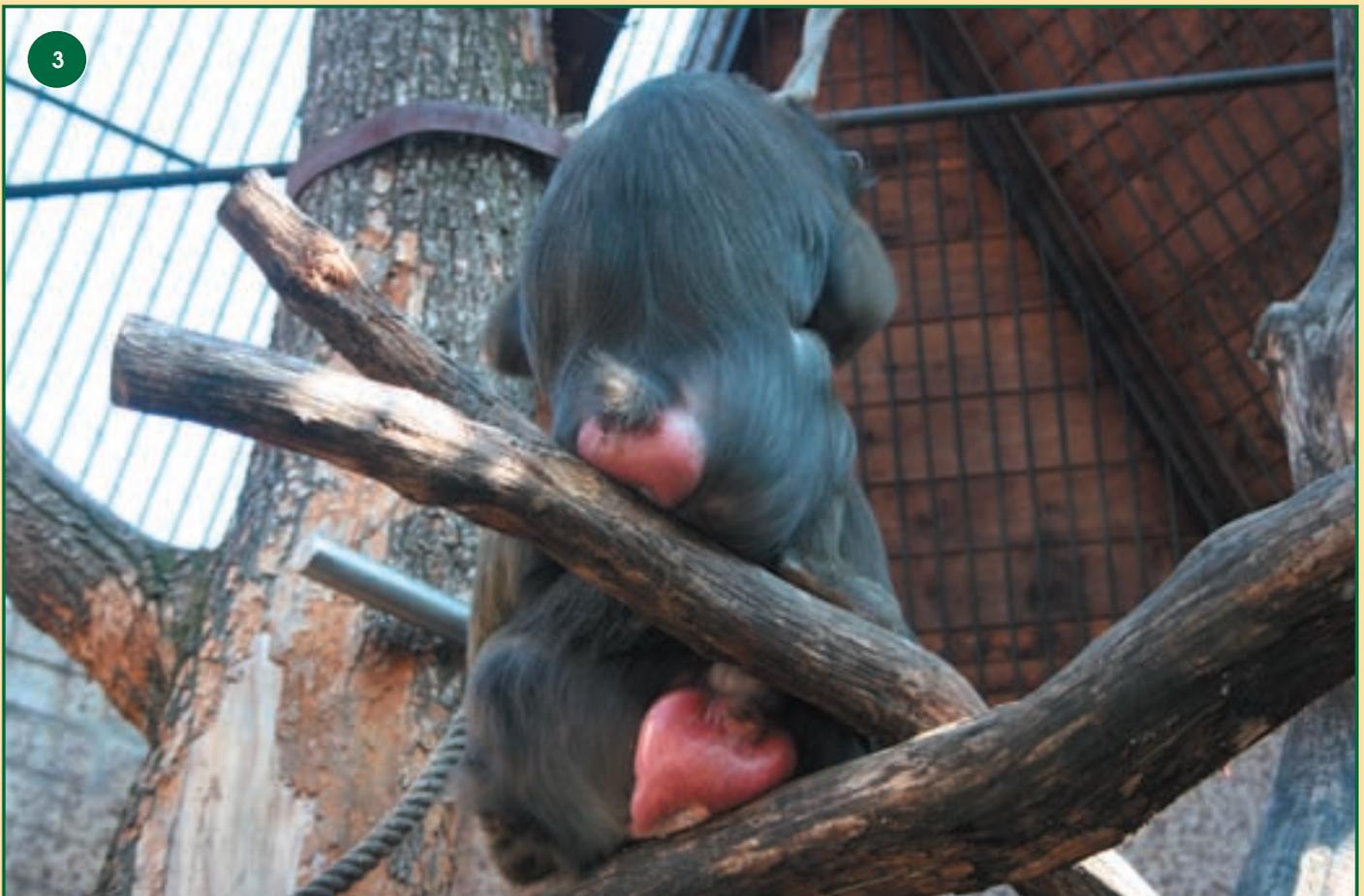
In May 2007, RNDr Stanislav Lhota suggested to monitor oestrus in the mandrills. Since June of that year, records of observations have been kept using a form developed by the zoo. The preliminary findings are very

interesting and motivate the efforts to find out how swelling could relate to the cycles (**Picture 3**), hierarchy and signs of pregnancy. Thanks to the proactive approach of the keepers within the section, the monitoring process will continue and data collected will be forwarded for a scientific analysis.

Jarmila stopped her reproductive cycle in December and gave birth to a male in March (Jakala, 6 March 2009), and then was on heat again in late June. This ceased 15 days later, following which there was a period of 171 days of such inactivity. At the time

we expected a second baby (male, Jody, 30 December 2009). Despite the birth interval typical for the mandrill of approximately 405 days with a pregnancy period of 175 days, in this case the interim period lasted 299 days. Jarmila weaned young Jakala the same day she gave birth to Jody, which is in line with the weaning age for young mandrills of eight months.

In Gorila, the cycle stopped in early July and she gave birth to a female (Gaia, 12 December 2009) to everyone's great delight.



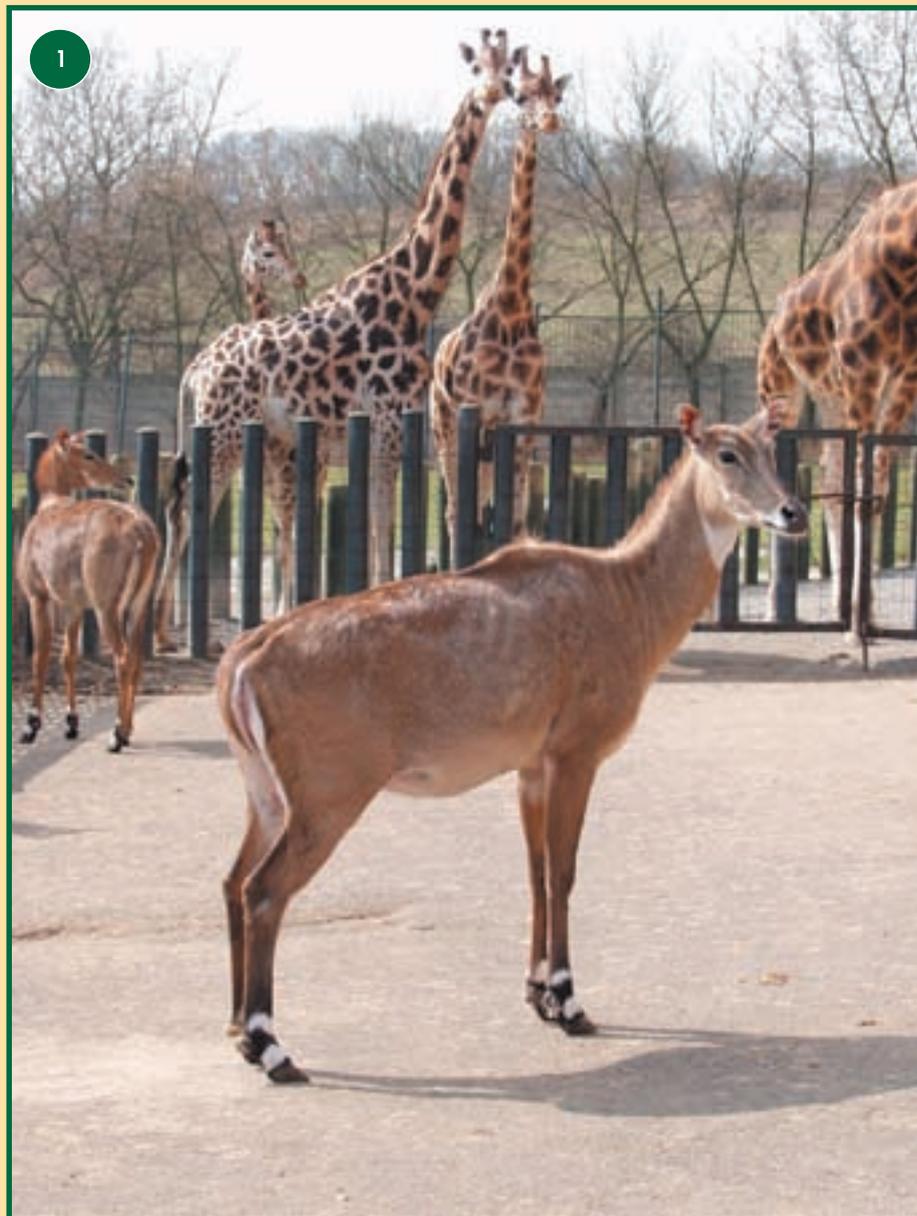
Nilgai breeding

Ing Pavel Kral

Some zoos may give in to the fashion trends, replacing the animal species the breeding of which they had already mastered and boast a long successful tradition in it by getting new and much-sought creatures. I am highly pleased to see that our zoo is not the case, striving to keep the tradition of breeding the established animal species, of which the famous Hartmann's zebra (*Equus zebra hartmannae*) with continued breeding since 1975 may serve as good example. The less-known fact is that the nilgai, an imposing Indian antelope species, has been in the Usti Zoo's collection for even a longer time than the Hartmann's zebra, with the beginning that dates back to the early 1970s.

The nilgai or nilgau (*Boselaphus tragocamelus*, Pallas 1766) is a bovine member (*Bovinae*) of the bovid family (*Bovidae*). According to the IUCN criteria, they are classified as Least Concern (LC). The nilgai lives in India, Pakistan and Nepal. Numbers are estimated at over 100,000 animals, without any decrease reported within the range. This animal can adapt well even to agricultural areas. The viability of this species can be proved based on the successful reproduction outside its native range. A group of animals originating from India released in southern Texas around 1930 has propagated to some 15,000 at present. Concerning the zoos, the species was held in 77 breeding facilities around the world at the end of 2009 based on ISIS data, with a total of 490 individuals including 141 males, 255 females and 94 animals with sex not determined. According to the UCSZ yearbook, nilgai are held in the Czech Republic in zoos in Pilsen and Lesna, in addition to Usti nad Labem, while in Slovakia they can be found in Bojnice and Kosice zoos. Furthermore, these antelopes are found in non-licensed zoo-like facilities, as well as private farms.

References to the history of the Usti nad Labem stock include the work



of MVDr Petr Skalka and MVDr Vaclav Pozivil (see the Bibliography section at end of the paper). Over the years, nilgai were kept in several animal houses and in mixed exhibits with various species (**Picture 1**). More recently, following the demolition of the facility called the Gazelle House, these antelopes were held in the winter at the giraffe and rhino house including an outdoor concrete pen. Every spring the animals had to be caught one by one, placed in transport crates and taken into the grassy enclosure next to the elephant house, while in the autumn they had to be narcotised and taken back to their wintering grounds. Knowing that this

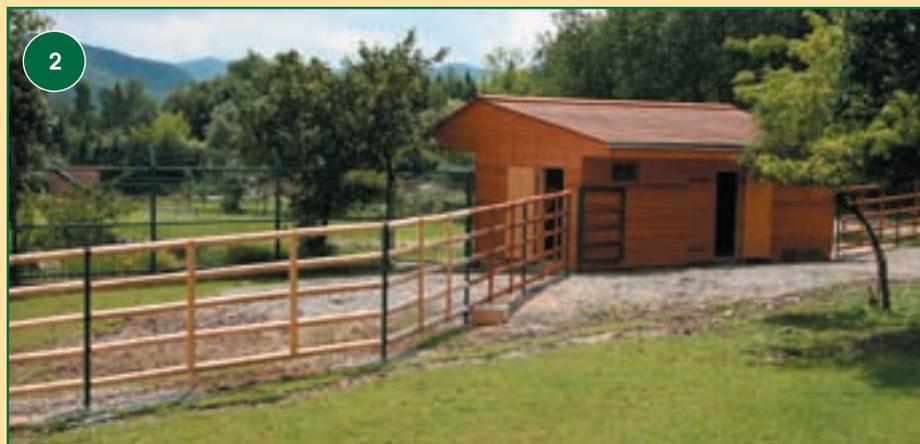
housing method was not ideal for the animals, as the nilgai ranks amongst the antelope species which are the most difficult to narcotise, in addition to being prone to stress in capturing, the zoo commenced building a stable placed close to the nilgai enclosure

(on the western side). Moving the animals in the winter season 2008-2009 was not necessary. At the beginning of 2009, the construction was completed in full and a side enclosure was developed (**Picture 2**). The indoor facility is divided in two boxes that can be connected to each other, where the first box has an area of 5.5 x 3.5 m

(19.25 sq.m), while the size of the other is 1.75 x 3.5 m (6.125 sq.m). The total stable area is 25.375 sq.m. The larger of two boxes can be left directly into the grassy enclosure, while the smaller opens into the side enclosure. The grassy enclosure is 2,900 m², while the side paddock is 180 m². In winter, the temperature inside the stable is at 10°C - 12°C; there are two electric heating panels for the case of more severe frosts. Nilgai spend the summer only in the outdoor enclosures and when the weather is less favourable, they can go in and out anytime.

Over the 40 years of the breeding history, 32 births of these animals were recorded, with 20 cases of twins (62.5%) and 12 cases of only a single calf born (37.5%), which totals 52 animals born. Calves were born throughout the year, with peaks in August and September, when there were a total of 19 births recorded (60%), which corresponds to the mean figures within the global captive population. Analysis of births over the past 10 years revealed that the most of them were found during the period from July to October. Also, the sex ratio is consistent with the collections throughout the world, with females (57%) born more often than males (43%).

The beginning of 2009 was quite unhappy. With a female Blazena born in 1997 at the zoo lost in early January, we were left with a male Ford, female Wendy and a young male born in 2007. In May, an adult female Jenny arrived from nearby Dresden Zoo. On 10 August 2009, the female Wendy gave birth to a single calf - a female. Despite it was Wendy's first young, the female took a great care from the first neonate's moments. Although the enlarging Jenny's underbelly did indicate that this newcomer could be pregnant, 14 August 2009 was a pleas-



ant surprise, as the female bore twins, male and female (**Picture 3**).

The calves were first hiding near the nesting site of Himalayan vultures (*Gyps himalayensis*), while female were grazing throughout the enclosure. Each newborn animal had to be checked for health status and identified. Attempts were recorded in the females to protect the young by pushing the keeper by head and neck, and even by slight impacts. This is a known behaviour in females, shown also when they struggle with each other. With time, the calves started to follow their mothers. The Wendy's first-born female was named Laila, while the other one born within the twins is called Atilla; the male was named Jago. All these animals were named on the occasion of the Foster Day on 3

October 2009.

Thanks to the births above, the numbers increased to three males and four females, and as the newly built facility had been designed to house a group of a single adult male and two females, the young born the last year will have to leave to other breeding institutions.

The numbers of the nilgai in Usti nad Labem as per 31 December 2009 are shown in **Table**.

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Skalka P., Poživil V., 2001: Nilgau - zajímavý indický kopytník, Živa, 2, pp 87-88

Name	Born	Place of birth	Sex	Sire	Dam	Date since in Usti
Ford	3. 10. 1995	Bojnice	M	Hans	Ema	14. 10. 2003
Wendy	23. 5. 2007	Plzen	F	K11 (Berlin TP)	500/50 (Plzen)	1. 8. 2008
Jenny	24. 1. 2004	Augsburg	F			19. 5. 2009
Ford jr.	24. 12. 2007	Usti n/L.	M	Ford	Blazena	24. 12. 2007
Laila	10. 8. 2009	Usti n/L.	F	Ford	Wendy	10. 8. 2009
Atilla	14. 8. 2009	Usti n/L.	F	Yehudi (Dresden)	Jenny	14. 8. 2009
Jago	14. 8. 2009	Usti n/L.	M	Yehudi (Dresden)	Jenny	14. 8. 2009

Rearing of fishing cats (*Prionailurus viverrinus*)

Patrik Mateju



The fishing cat (*Prionailurus viverrinus*) is found in the wild on the Asian continent, from Bangladesh to Cambodia, as well as in Indonesia and Sri Lanka. Unfortunately, in recent years there has been a significant reduction in the population of these rare felines. This is due to the excessive loss of wetlands that are disappearing mainly through human activity. The diet of these cats includes mainly fish, crustaceans, frogs, small mammals, birds and insects. Excellent swimmers, they can also dive well.

The fishing cat male Keo (**Picture 1**) born on 10 September 2006 arrived from Tierpark Berlin at the end of

August 2007, while the female Sreng (born 11. 6. 2006) was obtained from Port Lympne Wild Animal Park in early June 2008. This pair was placed in an outdoor aviary with an area of about 54 m².

With the intention of creating the best possible breeding conditions for these young prospective animals, three boxes were installed in the fishing cat exhibit as shelters, from which two are heated in the cold season using a piglet-heating panel with a slat grate placed on it. In addition, each box measuring 85 x 43 x 45 cm is divided inside by a partition serving to provide a porch. The third shelter is smaller in size (50 x 40 x 33 cm), suspended from the ceiling joist construction. Sreng liked this box the most, because it provides a good outlook and a sense of security. The cats have available enough shelters thanks to other accessories placed in their exhibit - a hollow trunk, shrubs and dead trunks covered with Virginia creeper. Even though there is a concrete pool of approxi-



mately 400 litres, it is used for defecating rather than other activities.

Both animals used to be scared in the presence of the keeper; during the day, they hide in their shelters unseen in the exhibit, which by the way has lasted until today. Therefore, it was thought that getting used to the new environment would take them a little longer. In early February, enlarged abdomen was recorded in Sreng, which could suggest the cat was pregnant. In the late February (26/02/2009), Sreng did not run out of the box before the keeper during the daily inspection as she used to; instead, she stayed in the box, where she had given birth to three kittens as it was found later. The male stayed in the second shelter. To avoid the risk of the male potentially killing the young, Keo was moved into a separate exhibit. After three weeks, we could take first pictures of the infants (**Picture 2**). Sreng proved to be an excellent mother and the kittens were gaining weight quickly. On 9 April, the young were checked properly, sex was determined (2.1), each animal was microchipped and underwent essential vaccination (**Picture 3**).



Snow leopards (*Uncia uncia*) bred for the first time

Bc Tomas Andel



Biology

Alpine meadows, valleys covered with rhododendrons and bamboo, stone fields and the majestic world of alpine ice peaks: this makes home to a beautiful and mysterious feline. Called irbis in Russian, the snow leopard (*Uncia uncia*) is a resident of the mountain ranges of Altai, Tian-shan, Pamir, Tibet and the high-elevation areas in Mongolia. A very low density of population is directly proportional to the small carrying capacity of these regions, making each individual dependant on ranging over a huge territory to get some subsistence, where mountain goats and sheep, but also much smaller vertebrates become the most frequent snow leopard's prey. In summer, the leopards move mainly over meadows where they lurk for prey at an altitude of two to six thousand metres. In winter, they follow herbivore herds as far as the forest boundary. The hunting strategy of snow leopards is similar to that of most other felines. They hunt by lurking and then moving forward rapidly through a series of jumps several metres long once their prey is close enough.

(Picture 1 - Snow leopard exhibit at the zoo)

Depending on the latitude and al-

titude, oestrus runs from January to March in snow leopards. Somewhere between April to July, females bear one to five, but most often two or three cubs. The young are born blind, with eyes opening around the day 10. After a month of life, the cubs begin to take a meaty diet in addition to the female's milk. The female stops nursing in about month six, but care of the cubs still continues until the end of cubs' first year of life.

Systematics

The snow leopard is a member of the *Pantherinae* subfamily, which comprises large felids. Previously included in the *Panthera* genus, now this animal forms a monotypic *Uncia* genus. Unlike other large felids with their incompletely ossified hyoid bone apparatus with a flexible ligament over the larynx allowing only a loud roar, the snow leopard can purr. Terming this creature a smaller big cat together with the clouded leopard (*Neofelis nebulosa*) is also possible.

Captive breeding history

The first mention of this beautiful felid in captivity dates back to 1851, when the first specimen appeared at the zoo in Antwerp. At that time, only single display animals were held. An

outstanding success, two cubs born in Wroclaw in 1910 unfortunately died when they had achieved one year. In subsequent years, births occurred in zoos in Dresden, Leipzig, Copenhagen and Chicago, but none of those cubs was reared successfully. This was done in Copenhagen and Washington only in the late 1950s. In general, the 1960s and 1970s started to see more success in breeding, but still with the significant mortality of cubs, which even now is well above 50 percent.

Snow leopard breeding may serve as an example of good management of endangered species in human care. They became a focus of conservation activities in 1976, when an international studbook was founded for the species, which primarily serves as a source of genealogical data of the individuals forming parallel populations in captivity.

In order to make a better use of the capacity of breeding institutions, to make their work more efficient and to facilitate cooperation between them, conservation breeding programmes were established in several regions in the 1980s, with the North American scheme starting as the first in 1984, followed by the European platform (EEP) three years later. In the 1990s, such schemes were launched also in Japan, Russia, Australia and more recently in India.

Over time, from 1891 to 1 January 2008, captive breeding institutions held a total of 2703 (1230.1256.217) snow leopards, of which 88% of animals (1073.1103.206) were born in captivity and only 12% (157.153.11) came from the wild. Early in 2008, a total of 205 institutions kept 445 animals (206.239). The counts above do not include snow leopard numbers held in China, which are not available.

First snow leopard reared at Usti nad Labem Zoo

The first snow leopard in our zoo history



became a female Nima (ISB # 2431). Born on 12 May 2003 at Krakow Zoo in Poland, this female arrived on 4 April 2006. To create a complete young breeding pair, a prospective male Makan (ISB # 2492) born on 19 May 2004 in Tierpark Berlin was imported the same month (**Picture 2**).

The animals were united without major problems in January of the fol-

lowing year, with Nima immediately starting to show the interest in Makan. The male took note of its presence in their common enclosure, but without paying any particular attention. The first oestrus took place in late October, again, without any significant activity of the male. Another heat was recorded in December. This time, the male's behaviour considerably changed with signs of mating observed; however,

this did not occur due to female's aggressiveness. In January 2008, with her period of oestrus coming to an end, which had begun in December, Makan still attempted to copulate several times. On each occasion this ended with the male escaping from the aggressive female, until the male gradually lost interest. In October, the whole situation repeated. Again, there were several attempts to mate, but not successful. Basically, the cause for the failure could be seen in Makan's poor experience and too much respect for the dominant Nima. By mutual agreement with colleagues from Jihlava Zoo and the EEP coordinator for the species, an exchange of males took place in December 2008, with Makan sent to Jihlava, who by return sent on loan Salwin, a much more experienced male (ISB # 2479) born on 19 June 2003 in Doue-la-Fontaine (**Picture 3**).

The newly established pair was united on 21 January 2009. As with Makan, Nima began showing interest in the new male, rolling on her back in front of him and nuzzling him all the time, with Salwin reciprocating. This introduction process peacefully con-





tinued until Salwin tried to climb the Nima's back. The female immediately gave the male a strong indication that similar behaviour was not going to be tolerated, starting to drive the male away. Another month went by in a similar style, with Nima still leaving the option of having the last say. The turnaround in the leopards' behaviour occurred the penultimate day of February. During one of Salwin's attempts to mate, Nima snapped at him, trying to drive the male away. However, this time the male did not let the female chase him away and completed the mating successfully. Since that day, mating was observed several times, up to 3 March 2009, when it was seen last. The period that followed could be

called a period of peace and harmony in the leopards' lives, with both animals tolerating each other more than ever in their shared enclosure whilst the expected date of Nima's first birth grew ever nearer. With a little luck and patience, movements of the young could be observed in late May on Nima's abdomen at resting. During the routine morning inspection of animals on 1 June 2009, there were still no indications that the female should soon begin giving birth. The greater was the surprise when shortly after eleven in the morning a cub could be first seen indoors, resting safely at its mother. After this gratifying finding, Salwin was held separated in the enclosure outdoors, and the house

was temporarily closed for visitors to make sure the first-time mother is kept undisturbed as much as possible. Nima, sure-footed in her instincts, turned out to be an excellent mother and already in the afternoon, everyone's efforts were rewarded by the sight of the cub fastened happily to its mother's mammary gland. During the night, the female took the cub to the nest box, where a camera had been installed before the birth. With another camera fully covering the inside facility, the young and its mother could be monitored 24 hours a day for the first time in the history of the zoo. Once the carnivore house was re-opened, the opportunity of monitoring all events in the nest box was given to visitors as well, using the screen located right in the visitor hall. Fourth day after the birth, Nima started taking the food routinely again, without diminishing her perfect maternal care. 30. On 30 June 2009, the cub underwent its first physical check (**Picture 4**). To our enormous delight we found that the young leopard was a female whose weight was equal to two kilograms. Then the infant was examined, dewormed and put back into the nest box. Thanks to the CCTV system, the cub was found to have its hind limbs turned out on 7 July 2009. After a thorough veterinary examination, periodical exercising of the cub's limbs commenced. At that time, it was already gaining 0.5 kg per ten days. In the next twenty days, this young female named Nanga already weighed 3.65 kg and the condition of its hind limbs began improving substantially, which among others was thanks to the routine remedial training.

By the time Nanga (ISB # 2813) had entered month 8 of her age, she started rivalling her mother in terms of the famous skills of these large felines. Through this rearing achievement, Ustinad Labem Zoo expanded the numbers of successful breeders of these beautiful carnivores.

Using the CCTV system

Bc Tomas Andel



The positive experience gained from several years of operating the CCTV system at the elephant house was followed in 2009 by installing similar devices in the parrot breeding facility and at the newly renovated Carnivore House. In both cases, the system consists of sensitive cameras capable of capturing any event even in total darkness, and a DVD recorder serving as a storage facility. Implementing camera systems within breeding of rare and endangered species helps to improve the breeding work, while also entailing many other uses. The main benefit is certainly the possibility of continuous monitoring of the animals held without disturbing, which is highly desirable mainly in the reproduction time. Cameras installed directly in the nest boxes or hollows allow the keepers to gain valuable ethology knowledge, which otherwise would be in fact not feasible. Besides the benefits to the animal management, the importance of the CCTV systems towards the visitors is also worth mentioning. Even several weeks after installing a camera system in the carnivore facilities, the first rearing of a snow leopard cub (*Uncia uncia*) in the history of the zoo could be watched live by those visiting the house, with images from inside the nest box streamed to the keeper area behind the scenes (**Picture 1**), as well as to the screen placed in the visitor hall. This enabled those admiring these beautiful and

mysterious felines to observe the excellent mother Nima caring for her first cub. Soon after, CCTV systems were installed in the remaining nest boxes, so visitors will be able to watch any other future offspring as well.

In the parrot breeding grounds, cameras were installed in the nesting boxes of the military macaws (*Ara militaris*), green-winged macaws (*Ara chloroptera*) and blue and yellow macaws (*Ara ararauna*). In the winter facility, a camera was inserted directly into the nesting hollow of the wrinkled hornbills (*Aceros corrugatus*). Of the species above, young military macaws and wrinkled hornbills were reared under the supervision of cameras this year, which for the first time allowed the keepers for live monitoring of the careful bird parents as they incubated the eggs and subsequently the process of hatching and natural rearing. In particular, seeing the female hornbill seal-

ing her nesting cavity with a mixture of saliva and served feed was something highly interesting, as well as watching the chick feed and grow (**Picture 2**). In this case, the fact that Usti Zoo is a single zoo producing the wrinkled hornbill offspring out of the Czech and Slovak animal parks and only three young of this beautiful bird species were successfully reared in 2009 made everything even more impressive. Both of the rearing processes above ran smoothly without major complications. Because the birds were under constant visual control of the cameras, they could be kept undisturbed as much as possible in their nesting time, with the keeper work temporarily limited to serving fresh diet.

Already the first months of service clearly proved the good reasons for using the CCTV systems in breeding work, showing their benefits for the keepers as well as the visitors.



Development of health in Delhi and artificial insemination

Jan Javurek & Petr Kiebel

The 2009 entry status was that the luteinizing hormone (LH) failed to increase to a sufficient level, and thus probably an egg was not released over the latest oestrus that took place at the end of 2008. These negative reports suggested there might have been something wrong with Delhi, so we tried hard to make ultrasound examination as soon as possible, in agreement with IZW Berlin (**Picture 1**). On 16 January, after about an hour of standard testing, experts reached a conclusion which was not really welcome - a large quantity of clear fluid was present in both parts of the uterus, which had probably been affecting hormone levels and thus the whole oestrus cycle.

After necessary consultations with veterinarians and experts, a treatment commenced on 20 April with the aim to expel the unwanted fluid. The first day, Estrogel was applied to the Delhi's intestinal mucous membrane by massaging to open the uterine cervix. The second day, Estrogel was applied together with Cytotec, where the purpose of the latter was to expel the undesirable fluid from the uterus. The last two days, only Cytotec was applied by massaging. During the entire period of treatment, blood samples were collected to monitor levels of hormones. Fortunately, nothing like increased states of nervousness posing a greater risk for the keepers, as a side effect due to the drugs, could be observed in Delhi.

Although elephants have been kept in captivity from the early existence of modern zoos, only recent decades have seen many significant findings in elephant biology, which substantially improved the conditions for breeding of these animals. This of course has been significantly boosted by finding the alternative of artificial insemination and new treatments, where Delhi could be literally considered as an animal pioneering new procedures,



elephants at Usti Zoo.

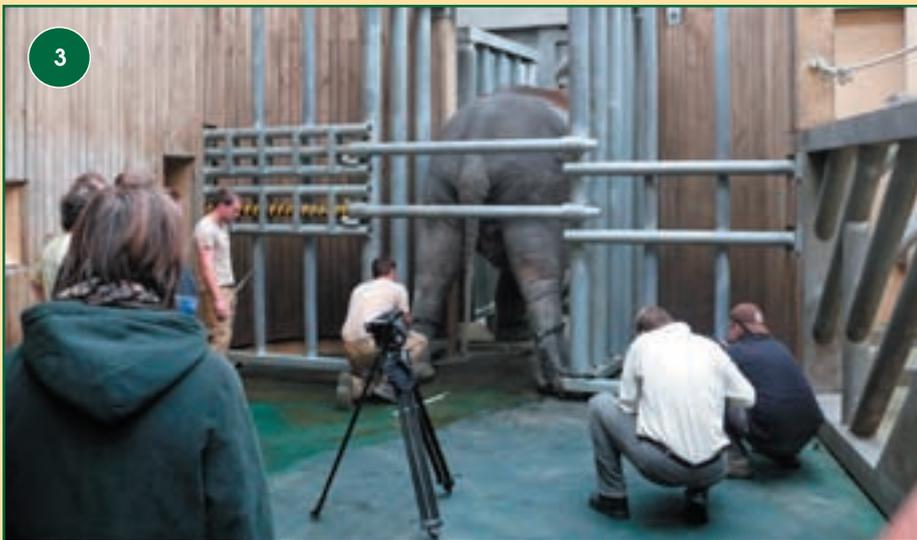
That was why we were eager to know the result of the next ultrasound examination, which took place on 8 June (**Picture 2**). Again, the IZW Berlin team examined the elephant, which took about an hour and a half. The treatment was confirmed to have been successful - almost all the liquid was expelled from the uterus, with only some 12 ml left out of the original 400 ml. It was confirmed that we could continue the artificial insemination efforts, with the earliest possible date of insemination set at around the break of September and October 2009. At the same time, we restarted the intense training of Delhi and blood was collected once a week to determine hormone levels.

owing to good Usti nad Labem Zoo's teamwork and mainly the partnership with IZW Berlin. The female was the second in the world, in which artificial insemination was successfully applied, and for instance, Delhi's blood-urine hormone level curves now assist professionals in other zoos, where there are problems with the collection of blood. Likewise, the Cytotec treatment presents a unique experience which is sure to help trouble solving in many other elephants in future, which is also something making sense to managing

A proven male Calvin, who had been moved from Hannover to Leipzig and then to Ostrava Zoo earlier in May was designated as a donor of the semen. The choice and use of male's semen was approved by the EEP coordinator.

The last testing prior the insemination took place on 18 August, with results well above the expectations. The uterus no longer contained any liquid; only a small fibroid appeared, which was not deemed to bring any compli-





cations. This allowed us to step up the training process with sessions made twice a week. Blood was collected daily and samples taken periodically to the Berlin labs to determine luteinizing hormone levels in order to find out the exact date of ovulation.

On 14 October, the laboratory confirmed the presence of a peak of LH hormone, ie a significant increase in value, and thus the fact Delhi was definitely ready for insemination. On Saturday 24 October, the IZW team carried out an examination showing that the follicle was still immature and sized about 12 mm. Unfortunately, a small volume of fluid in the right uterine horn was found again, and even a small cyst appeared on the left (ovulating) ovary. Further examinations on Tuesday 27 October showed that the follicle was still immature, but slowly growing (approx 16 mm). On Wednesday 28 October, we took part

in the semen collection from Calvin in Ostrava (**Picture 3**). For the male had spent a short time in Ostrava, colleagues from Hannover whom Calvin knows and fully respects were invited to join the procedure. The sperm was collected by massaging the rectum. Here came another problem - because of the pregnancy of Ostrava female elephants, Calvin had been a long time without any sexual activity, which made his semen inactive. This is a natural process - Calvin is otherwise a proven breeder and high-quality male. This left us with only a single option of using frozen semen, which, unfortunately, rapidly decreased the chances of successful insemination. Again, Delhi turned out to be a pathfinder in new procedures, as it was only the second use of frozen semen in the world. On Wednesday evening, another test took place, revealing that the follicle was roughly the same size. Further action was postponed to Sun-

day.

On Sunday 1 November, the evening examination was showing a ruptured follicle, meaning that the time for insemination had come. The semen was carefully thawed through a special procedure and injected into the uterus using a catheter (**Picture 4**). The treatment as such, from the first catheter introduction to the time point T - the semen injected beyond the uterine cervix - lasted about three quarters of an hour. Of course sliding the tube nearly two metres long as far as the uterine neck and then inserting it exactly into a narrow, roughly 3mm opening was the most complicated operation. Due to the night time, when the elephants are not used to handling, and probably also due to the wide range of diverse tests, overcoming the highest point in the vagina where the vaginal route breaks by the catheter was an issue. Delhi began to be nervous and needed a slight sedation. Nonetheless, this was the only time she ceased to work perfectly, thanks to the previous training. Exactly at 10.47 pm, the semen was delivered to the place of destination. The act of insemination was carried out by Dr Thomas Hildebrandt in cooperation with MVDr Vaclav Pozivil.

Although it is clear that the chances of success are not great, mainly because of substandard follicular maturation and the use of frozen semen, we are impatiently awaiting the progesterone curve development, which at the same time would confirm or disprove the success of artificial insemination.

We have to emphasize that Delhi mastered all the procedures, tests and treatments voluntarily, staying quiet and calm; the mild sedation had to be applied from the above reasons only during the artificial insemination as such. We must also point out that even the Delhi's biological clock is ticking and the chances for further successful insemination keep on going down, attempting to breed our elephants is still worth having. In 2009, 33 calves were born in captivity, but 54 died (www.elephant.se), which is why every calf born in a zoo-based collection will be always appreciated.



Pesisir Balikpapan project: 2009 activity report

Mgr Stanislav Lhota



In August 2009, I returned to the Balikpapan Gulf on the eastern coast of the Indonesian part of the Borneo Island after having stayed nine months in the Czech Republic to continue the project that began earlier in 2005 and since 2007 has been sponsored by the zoo in Usti nad Labem.

During the period above, the proboscis monkey research programme was halted, but our local assistants continued monitoring illegal activities detrimental to mangroves and other coastal ecosystems (**Picture 1**), such as constructing ports, roads and commercial buildings, founding fish and shrimp farms, illegal logging, charcoal burning, establishing oil palm plantations on the river banks and forest burning. Monitoring during this period did take place, albeit with considerable difficulties resulting from a lack of money to cover operating costs plus the fact that the assistants that used to work under my constant supervision were unable of successful coordinating the programme so far. Nonetheless, the experience they gained was of great value for them, so the monitoring programme now continues without my personal involvement after my return to Indonesia in order to make the two Indonesian assistants, who had been dedicated to the monitoring activities under my

leadership since 2008, to be more independent. Monitoring and patrolling present a continued focus of our conservation activities in the field. For instance, not a single fish and shrimp farm was established in the monitored area since 2008 and there was a significant reduction of mangrove logging for charcoal production thanks to the efforts above.

Specific offenses related to damages to environment and recorded as part of the monitoring activities are subse-

quently introduced by me along with one of my assistants to a number of governmental and non-governmental stakeholders on a regular basis, with ignoring being still a typical reaction of the responsible authorities. Therefore, their actions are monitored as well by repeating the visit and supplying new reports from the field. If that is not enough, the case is exposed to the mass media. We stay in touch with several local newspapers, the site and proboscis monkeys were even presented in the documentary that was on the national TV station Trans 7, and regular reports on the buzz in the Gulf are distributed to the broadest community within several Facebook groups. This year I started an awareness campaign in the form of audio-visual presentations, discussions and field trips at local universities and secondary schools as well as within the network of youth groups called Pecinta Alam (Nature Lovers). A small experimental pilot project on natural history education centre for children from the neighbourhood is now under development in my house located in the Balikpapan fishing quarter (**Picture 2**).

Plans to build a provincial highway along the most of the coastal part of the Balikpapan Gulf now remain the biggest threat to the future of the Gulf



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area (**Picture 3**). A campaign to stop the project has already been introduced to the international community at http://news.mongabay.com/2010/0103-hance_pulau.html; however, at the same time we have had to face the activities of companies and individuals that already count with opening of the area, rapidly buying land and developing roads and other infrastructure for future commercial plants. One of the latest threats is the plan to build a 20m wide road to streamline timber collection to a paper mill, where this road is to run in parallel with the planned provincial roadway, just a few metres away. Another long-term problem, which poses a threat in the form of progressive destruction of the Gulf as such, is the establishment of extensive oil palm plantations. In the recent three years, forests inhabited by a numerous population of the proboscis monkey have been cleared along several rivers in the Gulf of Balikpapan. Although the mangroves remained in fact undamaged, they were completely isolated from other forest ecosystems and exposed to an extreme level of sedimentation with soil washed from several thousand hectares of deforested areas (**Picture 4**), which represents a loss of a substantial part of food resources for the proboscis and a significantly increased risk of extinction for the entire population. Establishing the plantations along the riverbanks is deemed an illegal action; however, no control exists on the part of authorities. In addition, conflicts do arise between agricultural enter-

prises and local people to which the companies are seizing the land, often without any compensation. In 2009, we worked with small local farmers on starting an international campaign against PT Agro Indomas and this company is currently under a judicial investigation.

With the proboscis monkey (*Nasalis larvatus*) being a flagship species of the project as such, research in this animal forms a virtual backbone to the programme focused on conservation of the species, its habitat - coastal mangroves, and other animal and plant taxons found in this environment. Unfortunately, the research goals have rather been put into the background recently given the increasingly serious

problems in day-to-day conservation that have arisen in the Gulf of Balikpapan. The main objective will therefore be limited in 2010 to the individual identification of adult proboscis monkeys inhabiting one of the 54 rivers in the Balikpapan Gulf - the River Pematuan. In 2007-2008, a research station was built there (**Picture 5**), where the team spends some one to two weeks per month. Twice a day, three team members leave the station on a small motor boat to track the primates in their sleeping trees. This is done first late in the afternoon around 5 pm, when the animals start to appear on the riverbanks, so the current location of each troop can be mapped and one of them selected for further observation. It then continues the next day from 6 to some 7.30 am. Then the primates start moving away deeper into the mangroves, where they are still impossible to follow.

The observation as such lies in efforts to accurately determine the number of the tracked group with regard to their age and sex, and especially in drawing identification cards for every adult member of the gang - schematic templates to which the observer plots specific traits that can be used to identify that individual. This procedure has proved out to be better than taking photos or videos of individuals. The identity cards should allow not only an accurate description of population size and structure, but also especially monitoring of individual life histories of each animal in the years to follow. However, it is a very slow process. Due to the insufficient habituation of the

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primates to the presence of observers and the short time during which they can be seen on the riverbanks, creating the identification cards will require several months of fieldwork.

The research programme in the local Sungai Wain rainforest reserve, which was coordinated by me in previous years, has reached a great level of independence, and the research assistants have already become long-

term employees of the reserve. As the research unit team has expanded, counting now four members instead of initial two, addressing the specialist training of the new members is to be one of my remaining tasks (**Picture 6**). The main research activities of the team are now monitoring weather conditions (temperature and precipitation) and phenology (the production of leaves, flowers and fruits on

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selected plots throughout the forest). This program has been running for more than ten years and this is why we have focused in this anniversary time on processing the complete database accumulated so far. It is a data set, which has so far been published from only a single locality across Southeast Asia in addition to this one.

As with the previous season, I invited several entomologists for a short visit as part of the process of documenting biodiversity in Sungai Wain. Ales Dolny from Ostrava University together with Daniel Barta have been recording the diversity of dragonfly species within several Balikpapan habitats already for a second year, documenting over 80 species of dragonflies in the territory of the reserve, including at least a single new species, which is to be named *Rhinagrion wainensis* with regard to the site promotion. Petr Sipek from Charles University Prague has collected preliminary material samples including several groups of beetles and other insects, which is now being processed in collaboration with several more entomologists in the Czech Republic.

Scientific papers and publications

In 2009, two scientific papers related to the team's previous research in Madagascar, India and European zoos were published in impacted international journals:

- Lhota S., Jůnek T. and Bartoš L. - Patterns and laterality of hand use in free-ranging aye-ayes (*Daubentonia madagascariensis*) and a comparison with captive studies, *Journal of Ethology* 27, 419-428
- M. Petrů, V. Charvátová, M. Špinka, S. Lhota 2009 - Revisiting Play Elements and Self-handicapping in Play: A Comparative Ethogram of Five Old World Monkeys, *Journal of Comparative Psychology*, Vol. 123, No. 3, 250-263

Numbers of animals as per 31/12/2009

	Stock 01/01/2009	Births	Arrival	Death	Departure	Stock 31/12/2009
Mammals (Mammalia)						
Addax	2.0					2.0
<i>Addax nasomaculatus</i>	EEP,ISB,RDB=CR,CITES=I					
Alpaca	2.9	0.1	1.0	0.1	1.0	2.9
<i>Vicugna pacos</i>						
Amur Leopard	1.1	2.0				3.1
<i>Panthera pardus orientalis</i>	EEP,ISB,RDB=CR,CITES=I					
Angola Lion	1.4			0.2		1.2
<i>Panthera leo bleyenberghi</i>	RDB=VU					
Babyrusa	1.1		1.0		1.0	1.1
<i>Babyrousa babyrussa</i>	EEP,ISB,RDB=VU,CITES=I					
Banded Mongoose	1.3					1.3
<i>Mungos mungo</i>	RDB=LR					
Baringo Giraffe	2.3.2				0.0.2	2.3
<i>Giraffa camelopardalis rothschildi</i>	EEP,RDB=LR					
Bengal Elephant	0.2					0.2
<i>Elephas maximus bengalensis</i>	EEP,RDB=EN,CITES=I					
Black and White Ruffed Lemur	3.1	3.0			2.0	4.1
<i>Varecia variegata</i>	EEP,ISB,RDB=EN,CITES=I					
Blackbuck	7.6	1.4				8.10
<i>Antilope cervicapra</i>	RDB=NT					
Blue Monkey	1.1					1.1
<i>Cercopithecus mitis</i>	RDB=LR					
Bonnet Macaque	3.3					3.3
<i>Macaca radiata</i>	RDB=LR					
Bornean Orangutan	2.1					2.1
<i>Pongo pygmaeus pygmaeus</i>	EEP,ISB,RDB=EN,CITES=I					
Brazilian Tapir	1.1					1.1
<i>Tapirus terrestris</i>	EEP,RDB=VU					
Californian Sea Lion	1.0					1.0
<i>Zalophus californianus</i>	ESB,RDB=LR					
Capybara	1.1				0.1	1.0
<i>Hydrochaeris hydrochaeris</i>	RDB=LR					
Central American Agouti	1.1			1.0		0.1
<i>Dasyprocta punctata</i>	RDB=LR					
Collared Peccary	1.2					1.2
<i>Pecari tajacu</i>	RDB=LR					
Common Squirrel Monkey	1.0			1.0		0
<i>Saimiri sciureus</i>	EEP,RDB=LC					
Cotton-top Tamarin	1.2.1	0.0.2				1.2.3
<i>Saguinus oedipus</i>	EEP,ISB,RDB=EN,CITES=I					

	Stock 01/01/2009	Births	Arrival	Death	Departure	Stock 31/12/2009
Mammals (Mammalia)						
Crab-eating Raccoon	0.1			0.1		0
<i>Procyon cancrivorus</i>	RDB=LR					
De Brazza's Monkey	2.2	0.1		0.1		2.2
<i>Cercopithecus neglectus</i>	ESB,RDB=LR					
Defassa Waterbuck	2.4	0.2				2.6
<i>Kobus ellipsiprymnus defassa</i>	RDB=LR					
Diana Monkey	1.1					1.1
<i>Cercopithecus diana diana</i>	EEP,ISB,RDB=EN,CITES=I					
Domestic Bactrian Camel	1.5	1.2			0.2	2.5
<i>Camelus bactrianus</i>	RDB=CR					
Domestic Dog	0.1					0.1
<i>Canis familiaris</i>						
Domestic Goat	0.2	1.2			1.2	0.2
<i>Capra hircus</i>						
Domestic Goat	4.5	1.1.1		1.0	4.6.1	0
<i>Capra hircus</i>						
Domestic Sheep	1.12	4.5	1.0	0.1	5.6	1.10
<i>Ovis aries aries</i>						
Eastern Pygmy Marmoset	2.3.1	1.1.1		0.0.1	1.1	2.3.1
<i>Callithrix pygmaea niveiventris</i>	RDB=LC					
Fishing Cat	1.1	2.1				3.2
<i>Prionailurus viverrinus</i>	EEP,ISB,RDB=VU					
Fosa	2.1			0.1	1.0	1.0
<i>Cryptoprocta ferox</i>	EEP,ISB,RDB=EN					
Geoffroy's Cat	2.3				1.2	1.1
<i>Oncifelis geoffroyi</i>	EEP,RDB=NT,CITES=I					
Golden Lion Tamarin			1.1			1.1
<i>Leontopithecus rosalia</i>	EEP,ISB,RDB=EN,CITES=I					
Guanaco	0.2					0.2
<i>Lama guanicoe</i>	RDB=LR					
Harbour Seal	1.1					1.1
<i>Phoca vitulina</i>	RDB=LR					
Hartmann's Mountain Zebra	3.9		1.0		1.0	3.9
<i>Equus zebra hartmannae</i>	EEP,ISB,RDB=EN					
Cheetah	2.0					2.0
<i>Acinonyx jubatus</i>	EEP,ISB,RDB=VU,CITES=I					
Japanese Serow	0.1					0.1
<i>Naemorhedus crispus</i>	ESB,ISB,RDB=LR					
Javan Langur	0.4					0.4
<i>Trachypithecus auratus</i>	RDB=EN					
Jungle Cat	1.0			1.0		0
<i>Felis chaus</i>	RDB=LC					
Kafue Lechwe	2.4	1.0			1.1	2.3
<i>Kobus leche kafuensis</i>	ISB,RDB=VU					
Kilimanjaro Colobus	0.4					0.4
<i>Colobus guereza caudatus</i>	ESB,RDB=LR					

	Stock 01/01/2009	Births	Arrival	Death	Departure	Stock 31/12/2009
Mammals (Mammalia)						
Larger Hairy Armadillo	1.1					1.1
<i>Chaetophractus villosus</i>	RDB=LC					
Llama	1.3	0.1			0.1	1.3
<i>Lama glama</i>						
Lowland Anoa	2.2					2.2
<i>Bubalus depressicornis</i>	EEP,ISB,RDB=EN,CITES=I					
Malayan tiger	0.1					0.1
<i>Panthera tigris jacksonii</i>	ISB,RDB=EN,CITES=I					
Mandrill	1.4	2.1				3.5
<i>Mandrillus sphinx</i>	EEP,RDB=VU					
Maned Wolf	1.2					1.2
<i>Chrysocyon brachyurus</i>	EEP,ISB,RDB=NT					
Meerkat	3.1.1			1.0		2.1.1
<i>Suricata suricatta</i>	RDB=LR					
Nilgai	2.2	2.1				4.3
<i>Boselaphus tragocamelus</i>	RDB=LC					
Northern Plains Grey Langur	0.3			0.1		0.2
<i>Semnopithecus entellus</i>	ESB,RDB=LR,CITES=I					
Northern White-cheeked Gibbon	1.1.2					1.1.2
<i>Nomascus leucogenys leucogenys</i>	EEP,ISB,RDB=EN,CITES=I					
Ocelot	1.0			1.0		0
<i>Leopardus pardalis</i>	RDB=LC,CITES=I					
Orangutan	1.0					1.0
<i>Pongo pygmaeus</i>	EEP,ISB,RDB=EN,CITES=I					
Oriental Small-clawed Otter	1.1.3	2.1			0.0.3	3.2
<i>Amblonyx cinerea</i>	ISB,RDB=NT					
Patagonian Mara	2.0.2					2.0.2
<i>Dolichotis patagonum</i>	RDB=LR					
Pony	1.4				0.1	1.3
<i>Equus caballus</i>						
Prevost's Squirrel	1.1					1.1
<i>Callosciurus prevostii</i>	RDB=LR					
Red Panda	0.1					0.1
<i>Ailurus fulgens fulgens</i>	EEP,ISB,RDB=EN,CITES=I					
Red Ruffed Lemur	3.2	1.0			2.0	2.2
<i>Varecia rubra</i>	EEP,ISB,RDB=CR,CITES=I					
Red-handed Tamarin	2.5	0.1.1		0.1		2.5.1
<i>Saguinus midas</i>	ESB,RDB=LC					
Reeves' Muntjac	1.1.2		0.1	0.0.1	0.0.1	1.2
<i>Muntiacus reevesi reevesi</i>	RDB=LR					
Ring-tailed Lemur	1.5	0.0.1				1.5.1
<i>Lemur catta</i>	ESB,RDB=VU,CITES=I					
Silvered Leaf Monkey	0.2					0.2
<i>Trachypithecus cristatus</i>	RDB=NT					
Snow Leopard	1.1	0.1				1.2
<i>Uncia uncia</i>	EEP,ISB,RDB=EN,CITES=I					

	Stock 01/01/2009	Births	Arrival	Death	Departure	Stock 31/12/2009
Mammals (Mammalia)						
Somali Wild Ass	4.4				1.0	3.4
<i>Equus africanus somalicus</i>	<i>EET,ISB,RDB=CR,CITES=I</i>					
South African Fur Seal	0.2				0.2	0
<i>Arctocephalus pusillus</i>	<i>RDB=LR</i>					
South American Coati	1.2	4.4		0.1	1.3	4.2
<i>Nasua nasua</i>	<i>RDB=LR</i>					
Southern Two-toed Sloth	1.3.1				0.1	1.2.1
<i>Choloepus didactylus</i>	<i>ESB,RDB=LC</i>					
Southern White Rhinoceros	0.1					0.1
<i>Ceratotherium simum simum</i>	<i>EET,ISB,RDB=NT</i>					
Sun Bear	2.4					2.4
<i>Helarctos malayanus</i>	<i>ESB,RDB=DD,CITES=I</i>					
Thorold's Deer	2.6	1.1	1.0	1.1		3.6
<i>Cervus albirostris</i>	<i>RDB=VU</i>					
Variable Flying Fox	4.2.1			0.0.1		4.2
<i>Pteropus hypomelanus</i>	<i>RDB=LR</i>					
Vietnamese Sika Deer	2.7	3.1.1				5.8.1
<i>Cervus nippon pseudaxis</i>	<i>EET,ISB,RDB=CR</i>					
Wolverine	1.1					1.1
<i>Gulo gulo sibirica</i>	<i>EET,RDB=VU</i>					
Birds (Aves)						
Alexandrine Parakeet	1.1			1.0	0.1	0
<i>Psittacula eupatria</i>	<i>RDB=LC</i>					
Blue-and-yellow Macaw	3.4	0.0.1	1.0		1.1	3.3.1
<i>Ara ararauna</i>	<i>RDB=LC</i>					
Blue-fronted Amazon	0.0.1					0.0.1
<i>Amazona aestiva</i>	<i>RDB=LC</i>					
Budgerigar	15.14.5	0.0.139			0.0.139	15.14.5
<i>Melopsittacus undulatus</i>	<i>RDB=LC</i>					
California Quail	2.1					2.1
<i>Lophortyx californica</i>	<i>RDB=LC</i>					
Cockatiel	3.1.2	0.0.4			0.0.6	3.1
<i>Nymphicus hollandicus</i>	<i>RDB=LC</i>					
Common Barn-owl	1.1	0.0.1			0.0.1	1.1
<i>Tyto alba</i>	<i>CROH=SOH,RDB=LC</i>					
Crested Pigeon	1.1					1.1
<i>Ocyphaps lophotes</i>	<i>RDB=LC</i>					
Crested Wood-partridge	1.0			1.0		0
<i>Rollulus rouloul</i>	<i>RDB=NT</i>					
Egyptian Goose	1.1				1.1	0
<i>Alopochen aegyptiacus</i>	<i>RDB=LC</i>					
Emerald Dove			0.0.1			0.0.1
<i>Chalcophaps indica</i>	<i>RDB=LC</i>					
Emu	1.1					1.1
<i>Dromaius novaehollandiae</i>	<i>RDB=LC</i>					

	Stock 01/01/2009	Births	Arrival	Death	Departure	Stock 31/12/2009
Birds (Aves)						
Eurasian Eagle-Owl	1.1					1.1
<i>Bubo bubo</i>	CROH=OH,RDB=LC					
Flamingos	0.1				0.1	0
<i>Phoenicopterus sp.</i>						
Great Currassow	1.1					1.1
<i>Crax rubra</i>	RDB=NT					
Greater Rhea	3.2.2		0.1	0.0.2	1.0	2.3
<i>Rhea americana</i>	RDB=NT					
Grey Parrot	1.1					1.1
<i>Psittacus erithacus</i>	RDB=LC					
Himalayan Griffon	1.1					1.1
<i>Gyps himalayensis</i>	RDB=LC					
Indian Peafowl	2.4	0.0.4				2.4.4
<i>Pavo cristatus</i>	RDB=LC					
Java Sparrow	0.0.2			0.0.2		0
<i>Padda oryzivora</i>	RDB=VU					
Little Owl			1.1			1.1
<i>Athene noctua</i>	CROH=SOH,RDB=LC					
Mandarin Duck	1.0					1.0
<i>Aix galericulata</i>	RDB=LC					
Marabou	1.0					1.0
<i>Leptoptilos crumeniferus</i>	ESB,RDB=LC					
Mealy Amazon	2.2	0.0.3			1.1	1.1.3
<i>Amazona farinosa</i>	RDB=LC					
Military Macaw	4.4	0.0.2			1.1	3.3.2
<i>Ara militaris</i>	ISB,RDB=VU,CITES=I					
Raven	1.0		0.1			1.1
<i>Corvus corax</i>	CROH=OH,RDB=LC					
Red-and-green Macaw	2.2					2.2
<i>Ara chloroptera</i>	RDB=LC					
Red-fronted Parrot	1.1	0.0.1				1.1.1
<i>Poicephalus gularis</i>	RDB=LC					
Red-lored Amazon	2.2	0.0.2			1.1.2	1.1
<i>Amazona autumnalis</i>	RDB=LC					
Rose-ringed Parakeet	1.1	0.0.2			0.0.2	1.1
<i>Psittacula krameri</i>	RDB=LC					
Rosy Flamingo	0.0.10			0.0.1	0.0.9	0
<i>Phoenicopterus ruber roseus</i>	RDB=LC					
Rothschild's Mynah	0.1		1.0			1.1
<i>Leucopsar rothschildi</i>	EPP,RDB=CR,CITES=I					
Saker Falcon	2.5	1.1		0.1	2.2	1.3
<i>Falco cherrug</i>	CROH=KOH,RDB=EN					
Salmon-crested Cockatoo	2.1					2.1
<i>Cacatua moluccensis</i>	EPP,RDB=VU,CITES=I					
Scarlet Macaw	1.1					1.1
<i>Ara macao</i>	RDB=LC,CITES=I					

	Stock 01/01/2009	Births	Arrival	Death	Departure	Stock 31/12/2009
Birds (Aves)						
Snowy Owl	1.1	0.0.2			0.0.2	1.1
<i>Nyctea scandiaca</i>	RDB=LC					
Spot-sided Finch	12.7				7.2	5.5
<i>Taeniopygia guttata</i>	RDB=LC					
Sun Parakeet			2.2			2.2
<i>Aratinga solstitialis</i>	RDB=LC					
Tanimbar Corella	1.2		0.1	0.1	0.1	1.1
<i>Cacatua goffini</i>	RDB=NT,CITES=I					
Tawny Eagle	1.2				1.1	0.1
<i>Aquila rapax</i>	RDB=LC					
Tawny Owl	0.1					0.1
<i>Strix aluco</i>	RDB=LC					
Ural Owl	2.1				1.0	1.1
<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	1.2					1.2
<i>Musophaga violacea</i>	ESB,RDB=LC					
Wrinkled Hornbill	1.1	0.0.1				1.1.1
<i>Aceros corrugatus</i>	EEP,RDB=NT					
Yellow-bibbed Lory	1.1		1.1			2.2
<i>Lorius chlorocercus</i>	RDB=LC					
Reptiles (Reptilia)						
African Rock Python	0.1					0.1
<i>Python sebae</i>						
African Spiny-tailed Lizard			3.9	0.1		3.8
<i>Uromastyx acanthinura</i>						
African Spurred Tortoise	0.0.3					0.0.3
<i>Centrochelys sulcata</i>	RDB=VU					
American Alligator	1.1			0.1		1.0
<i>Alligator mississippiensis</i>						
Asian Leaf Turtle	2.1					2.1
<i>Cyclemys dentata</i>	RDB=LR					
Ball Python	1.1		1.0			2.1
<i>Python regius</i>						
Black-bridged Leaf Turtle	1.2.3	0.0.1				1.2.4
<i>Cyclemys pulchristriata</i>						
Boa Constrictor	0.1					0.1
<i>Boa constrictor</i>						
Burmese Python	1.0					1.0
<i>Python molurus bivittatus</i>	RDB=LR					
California Kingsnake	1.2					1.2
<i>Lampropeltis getula californiae</i>						
Caspian Turtle	0.0.1					0.0.1
<i>Mauremys caspica</i>						

	Stock 01/01/2009	Births	Arrival	Death	Departure	Stock 31/12/2009
Reptiles (Reptilia)						
Central Asian tortoise	4.4.1		1.0.2	0.0.2	1.3	4.1.1
<i>Testudo horsfieldii</i>	RDB=VU					
Common Snake-necked Turtle	1.2			0.1		1.1
<i>Chelodina longicollis</i>						
Cuban Boa	2.2	0.0.1		1.1	0.0.1	1.1
<i>Epicrates angulifer</i>	EEP,RDB=LR					
Cuban Iguana	1.2					1.2
<i>Cyclura nubila nubila</i>	ISB,RDB=VU,CITES=I					
Dwarf Crocodile	1.0				1.0	0
<i>Osteolaemus tetraspis</i>	ESB,RDB=VU,CITES=I					
Eastern Kingsnake	1.0					1.0
<i>Lampropeltis getula getula</i>						
False Water Cobra	1.0				1.0	0
<i>Hydrodynastes gigas</i>						
Florida Kingsnake	1.0				1.0	0
<i>Lampropeltis getula floridana</i>						
Fly River turtle	2.0					2.0
<i>Carettochelys insculpta</i>	RDB=VU					
Green Tree Python	0.2			0.1		0.1
<i>Morelia viridis</i>						
Greer's Kingsnake	0.0.2					0.0.2
<i>Lampropeltis mexicana greeri</i>						
Grey-banded King Snake	1.1					1.1
<i>Lampropeltis alterna</i>						
Hermann's Tortoise	1.0.1					1.0.1
<i>Testudo hermanni</i>	RDB=LR					
Honduran Milk Snake	1.2	0.0.6			0.0.6	1.2
<i>Lampropeltis triangulum hondurensis</i>						
Horn's Monitor	0.1		1.0			1.1
<i>Varanus panoptes horni</i>						
Chinese Softshell Turtle	0.0.1		0.0.1			0.0.2
<i>Pelodiscus sinensis</i>	RDB=VU					
Inland Bearded Dragon	1.0.3					1.0.3
<i>Pogona vitticeps</i>						
Knight Anole	0.0.3					0.0.3
<i>Anolis equestris</i>						
Marginated Tortoise	1.0					1.0
<i>Testudo marginata</i>	RDB=LR					
Oriental Water Dragon	0.0.8					0.0.8
<i>Physignathus cocincinus</i>						
Panther Chameleon	1.0					1.0
<i>Furcifer pardalis</i>						
Pueblan Milk Snake	0.1				0.1	0
<i>Lampropeltis triangulum campbelli</i>						
Red-bellied short-necked turtle	0.0.3					0.0.3
<i>Emydura subglobosa</i>	RDB=LR					

	Stock 01/01/2009	Births	Arrival	Death	Departure	Stock 31/12/2009
Reptiles (Reptilia)						
Red-eared Slider	4.4.1					4.4.1
<i>Trachemys scripta elegans</i>	RDB=LR					
Schneider´s Skink	1.0.3				0.0.1	1.0.2
<i>Eumeces schneideri</i>						
Siebenrock´s Snake-necked Turtle	0.0.1					0.0.1
<i>Macrochelodina rugosa</i>	RDB=LR					
Sinaloan Milk Snake	2.2	0.0.14			0.0.14	2.2
<i>Lampropeltis triangulum sinaloae</i>						
Smooth-fronted Caiman	1.1					1.1
<i>Paleosuchus trigonatus</i>						
South American Red-footed Tortoise	6.2.4	0.0.2				6.2.6
<i>Chelonoidis carbonaria</i>						
Southeast Asian Box Turtle	0.0.3					0.0.3
<i>Cuora amboinensis</i>	ESB,RDB=VU					
Spur-thighed Tortoise	1.0					1.0
<i>Testudo graeca</i>	RDB=VU					
Travancore Tortoise	1.0			1.0		0
<i>Indotestudo travancorica</i>	RDB=EN					

	Stock 31/12/2009	Births
Amphibians (Amphibia)		
Taylor's bug-eyed frog	0.0.3	
<i>Theleiderma stellatum</i>	RDB=NT	
Tonkin bug-eyed frog	0.0.3	
<i>Theleiderma corticale</i>	RDB=DD	
Aplash-backed Poison-arrow Frog	0.0.2	
<i>Dendrobates galactonotus</i>	RDB=LC	
Blue Poison-arrow Frog	0.0.3	
<i>Dendrobates azureus</i>	ESB,RDB=VU	
Golden Poison Frog	0.0.4	
<i>Phyllobates terribilis</i>	RDB=EN	
Golfodulcean Poison-arrow Frog	0.0.4	
<i>Phyllobates vittatus</i>	RDB=EN	
Green And Golden Poison-arrow Frog	0.0.22	2
<i>Dendrobates auratus</i>	RDB=LC	
Ground Toads	0.0.4	
<i>Bufo sp.</i>		
Malayan Bullfrog	0.0.1	
<i>Kaloula pulchra</i>	RDB=LC	
Mission Golden-eyed Trefrog	0.0.8	
<i>Phrynohyas resinifictrix</i>	RDB=LC	
Orange-legged Leaf Frog	0.0.4	
<i>Phyllomedusa hypochondrialis</i>	RDB=LC	
Ribbed Newt	0.0.11	
<i>Pleurodeles waltl</i>	RDB=NT	

	Stock 31/12/2009	Births
Amphibians (Amphibia)		
Sambava Tomato Frog	0.0.10	
<i>Dyscophus guineti</i>	RDB=LC	
Smooth Clawed Frog	1.1.9	
<i>Xenopus laevis laevis</i>	RDB=LC	
Tschudi´s African Bullfrog	0.1	
<i>Pyxicephalus adspersus</i>	RDB=LC	
White´s Treefrog	0.0.12	
<i>Pelodyras caerulea</i>	RDB=LC	
Yellow-banded Poison-arrow Frog	0.0.4	
<i>Dendrobates leucomelas</i>	RDB=LC	
Yucatecan Shovel-headed Treefrog	0.0.3	
<i>Tripion petasatus</i>	RDB=LC	
Fish (Pisces)		
African Butter Catfish	0.0.1	
<i>Schilbe mystus</i>	RDB=VU	
Angelfish	0.0.2	
<i>Pterophyllum scalare</i>		
Black Ruby Barb	0.0.14	
<i>Puntius nigrofasciatus</i>	RDB=LR	
Bristlenose catfish	0.0.22	
<i>Ancistrus cirrhosus</i>		
Bronze Cory	0.0.14	
<i>Corydoras aeneus</i>		

	Stock 31/12/2009	Births
Fish (Pisces)		
Carpooth catfish	0.0.3	
<i>Clarias gariepinus</i>		
Clown Loach	0.0.2	
<i>Botia macracantha</i>		
Featherfin Squeaker	0.0.13	
<i>Synodontis eupterus</i>		
Giant Gourami	0.0.3	
<i>Osphronemus goramy</i>		
Golden mbuna	0.0.6	
<i>Melanochromis auratus</i>	RDB=LC	
Goldfish	0.0.40	
<i>Carassius auratus</i>		
Cherry Barb	0.0.10	
<i>Puntius tittैया</i>	RDB=LR	
Iridescent Shark	0.0.8	
<i>Pangasius hypophthalmus</i>		
Iridscent Mystus Cat	0.0.3	
<i>Mystus vittatus</i>		
Kennyi mbuna	0.0.10	
<i>Metriaclima lombardoi</i>		
Kingsley´s Ctenopoma	0.0.5	
<i>Ctenopoma kingsleyae</i>		
Knifefish	0.0.10	
<i>Xenomystus sp.</i>		
Lemon Tetra	0.0.12	
<i>Hyphessobrycon pulchripinnis</i>		
Maylandia	0.0.16	
<i>Pseudotropheus zebra</i>		
Penguin Tetra	0.0.2	
<i>Thayeria boehlkei</i>		
Red Bellied Piranha	0.0.4	
<i>Pygocentrus nattereri</i>		
Red Hook Myleus	0.0.4	
<i>Myloplus rubripinnis</i>		
Red Pacu	0.0.2	
<i>Piaractus brachypomus</i>		
Red Phantom Tetra	0.0.10	
<i>Hyphessobrycon sweglesi</i>		
Redfin Shark	0.0.12	
<i>Epalzeorhynchus frenatum</i>		
Serpae Tetra	0.0.6	
<i>Hyphessobrycon eques</i>		
Siberian Sturgeon	0.0.2	
<i>Acipenser baerii</i>	RDB=VU	
Spotted Hoplo	0.0.7	
<i>Megalechis thoracata</i>		

	Stock 31/12/2009	Births
Fish (Pisces)		
Spotted sailfin pleco	0.0.3	
<i>Glyptoperichthys gibbiceps</i>		
Spotted talking catfish	0.0.6	
<i>Agamyxis pectinifrons</i>		
Sterlet	0.0.3	
<i>Acipenser ruthenus</i>	RDB=VU	
Stinging Catfish	0.0.5	
<i>Heteropneustes fossilis</i>		
Sumatra Barb	0.0.10	
<i>Puntius tetrazona</i>		
Sumatra Barb	0.0.10	
<i>Puntius tetrazona</i>		
Tiger Botia Loach	0.0.1	
<i>Botia hymenophysa</i>		
Tinfoil Barb	0.0.7	
<i>Barbodes schwanenfeldii</i>		
White Skirt Tetra	0.0.7	
<i>Gymnocorymbus ternetzi</i>		
Zebrafish	0.0.11	
<i>Danio rerio</i>		
Invertebrates (Evertebrata)		
Honduras Curly Hair Tarantula	0.0.1	
<i>Brachypelma albopilosum</i>		
Mexican flameknee tarantula	0.0.1	
<i>Brachypelma auratum</i>		
Common emperor scorpion	0.0.1	
<i>Pandinus imperator</i>		

Stock summary 2009	01/01/2009		31/12/2009	
	Species	Individuals	Species	Individuals
Mammals (Mammalia)	75	303	70	302
Birds (Aves)	43	176	40	154
Reptiles (Reptilia)	43	120	38	122
Amphibians (Amphibia)	20	129	18	110
Fish (Pisces)	37	301	38	306
Invertebrates (Invertebrata)	4	8	3	3
Total	222	1037	207	997

Animals reared

Mammals Mammalia	Births
Oriental Small-clawed Otter	2.1
<i>Amblyonyx cinerea</i>	ISB,RDB=NT
Blackbuck	1.4
<i>Antelope cervicapra</i>	RDB=NT
Nilgai	2.1
<i>Boselaphus tragocamelus</i>	RDB=LC
Eastern Pygmy Marmoset	1.1.1
<i>Callithrix pygmaea niveiventris</i>	RDB=LC
Domestic Bactrian Camel	1.2
<i>Camelus bactrianus</i>	RDB=CR
Domestic Goat	1.2
<i>Capra hircus</i>	
Domestic Goat	1.1.1
<i>Capra hircus</i>	
De Brazza's Monkey	0.1
<i>Cercopithecus neglectus</i>	ESB,RDB=LR
Thorold's Deer	1.1
<i>Cervus albirostris</i>	RDB=VU
Vietnamese Sika Deer	3.1.1
<i>Cervus nippon pseudaxis</i>	EEP,ISB,RDB=CR
Defassa Waterbuck	0.2
<i>Kobus ellipsiprymnus defassa</i>	RDB=LR
Kafue Lechwe	1.0
<i>Kobus leche kafuensis</i>	ISB,RDB=VU
Llama	0.1
<i>Lama glama</i>	
Ring-tailed Lemur	0.0.1
<i>Lemur catta</i>	ESB,RDB=VU,CITES=I
Golden Lion Tamarin	
<i>Leontopithecus rosalia</i>	EEP,ISB,RDB=EN,CITES=I
Mandrill	2.1
<i>Mandrillus sphinx</i>	EEP,RDB=VU
Reeves' Muntjac	
<i>Muntiacus reevesi reevesi</i>	RDB=LR
South American Coati	4.4
<i>Nasua nasua</i>	RDB=LR
Domestic Sheep	4.5
<i>Ovis aries aries</i>	
Amur Leopard	2.0
<i>Panthera pardus orientalis</i>	EEP,ISB,RDB=CR,CITES=I
Fishing Cat	2.1
<i>Prionailurus viverrinus</i>	EEP,ISB,RDB=VU

Mammals Mammalia	Births
Red-handed Tamarin	0.1.1
<i>Saguinus midas</i>	ESB,RDB=LC
Cotton-top Tamarin	0.0.2
<i>Saguinus oedipus</i>	EEP,ISB,RDB=EN,CITES=I
Snow Leopard	0.1
<i>Uncia uncia</i>	EEP,ISB,RDB=EN,CITES=I
Red Ruffed Lemur	1.0
<i>Varecia rubra</i>	EEP,ISB,RDB=CR,CITES=I
Black and White Ruffed Lemur	3.0
<i>Varecia variegata</i>	EEP,ISB,RDB=EN,CITES=I
Alpaca	0.1
<i>Vicugna pacos</i>	



Birds Aves	hatched
Wrinkled Hornbill	0.0.1
<i>Aceros corrugatus</i>	EEP,RDB=NT
Red-lored Amazon	0.0.2
<i>Amazona autumnalis</i>	RDB=LC
Mealy Amazon	0.0.3
<i>Amazona farinosa</i>	RDB=LC
Blue-and-yellow Macaw	0.0.1
<i>Ara ararauna</i>	RDB=LC
Military Macaw	0.0.2
<i>Ara militaris</i>	ISB,RDB=VU,CITES=I
Saker Falcon	1.1
<i>Falco cherrug</i>	CROH=KOH,RDB=EN
Budgerigar	0.0.139
<i>Melopsittacus undulatus</i>	RDB=LC
Snowy Owl	0.0.2
<i>Nyctea scandiaca</i>	RDB=LC
Cockatiel	0.0.4
<i>Nymphicus hollandicus</i>	RDB=LC
Indian Peafowl	0.0.4
<i>Pavo cristatus</i>	RDB=LC
Red-fronted Parrot	0.0.1
<i>Poicephalus gulielmi</i>	RDB=LC
Rose-ringed Parakeet	0.0.2
<i>Psittacula krameri</i>	RDB=LC
Common Barn-owl	0.0.1
<i>Tyto alba</i>	CROH=SOH,RDB=LC

Reptiles Reptilia	Births
Black-bridged Leaf Turtle	0.0.1
<i>Cyclemys pulchriata</i>	
Cuban Boa	0.0.1
<i>Epicrates angulifer</i>	EEP,RDB=LR
South American Red-footed Tortoise	0.0.2
<i>Chelonoidis carbonaria</i>	
Honduran Milk Snake	0.0.6
<i>Lampropeltis triangulum hondurensis</i>	
Sinaloan Milk Snake	0.0.14
<i>Lampropeltis triangulum sinaloae</i>	

Amphibians Amphibia	Births
Dart Poison Frog	0.0.2
<i>Dendrobates auratus</i>	RDB=LC



Finances



Finance department activities

Jana Cerna

In 2009, Usti nad Labem Zoo employed **76,26** employees (FTE).

Evaluation of the economical situation

Item	Thousand CZK
Materials used	2,559.84
Feedstuffs used	3,890.11
Fuel used	404.13
Electric power	3,254.51
Water used, sewerage	1,677.75
Repairs of long-term assets	1,562.43
Payroll costs	15,012.53
Payroll taxes	4,813.50
Depreciation of long-term assets	2,800.00
Other costs	6,488.88
Total costs	42,463.68
Revenues from entrance fees	9,814.26
Other revenues (donations, etc.)	2,922.97
Inclusion of the profit from the additional activities (sales, advertising, rental fees, etc.)	1,182.19
Inclusion of funds	0.00
Allocation from founder's budget	25,105.91
Allocation for operations from the Ministry of Environment's budget	2,186.18
Grant from the Labour Office Usti nad Labem	1,196.64
Other revenues	91.91
Total revenues	42,500.06
Profit/loss (profit)	36.38

Payroll inc. taxes were the most costing items for the organisation. In 2009, the average salary amounted to CZK

16,405 per employee. Feedstuffs presented another major cost item, when they achieved CZK

3,890.11 million.

Electricity costs, structured as the power for general use and heat pumps serving within the zoo's heating system, reached CZK 1,612.36 thousand and 1,642.15 thousand, respectively. In 2009, prices of water and sewerage fees increased, thus raising the respective costs compared to 2008. Total quantity of water used was approximately 28,100 m³, with sea lions and seals being traditionally the major customers (**Picture 1**).

The financial means spent within the operational budget on servicing long-term assets of the zoo were used for the following items:

- Repairs: motor vehicles, machines and installations, housing resources, zoo office, rented premises, camel facilities, the Exotarium and carnivore





house;

- Funding allocated from founder's budget and zoo resources presented a significant amount used for the following investment and repair operations:

- Completing carnivore house fencing reconstruction (**Picture 2**);
- Redesigning a part of the orangutan house to cater for location of the orang-utan male Ferda;
- Finishing the nilgai indoor facility;

- Reconstructing the roof of the Animal Rescue Centre located in the city district of Severní Terasa and building a new facility for impaired animals from the wild.

Zoo's own revenues consisted of incomes from entrance fees (**Picture 3**), rental fees, advertising, and donations. In 2009, there was a slight increase in visitor numbers; they reached 167,864, exceeding the 2008 numbers

by 3,367. The average price of a zoo ticket actually paid by visitors (including adults, children including those under 3 years, impaired persons, permanent tickets, etc) amounted to **CZK 58.47** in 2009, while the average costs per ticket amounted to **CZK 241.81**. The balance was covered as follows: **CZK 29.69** from the profit produced through zoo's additional activities like rental fees, advertising, merchandise, etc, **CZK 140.63** co-funded by the founder's grant, and **CZK 13.02** co-funded by the grant of the Czech Ministry of Environment (MoE). MoE is co-funding the costs of keeping endangered animal species and injured wildlife placed in the zoo premises. The means obtained from MoE were used to cover a part of feeding, energy, and veterinary costs of animal management, zoo's involvement in international unions and associations of zoos, and those of education and world fauna biodiversity conservation projects developed by the zoo and endorsed by UCSZ.

The incomes from the additional activities in 2009 comprised the following revenues: **CZK 837.75 thousand** from rental of apartments and non-residential premises, **CZK 1,206.32 thou-**



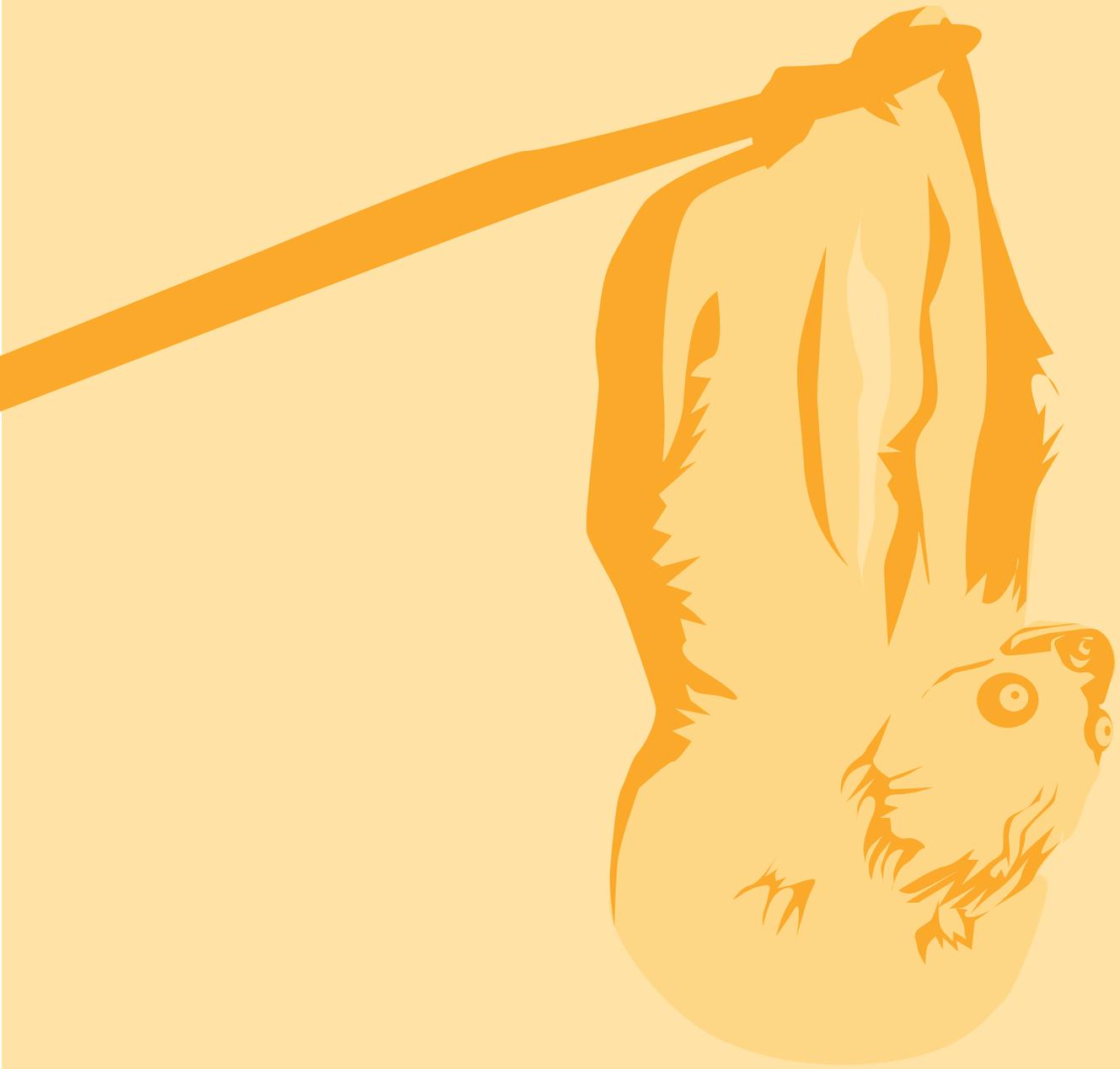
sand from advertising, **CZK 453.93 thousand** from merchandise, and **CZK 835.73 thousand** from other activities, including operating the rubber trampoline, sales of animal food in the children playground, commission from suppliers of merchandise, etc.

The Animal Rescue Centre in the Se-
verni Terasa (**Picture 4**) district 2009

costs and revenues were as follows:
The major cost items included payroll costs (**CZK 606.66 thousand**), payroll taxes (**CZK 212.93 thousand**), feed-stuffs and costs of materials essential to operate the Centre (**CZK 618.10 thousand**), energy costs (**CZK 57.33 thousand**); maintenance and veterinary costs amounted to **CZK 362.12 thousand**. 83% of Centre's operational

expenses were paid by the founder, ie the Statutory City of Usti nad Labem, while 17% were covered by own ARC revenues or thanks to donated materials.





**Operations
and Technology**

Operations and technology

Jiri Hanzlik



Through its work and achievements, the Operations & Technology department was successfully contributing to the overall positive image of the zoo as such throughout the year. The department managed to cover the volume of the workload throughout its sections - maintenance, transport, and horticulture - by its own members (**Picture 1**) and by contracting sole traders or large construction and retail companies.

In the last year, the overall staffing policy was very fundamentally influenced by the contract entered into with the Labour Office in Usti nad Labem. At the end of the year, 20 staff members with the public works (VPP) status were deployed throughout the zoo, of which 12 worked in the operational and technology department. Where at all possible, these persons were integrated by assigning them to permanent specialist workers to make full use of their potential, and this whole measure resulted in optimising the employee numbers with regard to the funds for the operation of the department that Usti nad Labem Zoo could release from its budget. The Maintenance Section had at the end of 2009 four permanent members including two persons with the public works status, two carpenter apprentices and a contracted tradesman working in the locksmith shop. The Transport Section was affected by two factors - the

section manager retired in October 2009 and one driver was released from organizational reasons at 30 November 2009. To resolve this unsatisfactory status, one of the public works status employees with appropriate professional qualification was assigned to the Transport Section and the former manager was hired upon agreement until 31 December 2009. The most extensive staff reinforcement happened within the Horticulture Section, with nine recruited candidates from the Labour Office entering through the time, complementing the five existing permanent staff members to a total of 14. All of these received a lot of oppor-

tunities of applying their potential in cultivating all kinds of areas throughout the territory of 26 hectares. As of September 2009, some of those with the public works status entered even their second annual cycle of employment at the zoo.

Attempts to describe the particular tasks that the department was responsible for should start by mentioning the non-typical tasks of daily routine. Many times, the department personnel need to invent unconventional solutions. Most often, this takes place in the locksmith and carpenter's workshops, where each repair action becomes a task requiring from the workers an active and constructive attitude to what needs to be resolved. The solution then must meet stringent requirements in terms of animal husbandry, and also basic safety rules regarding keepers' access.

The specific tasks of the past year included the following:

- Small masonry and metal work in servicing, accident or defect solving and alterations of the animal houses as required by the Animal Husbandry Department.
- Joinery and carpentry work (**Picture 2**) related to maintenance of animal houses and facilities, including the production of crates for transportation of animals and certain fixtures designed mainly for handling rooms of the buildings.



3



- Full-range maintenance of electrical installations, which in part involved observing the inspection periods of all electrical appliances and buildings in terms of compliance with relevant safety standards, repairing existing installations and equipment, and implementing new electrical installations within the increased use of electric fence instead of classical fencing. A reconstruction of the existing electrical installations within the Animal Rescue Centre office and new boxes for animals in need was carried out.

- A new outdoor enclosure (**Picture 3**) and a pen for ponies was finished as a follow-up to renovating the housing facilities, completing the set of housing structures that now fully covers the needs of animals.

- Repair of the telephone exchange that interconnects the in-house lines and serves as a telecommunication bridge for the entire zoo. All of some 40 lines of service mobile phones remained in use, allowing for distributing SMS messages alerting to intrusions into the buildings or reporting fault conditions such as heating system failures.

- First fundamental repair of the California sea lion house took place since 1998, when the pool for the sea lions was redesigned - this involved an adaptation of the facade, where the supplier combined the colour design with the character of the use of outdoor pool (**Picture 4**). In addition, the indoor pool was reconstructed and its waterproofing system re-sealed.

- The house located outside the zoo at the address Na Vrstevnici 1939, which serves for accommodation of one of the pairs employed at the zoo un-

derwent a quite extensive renovating process, which included installing new central heating piping and replacement of the boiler; electrical installations were renewed as well. Repair was necessary even in the case of potable water supply pipe to the house from a remote well serving as a source of drinking water for this stand-alone building a long time. Considerable sums were spent on other residential buildings around the zoo as well, with currently six employees living there. In the case of one property, a drawn-out but unsuccessful lawsuit over the eviction of the tenant from a flat remains underway, since the person in question has not been an employee of the zoo for over 10 years.

- On the basis of a survey it was decided on felling of 22 trees in the zoo grounds; once this was endorsed by the Environmental Department of the

City Magistrate, the trees were felled by the Horticulture Section personnel excluding the three demanding most complex procedures that had to be cut down by an outsourcer using a climbing technique.

- In February, the acceptance procedure for new nilgai stables including an outdoor alteration in the form of a shelter for large bales of hay was successfully completed. Fenced pens were subsequently finished by the end of the holidays.

- After counting the "alies" collected for the alligators, a process of developing building design documentation for the alligator house commenced and a decision was made that a preparation phase for the implementation of this project would begin. At this point, the financial resources from which the building should be constructed and subsequently operated remain the crucial question.

- The way of operating the zoo train became something unusual in 2009, as in addition to transporting visitors around the zoo, the train began leaving the zoo grounds on a quite regular basis and started to be used at events held out of the zoo. This namely included programmes organised by the zoo founder like Christmas markets on the Usti nad Labem main square (**Picture 5**), transfers of formal visitors to the city, events arranged by district offices and, last but not least, the cooperation with other entities in the city. Unfortunately, during the operation that takes place in the hilly grounds of the zoo with elevation of 100 metres, frequent defects of driving or transmission mechanism occur and even wiring had to be repaired. In addition to the above, tyres

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of all axles in three wagons of this kit were replaced.

- Last year the zoo finished a long-term repair of the Dinosaur Trail in the lower part of the area. By restoring last two specimens and repairing the wooden skeletons of two dinosaurs, the shape of the trail was finalised and visitors can learn selected prehistoric creatures in the area between the tapir house and the pond.

- Roofing including roof sheet metal components (**Picture 6**) of the Animal Rescue Centre located outside the zoo grounds in the Severni Terasa city district was replaced as part of the repairing process, with following construction of new three boxes to serve as rescue shelters for injured animals from around the cadastre of the City of Usti nad Labem. The process of finishing the administrative building included construction of a small operational warehouse that at the same time serves as a central heating boiler room for the whole building. The repair of the heating system above was completed in November 2009, with the acceptance procedure for the boxes as such being planned for the first half of 2010.

- Extension of the outdoor winter shelter for two-humped camels was desired, as it worked well in the previous winter periods. In collaboration with external suppliers, this shelter was enlarged in length by 20 meters, thus the animals could be split into several groups.

- Repair was also needed in the case of the imitated river inside the Indian elephant house, as leakage occurred in several places. These had to be sealed to allow for a smooth and trouble-free use of the structure. After sev-

eral attempts, the repair work (**Picture 7**) was successfully finished and the structure started to work again to our satisfaction.

- In cooperation with VaMa, the outsourcer company, 24/7 guarding services could be ensured in the zoo grounds as well as cleaning in two visitor toilets and the dead animal box. In addition, the agency assisted by providing security at events organised for the general public in the zoo.

- In the late 2009, a small commercial vehicle Ford Connect could be purchased thanks to the co-funding of the city and added to the zoo fleet to transport small materials. Within the Maintenance Section, it serves to ensure maximum independence of department members in removing defects, accidents and failures. The vehicle had been in use for several years; nonetheless, its design suits the needs of the zoo perfectly.

- During the past year, the former quarantine facility in Stradov was finally sold following several unsuccessful attempts to do so. It is planned that the finances obtained will be used to build new stables for Hartmann zebras. The process of development of new facility was significantly boosted by the emergency condition of the existing provisional building, which has been repeatedly proposed for removal, but continued to be in use for almost five years. As the structure has now reached the final stage of life, the new indoor facility will be the first priority for the forthcoming period of activity of the department.

- Several years after finishing the geothermal heating water distribution system, the fencing of the horticulture section premises most of which was removed when laying pipes in recent years could be finally recovered. The fencing was made of plastic-coated machine-woven wire mesh with height of 180 cm and total length just over 300 metres, including two driveway gates and two entry gates for personnel.

- Just before the end of 2009, the overall repair of sanitary facilities located under the upper entrance was launched; the premises will be extended so that they can be used to full extent by visitors, in addition to the personnel.

- The outdoor exhibits along the south facade of the Carnivore House completed the last year formed a separate portion of the department activities. The work was introduced to the public on launching the main season, which took place on Saturday 4 April 2009.

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Overview of major repairs and capital building projects

Carnivore House alterations: fencing

Alterations of the exhibits along the southern front of the Carnivore House present the building work that is to complete the long-term reconstruction of the house launched back in 2003. Once all indoor exhibits incl the visitor hall were completely redesigned, the whole process continued with re-arranging the large lion outdoor enclosure in 2005, redesigning the enclosure on the northern side of the house for the snow leopard and alterations of the Malayan sun bear enclosure in 2006. The last modernisation period involved redesigning the outdoor enclosures for tigers and leopards. The exhibits along the southern face of the house were enlarged by moving the existing sub-structure of the outside metal fencing. At the same time, all main viewing sectors from the visitor part were glazed using a 3m high glass (**Picture 8**). By completing the area delimited by the side concrete plinths of the existing Malayan sun bear and Southwest African lion ditches through making brick-work and constructing partition walls, three exhibits of different size were produced. To make the inner habitat as natural as possible, the enclosures were finished using stones, dead trees, vegetation, oak-wood lining and final covers. Inside the largest enclosure designed for tigers, a pool with a waterfall was excavated under the artificial rock piled from large stones. Each of the three new exhibits were then roofed by protective mesh tensed by ropes and attached to the supporting

pillars of varying height, creating the final "big top" with sufficient protection against the release of the felines. The alteration of the fence included full-range paving of visitor sidewalks. In addition, the project also allowed for the partial roofing of the newly created attractive space in front of the exhibit in the middle, including a new seating area in the centre, which however is still not complete. As regards interconnection of the newly adjusted enclosures with the indoor facilities, all the existing metal slide doors in the openings for releasing the animals from the indoor area outdoors were replaced. The final phase of the redesigning process included alteration of the existing outdoor enclosure for the lions. With glass installed in the visitor area, two new viewing points into the lion enclosure were created (**Picture 9**). Thanks to the landscaping that significantly contributed to the quality

and attractiveness of this part, the visitors now have a new opportunity of an open view of the southern front of the redesigned house from the main road along the lowland anoa house. Thus, the house for carnivores has become one of the well-balanced breeding facilities built up to the modern standards with animal needs in mind, while satisfying the visitor by providing exclusive views of the animals.

Total costs: CZK 5,043,575.74 (VAT exclusive)

Orang-utan exhibit and indoor facility

This capital project involved converting the former mandrill indoor quarters and glazed outdoor enclosure into a facility meeting the requirements for relocating the orang-utan male Ferda, thus providing more space for the Bornean orang-utan group. As the original glazing was showing several cracks and the glass was scratched and partially non-transparent due to inadequate original design, all glass panes were removed and replaced. Further, a part of the central heating system was dismantled as well as the lattice doorway inside the facility, which was replaced by a grille installed into the door. Then the locksmith work followed consisting of installing heater covers and a sleeping bench, while making adjustments outdoors for exchanging trunks, which included thickening and compacting the ceiling construction and installing bars in the outdoor exhibit entrance. The new treatments included completion of the overall floor design outdoors and masonry work finishing the enclosure. Simultaneous-





ly, surrounding sidewalks and surfaces were paved and access stairs, adjacent walls and plinths repaired. The facade of the building obtained a uniform design (**Picture 10**). In addition, the opening for releasing the animals outdoors from the indoor quarters and back was reconstructed. Waterproofing was ensured by installing new roofing made of melted modified strips, including execution of sheet metal components in terms of securing the edges and draining rainwater.

Total costs: CZK 563,901.36 (VAT exclusive)

Nilgai indoor facility

Under this capital project, a new stable designed for the nilgai and located in close proximity to the elephant house was constructed, as the antelopes had to be previously moved each winter into the rhino house. The building was implemented in accordance with the respective building permit released, constructed almost to the full extent using the own resources of the zoo who teamed with Pila Union Chabarovice (a lumber mill). The facility is a wooden structure installed on a base plate and substructure made from permanent shuttering elements,

insulated by thermal insulation to guarantee the required temperature inside the barn. The structure was connected to LV power supply system and water was piped into automatic drinking bowls. The make of the roof with overhang allows for loading and storage of feeding bales and bedding materials. Apart from the stable, a pen was constructed to allow for releasing the animals out in wintertime; the pen is separated from the main grassy enclosure by a timber palisade placed

on the metal support structure (**Picture 11**).

Total costs: CZK 449,539.60 (VAT exclusive)

Conclusion

In 2009, the department members joined two meetings of the UCSZ Development Committee. The spring meeting of engineers from all Czech and Slovak zoos was held at Ostrava Zoo on 20-22 May and followed by the



autumn session in Olomouc on 22-23 October. There the technical personnel of the zoos could exchange their experience and lessons learned in the field of zoo operations, capital projects and daily issues, thus getting helpful ideas for future work. The meeting of the Development Committee proved that the operations and technology

department performs well in the real-life conditions of Usti nad Labem Zoo. Even though an increased amount of money to make the necessary repairs and maintain the existing buildings and structures, children playgrounds, fleet and other machinery, enclosures and exhibits would be certainly appreciated, facing the challenge resulting

from the financial reality, the team is fully aware of the fact that great efforts will be required to maintain the current trend of development of the zoo in the coming period and firmly believe that they will be able to continue contributing to increased reputation of Usti nad Labem Zoo.



**Education
and Publicity**



Education and publicity

Ing Vera Vrabcova

The personnel changes as a result of reduction in the co-funding announced by the City of Usti nad Labem for 2010 presented the most significant change that affected the activities of the department. In the fourth quarter of 2009, the numbers were reduced from three to two persons, which did not significantly affect the department's activities, but will probably limit the range of activities in the year to come.



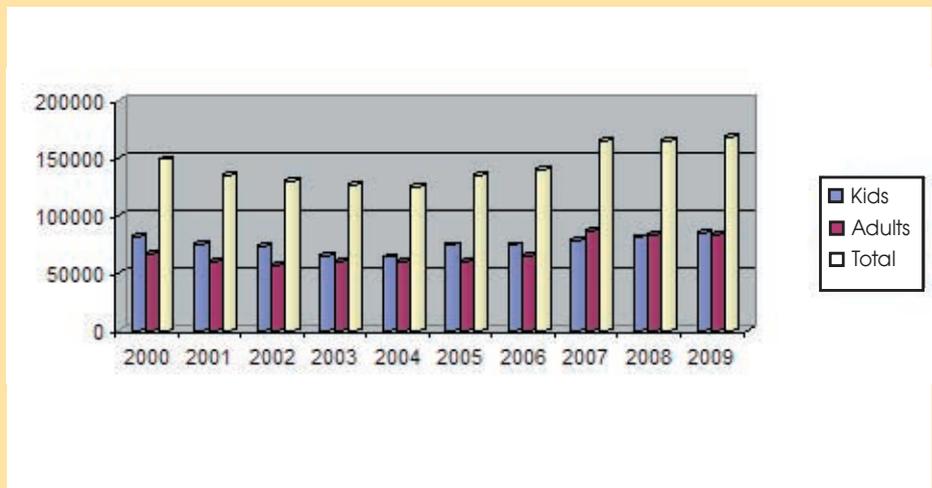
VISITOR NUMBERS

In 2009, Usti nad Labem Zoo received a total of 167,864 visitors (**Picture 1**)

Table 1

Year	Children	Adults	Total	Year	Children	Adults	Total
1955	-	-	56443	1982	74300	66911	141211
1956	-	-	40307	1983	70755	71547	142302
1957	-	-	57151	1984	73686	76964	150650
1958	-	-	70977	1985	79585	77778	157363
1959	34940	40696	75636	1986	89148	84545	173693
1960	36525	39110	75635	1987	83662	80987	164649
1961	46495	36521	83016	1988	85759	92384	178143
1962	42883	47139	90022	1989	76072	83415	159487
1963	40483	44027	84510	1990	61999	65302	127301
1964	45265	44734	89999	1991	54183	58410	112593
1965	39888	48349	88237	1992	63777	63691	127468
1966	39635	46716	86351	1993	62688	63297	125985
1967	38912	44252	83164	1994	61645	53938	115583
1968	30110	42039	72149	1995	65824	57668	123492
1969	35523	38174	73697	1996	74511	62220	136731
1970	29352	33248	62600	1997	73959	64451	138410
1971	22550	45931	68481	1998	74555	64258	138813
1972	21600	51303	72903	1999	81911	70794	152705
1973	32942	42255	75197	2000	81532	67456	148988
1974	42947	37356	80303	2001	74995	60615	135610
1975	45433	43277	88710	2002	72938	56365	129303
1976	70044	30303	100347	2003	65484	60725	126209
1977	79909	30425	110334	2004	64233	60053	124286
1978	59298	51756	111054	2005	74275	60153	134428
1979	56544	53680	110224	2006	74284	65072	139356
1980	60865	54047	114912	2007	77995	87240	165235
1981	70129	73978	144107	2008	80900	83597	164497
				2009	84568	83296	167864

	Children	Adults	Total
2000	81532	67456	148988
2001	74995	60615	135610
2002	72938	56365	129303
2003	65484	60725	126209
2004	64233	60053	124286
2005	74275	60153	134428
2006	74284	65072	139356
2007	77995	87240	165235
2008	80900	83597	164497
2009	84568	83296	167864



- 83,296 adults and 84,568 children, which means an increase by 3,367 visitors compared to the previous year, and the third largest attendance in the history of the zoo when analysed against the data since 1955, when monitoring the visitor numbers took place for the first time.

The attendance diagram for the recent 10 years shows the varying numbers over the period. Any increase is always heart-warming, although the numbers do not rise as much as we would wish to.

PARTNERSHIP WITH MEDIA

Each of the media was kept updated via email concerning all zoo-related news and events.

Television - Several news were covered by all major televisions in their nationwide broadcasting. Most frequently, it was TV R1 Lyra within their regional news scheme (**Picture 2**). The zoo formed the scene of one episode within the Czech TV programme titled



Book of Cool Tips, as well as one of stories within the Wandering Camera programme.

Radio - Zoo updates were covered by various regional radio stations. Cesky rozhlas Sever (Czech Radio North) welcomed Usti Zoo team members several times at their live broadcast.

Press - Information was often published not only in regional press, but through the Czech Press Agency also in national daily newspapers. In addition, the zoo was making use of national magazines. Residents of Usti nad Labem and the surrounding were kept up-to-date through the monthly magazine Nove uestecke prehledy (Usti Review - A New Edition) or a bimonthly newsletter published by the City of Usti nad Labem.

Online media - In addition to the two websites operated by the zoo (www.zoousti.cz and www.choboti.cz), which are updated regularly, information on the zoo was posted on diverse online information services and servers, such as those ran by the City Usti

nad Labem, UCSZ, etc.

EVENTS FOR THE PUBLIC

A total of 32 shows and events for adults and children were held in 2009. In terms of organisational issues, the most challenging ones included the all-day-long programmes organised by the zoo staff to full extent. Events arranged in the partnership with others totalled five. Quizzes, where visitors could participate on a voluntary basis, presented another type of activity. They involved three events that formed part of other programmes and three separate events. Exhibitions presenting various highlights formed a special kind of event. The zoo promoted its own events namely by bill-posting services within the city mass transit system (**Picture 3**), by notifying the media via email, and by online posting on the zoo's web site, plus making use of the partnerships with regional media. Information about events to take place also appeared on various online information services.





Overview of events

31 January - 3 February: Half Term Holiday All children graded with full marks could enter the zoo free of charge and watch a special show of Moritz, the California sea lion.

7 - 15 February: Spring Holiday At The Zoo A full-week programme for families with children dedicated to the current EAZA Living Together Campaign. Various competitions employing motional skills **(Picture 4)** and knowledge were in place at the Carnivore House. Throughout the holiday time, Moritz the sea lion performed its show during special training sessions. The programme was extended over a few following weeks when school holidays were running in Teplice, Decin and Litomerice districts, receiving 543 children visitors.

22 March: The Seal Day at the Zoo A programme on the occasion of the World Seal Day and a celebration of Usti Zoo seals' round birthday, including children choir performance, a seal workshop and quiz in the form of a crossword puzzle (62 participants), and the exhibition of posters aimed at the protection of seals and other fur animals.

22 March - 4 April: Against the Hair Informative exhibition and cinema show supporting the campaign focused on illegal hunting of seals took place inside the Carnivore House, with NGO Svoboda zvírat (EN: Freedom for Animals) as co-organisers.

4 April: Opening the 2009 Season Unveiling a memorial plaque of Dr (hc) Heinrich Lumpe on the occasion of the 150th birth anniversary; outdoor

enclosures for leopards and tigers formally opened. The results of the Animal 2008 survey announced, theatre and music performances, a small fair and competitions for children.

4 - 30 April: Usti nad Labem Zoo... Close to the Wild A display of animal photographs from Usti Zoo by Petr Prasek inside the Exotarium house.

9 - 13 April: Easter at the Zoo An established five-day quiz titled "For the Marzipan Egg of the Rhea Bird" highlighting the Easter and zoological topics (484 participants), with a creative workshop and a demonstration of animals related to Easter (rabbits and chickens) held the last day.

26 April: The Earth's Day at the Zoo A programme available for every active visitor focused on the Earth's Day and the European-wide Living Together Campaign dedicated to the coexistence of man and carnivores in Europe. Children from selected primary schools presented their own pre-arranged activities and projects at various sites around the zoo. Each visitor could buy a product, join the manufacturing process or support the campaign through their donation, with revenues allocated to the particular project within the campaign. Musical and theatrical performances were held by the Koliba Restaurant.

1 May: May Day at the Zoo The main programme was held at the terrace of the Koliba Restaurant, which hosted performances of a country group, the group of historical fencing and belly dancers. In the zoo grounds, competitions for children and children's television studio

arranged by TV R1 Lyra (regional TV station) took place. In addition, the established quiz "Love in the Wild" was underway from 1 to 3 May.

1 May: The Bird Day at the Zoo An event organized on the occasion of the International Day of Bird Songs, 150th birth anniversary of Dr (hc) Heinrich Lumpe, called "Father of European birdlife", and Usti nad Labem's Year of Bird. Morning bird-watching in the zoo grounds in the company of a professional guide, hearing and identification of bird singing, bird capturing and ringing hands-on sessions **(Picture 5)**. A lecture on birdlife held by Mgr Vaclav Beran, a zoological specialist from the City Museum of Usti nad Labem. Birdlife-drawing workshop by the Koliba Restaurant.

1 - 23 May: Design Against Fur - Fashion Victim 2007 An exhibition of works of winners within the student international art competition. Posters focused on fur animal hunting control displayed inside the Exotarium house.

16 May: Tracking the Fox Year 5 of a show organised by Junak - the Union of Czech Scouts. A day with scouts at the zoo including natural science contests.

24 May: Africa Day at the Zoo A programme dedicated to the International Day of Africa composed of naming the baby mandrill, drummer performance and Egyptian dance show, sales of original Tanzanian jewellery and fine arts plus African mask face painting; everything concluded by a special journey titled "In the Footsteps of African Animals" - a narrated walk around the zoo with a stops by



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each exhibit hosting African animals. In parallel, a quiz "... Most African" was underway with 169 competing participants.

24 May: Take Your Veteran to the Zoo An event organized by Elektrowin, a company dedicated to environmentally friendly disposal of used appliances, with 22 devices collected throughout the event.

24 May - 30 June: Pieces from Tanzania An exhibition of photographs by Ilona Fuzekova in the Exotarium house.

30 May: The Children's Day with Hitradio FM Labe (a local radio) A combined programme guided by a skilled speaker was underway on the terrace of the Koliba Restaurant, with contests for prizes and kid's discotheque taking turns. The programme included a performance of a popular duo Ju & Hele and naming party with young two-humped camels.

5 June: Dreamnight at the Zoo An event organised for chronically ill and disabled children. Usti Zoo became involved already for the fourth time. The programme took place after closing hours from 7 to 10 pm. The participants could meet the elephants from close, pet the sheep and goats in the pet animal yard, and get in touch with ponies and camels. A programme was underway by the Koliba Restaurant including a show of Divadlo Santan (a Czech theatre company), kid's discotheque, face painting and refreshment. A giant trampoline was available as well. Afterwards, the participants went by the zoo train to

the middle part of the zoo, where they could visit the Exotarium and the places outside the Carnivore House, where competitions employing all human senses were prepared, as well as a special display of various skins, skulls and other natural history specimens. In the Exotarium, the children could see different terrarium animals from close or even touch them **(Picture 6)**. A grand exercise of Moritz the sea lion under floodlight closed the evening programme.

23 - 28 June: The Cacti Exhibit An established event organised by the Czech Union of Cacti Growers took place in the lower part of the zoo. Everyone had the opportunity to buy any of the specimens displayed.

26 - 30 June: Free Entry with Full Marks All children graded with full marks could enter the zoo free of charge

and get a gift - the zoo guidebook.

6 July: The Orang-utan Day at the Zoo The programme arranged on the occasion of 40th birthday of Ferda the orang-utan, celebrating at the same time the 20th anniversary of orang-utan keeping at Usti Zoo. A new exhibit for Ferda was formally opened and a cake handed to all orang-utans, which was accompanied with a creative workshop, face painting, and a quiz about the orang-utan.

6 July - 31 August: Summer in the Zoo Grounds A display of photographs by Jiri Prusa inside the Exotarium house.

18 July: The Carnivore Day at the Zoo A programme dedicated to the current European Living Together Campaign including naming young Amur leopards, theatre performance, dance show, creative workshop, face painting and children competitions.

1 - 30 September: Still Living An exhibition of photographs by Bc Petr Pavliska at the Exotarium house.

1 - 30 September: Coexisting with Large Carnivores - Challenge and Opportunity An awareness raising exhibition supporting the ongoing Living Together Campaign arranged in cooperation with Hnutí Duha (a Czech nature protectionist NGO) inside the Carnivore House **(Picture 7)**.

5 September: Say Farewell to the Holidays alias Shake Our Hands - The fifth annual festival for disabled citizens. The zoo served as a market place for products manufactured by assisted

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workshops and a musical band called Vega performed inside the Koliba Restaurant. Healthy diet products presentation named the Day of Safe Food was underway all day long. At the end of the event, a young Vietnamese sika deer was named. Every physically/mentally impaired person presenting their ID card could enter the zoo for free.

5 September: Take Your Veteran to the Zoo An event organised by Elektrowin, a company dedicated to environmentally friendly disposal of used appliances.

12 - 13 and 19 - 20 September: European Heritage Days An event organised by the City of Usti nad Labem aimed at making the visitors familiar with the history of important places around the city and surroundings, of which the zoo has been a participant for several years. Thanks to its interesting history, the zoo offered its guests walking along the Lumpepark Education Trail, visiting the memorial plaque of Heinrich Lumpe, buying the historical publication 100 Years from Lumpepark to the Modern Zoo or the DVD title Retracing the Bird Paradise.

28 September: St Wenceslaus's Day at the Zoo The main programme was underway near the Koliba Restaurant - country music band performance, majorettes from DDM Usti nad Labem and belly dancers. At the Carnivore House, official naming of a baby irbis took place. There were also competitions for children and free health inspection for visitors' pets. Every man called Vaclav (Wenceslaus) plus

every dog could enter for free thanks to the patron of the day, which was at the same time the world day of veterinary services.

3 October: The World Animal Day and Animal Foster Day A traditional event of saying thanks to every donor in the form of a joint tour around the zoo dedicated to the news and young animals of the passed season, ended by granting young nilgais the names selected by the participants, historical fencing show and musical performance by the Koliba Restaurant.

28 October - 1 November: Zoo Trails Year 16 of the well-established discovery quiz concerning zoo animals (187 participants). Each day there was a lecture and discussion on the zoo out of scenes activities at the Heinrich Lumpe Zoo School, associated with watching movies and demonstrating contact animals (44 students).

24 December: Christmas Day at the Zoo A Christmas present for every visitor that could be watching an unusual Christmas present-giving in the form of feeding orang-utans, Malayan sun bears and elephants with food prepared by the zoo keepers. The ceremonially packaged gifts with hidden food and goodies became the most attractive point of the programme, and even Christmas trees were available.

28 December: Christmas Songs at the Zoo The traditional Christmas programme took place inside the Carnivore House, including a musical concert of primary school children, puppet show, creative workshop

for kids and the opportunity of leaving a gift for the animals under a special Christmas tree placed inside the house.

PESISIR BALIKPAPAN PROJECT

Since 2007, the zoo has been a supporter of the research and conservation project on the island of Borneo, Indonesia, where observation of the local fauna by the zoo's researcher has been underway, covering in particular the proboscis monkey, with subsequent plans for protecting the unique coastal mangroves in the form of establishing a natural reserve. To support the project, a fundraising evening was organised at the Carnivore House in June 2009, attended by zoo partners, major donors and other guests. The programme was designed in an Indonesian style. The Balikpapan Pesisir Project was presented directly by the Mgr Stanislav Lhota, the zoo's scientific worker, who had spent a year in the field (November 2007 - November 2008). The programme included a drummer performance and an Indonesian dancing show in folk costumes, and a musical performance of several well-known popular singers supporting the event. The main highlight was an auction of large format photographs of four photographers who visited the site over the past years and took intriguing shots of local flora and fauna. All of them had agreed to provide their photos for the charity auction. The proceeds were donated to cover the necessary expenses associated with the conservation activities of Stanislav Lhota (**Picture 8**), who returned to Balikpapan in August 2009. The latest news from the field can again be tracked following the special link on the website of the zoo.

SCHOOLS AND CONSERVATION EDUCATION

Currently, the Publicity and Education Department can offer 16 different education schemes for all types of schools, some of which are available in multiple options per participant age. In 2009, most of the schemes were updated and their quality improved. In teaching, the zoo team makes fully use of Heinrich Lumpe Zoo School that provides good technical support, as well as accessories in the form of natural history specimens and dermoplastic materials. The selection of guided zoo



tours with a stop in specified houses using the zoo train met with a great interest. The educational programmes tend to be most popular in May, June and September, but schools have already started booking dates at other times of the year as well. A new development was an educational scheme fee as of 1 October 2009, which makes CZK 20 per student. In 2009, a total of 71 sessions took place, including 43 educational programmes and 28 guided tours with 2,136 children and students participating.

At the end of the year, the zoo offered schools the option of buying annual group tickets. Valid for 20 or 10 visits, the pass can be shared by different classes of the same school and the price is favourable (50% discount).

In the late 2009, pre-school institutions were invited to take part in the operation named Arrange Your Own Christmas Tree at the Zoo, which was accepted by 10 groups of children that decorated the zoo with their products and ornaments at the Christmas time (**Picture 9**).

As every year, the zoo held a half-day seminar in cooperation with UJEP (Usti university) designed for future teachers aimed at educational activities that the zoo has on offer for students of different types of schools as well as normal visitors. 27 university students participated at the workshop above, while other students, this time those from the Life Science Faculty, took part on a tour aimed at keeping elephants.

In 2009, the department staff participated in discussions and lectures outside the zoo for diverse categories of age - children, adults and seniors. In

addition to three talk sessions and a long-term exhibition of Usti Zoo animal photographs held at the Town Library Litomerice, the zoo was invited by the Town Library Decin for the third time as guests to the Night with Andersen event, and the zoo staff participated at reviewing a documentary film *Animals in Love* in collaboration with the NGO Centre for Environmental Education North, Litomerice. Two discussion events focused in particular on the history of Usti Zoo were held for the people residing in senior homes in Velke Brezno and Chabarovice municipalities. Each of the sessions was combined with presenting zoo's contact animals.

ANIMAL KEEPER TALKS

The keeper talks that make use of meeting the animals from close or featuring natural animal characteris-

tics have already become a routine part of the education work. The much-favoured sessions included Moritz the California sea lion show, the elephant walk around the zoo and training in their outdoor exhibit, the honey tree for Malayan sun bears (**Picture 10**), the Bornean orang-utan feeding and enrichment, seal and piranha feeding, and also the pony riding - one of the top attractions for the smallest. Many of the shows are accompanied by interesting narration performed either live by the keeper or making use of a pre-narrated text and loudspeakers.

ADOPTION, FINANCIAL DONATIONS, ADVERTISING

The animal adoption scheme has been in use at the zoo since 1990. The system has undergone several changes over the years and as the last of them took place in 2009; more details are covered by a separate article.

Other ways of significant support include placing advertisements (**Picture 11**) in the zoo grounds, or financial and material donations. Renting an advertisement area in the zoo grounds can be paid directly or a reciprocal agreement can be signed, so the zoo can in turn place their advertisements on other sites with large numbers of visitors. The advertising project called 1,000 Elephant Footprints organised by outsourcers and bringing considerable amounts to the zoo, forms a special means of fundraising. Gifts are mostly used by the zoo in all kinds of competition for children. Overall, CZK 1,206,319 was raised thanks to advertising in the zoo grounds. Through financial donations, CZK 632,684 was



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collected.

ANIMAL OF THE YEAR 2008

In 2009, the poll titled the Animal of the Year took place already for the third time. It was underway online on the zoo site from early January through 15 March 2009, with six animals that entered into the memory of the zoo visitors at a significant level, like animals born, round birthday, etc in 2008 nominated within the contest as follows: Moritz the California sea lion that celebrated its 10th birthday and is among the most popular animals in the zoo thanks to public training sessions; the baby lions Aisa, Juno and Gaia, visitor much-favoured creatures - the first successfully raised offspring of the Southwest African lion; the giraffes Enid, Jonka and Sotiba - the calves born in 2008, presenting three animals raised within a single year for the first time in the zoo history; Pepa the tapir that celebrated its 10th birthday plus formed a stable pair with its partner - the female Isara - getting their new house in the beginning of the season; Indra, a female of the rare Malayan tiger - an absolutely new species with breeding now starting at Usti Zoo; and the alligators Libor with Eliska, the long-time residents of the zoo that were playing the main role within the Allies to Allies fund-raising operation. Total 2,284 respondents attended the poll, meaning an increase by 923 people compared to the previous year. Having been taking the lead in the poll for 11 weeks, Moritz the sea lion clearly became the winner. The formal announcement of the results and handing the main prizes (**Picture 12**) took place within the grand opening of the 2009 season.

ZOOCLUB

Founded in Usti nad Labem Zoo back in 1973, the Zoological Club has been running under the auspices of three zoos of the Czech north - Usti nad Labem, Decin and Chomutov. The membership meets routinely every three months. The programme of each meeting usually includes organizational matters and is topped off with a scientific lecture supported by a colour slideshow or a digital presentation. In 2009, this involved four talks: Tanzania... on the road, Expedition Papua New Guinea 2008, Cambodia and Baja California or Completely different Mexico (**Picture 13**). The Fauna Bo-



hemiae Septentrionalis proceedings continued with publishing 500 copies of the new volume Tomus 33 (2008) with 500 copies. The publication, supported by the funding of the Ministry of Environment since 2001, is distributed to diverse scientific institutions in the Czech Republic and abroad.

100 YEARS FROM LUMPEPARK TO THE ZOO

Although the zoo celebrated the occasion already in 2008, several activities continued in 2009 as it was the year when 150 years passed since the birth of Heinrich Lumpe, the founder of the existing zoo grounds. On the occasion of the season opening ceremony, a memorial plaque of Mr Lumpe placed on the zoo office was unveiled (**Picture 14**). In addition, the birth anniversary of Mr Lumpe inspired a new 2009 pocket calendar. Other notable events included the premiere of the documentary film *Retracing the Bird Paradise* that took place in the Cinoherni studio theatre, with Ms Maria Fotuhi, Mr Lumpe's grandniece, being one of the most important guests. The film's DVD was available for sales to those concerned throughout the year at the zoo entrance and online. The summer visit by a last living descendant bearing Lumpe's name, Ms Monica Lumpe accompanied by her daughter Fiona, was a pleasant surprise for everyone.

PRICE D

In June, the National Theatre in Prague hosted a ceremony of granting the recognised Price D, which is awarded to benefactors and donors in various

areas of cultural life. With zoos being amongst the target groups, each zoo can propose a maximum of five major donors supporting in some way that zoo's animal collection. The reason for nominating does not have to be the amount of funding, but may be based even on the period of support, an interesting story or a personality. In 2009, 16 persons were shortlisted based on nominations of six zoos. A seven-year-old Nina Rambova, the youngest of the Usti Zoo foster parents, became eventually the winner in this category (**Picture 15**).

OTHER ACTIVITIES

The team members attend periodical meetings of the Education and Promotion Committee to the UCSZ. This time the meeting took place in Liberec, where Usti Zoo presented the paper on the zoological competition

organised to support the EAZA Living Together Campaign. In addition, the zoo contributed to the UCSZ Annual Report by a detailed report summarising the preceding year in terms of animal numbers, husbandry news, new exhibits, events for the public, etc.

New interpretation boards and touch panels were installed in the zoo grounds, complementing the redesigned outdoor enclosures of the Carnivore House. Other information signs were located at several places near the separated waste collection containers, showing the visitors the need for recycling in the context of nature conservation, on which everybody can participate (**Picture 16**). In addition, signage regarding the keeper talks was installed for the first time and replacement of some species labels began, both employing the zoo design.

During the year, the website continued to be used by its visitors as a source of information on updates in the zoo, with other interesting links added whenever necessary.

Miscellaneous activities are reported in a chronological order:

In January, one of the department staff members participated at the Go Regiontour fair in Brno. Further, the zoo presented their promotional materials at every fair and exhibition where the City of Usti nad Labem was involved.

In the middle of June, the team of Usti nad Labem Zoo took part in 12th Zoological Games without Frontiers organised by Lesna Zoo.

A study trip to Schmiding Zoo, joined by personnel of Usti nad Labem as well as other Czech zoos, Zoological Club members and other persons was



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organised by the department members in June.

On the occasion of the 19th International Festival of Records and Curiosities in Pelhrimov - an event held annually in June, the zoo placed first within the 2008 Advertising Record category, ie the largest number of coins of a single value collected for advertising purposes. This included presenting the record and accompanying activities held at the zoo and handing the prize to the zoo representative.

In the summer season, a survey focused on visitor satisfaction was underway at the Carnivore House, with three fixed questions as follows: *What do you like in the zoo grounds? What do you miss and what should be changed? With what you are unhappy in the zoo grounds?* In addition, there was an additional question changed every month. Every questionnaire could be included in the lottery. The outputs pointed to the pros and cons

concerning the zoo grounds as perceived by the visitors. Each month about 700 people joined the survey, of which approximately one third of suggestions were found interesting

and of use.

From April to October, the zoo became involved in the event named Wandering around North with Czech Radio North, where it was ranked among the twenty tourist destinations that should be visited by the participants.

In October, the Carnivore House hosted a ceremony of declaration of results within the national floor ball tournament organised for children's homes.

In December, the zoo took part in the established event named Christmas in Usti nad Labem held in the city centre during Advent. The zoo arranged a presentation of contact animals - Cameroon sheep. In addition, anyone could take a ride in the zoo train. The zoo also took the opportunity of participating at a pre-Christmas fair for the first time by selling their seasonal tickets, valuable publicity materials like DVDs and book of photographs by Petr Slavik, soft toys and Christmas candlesticks (**Picture 17**).

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Animal adoption

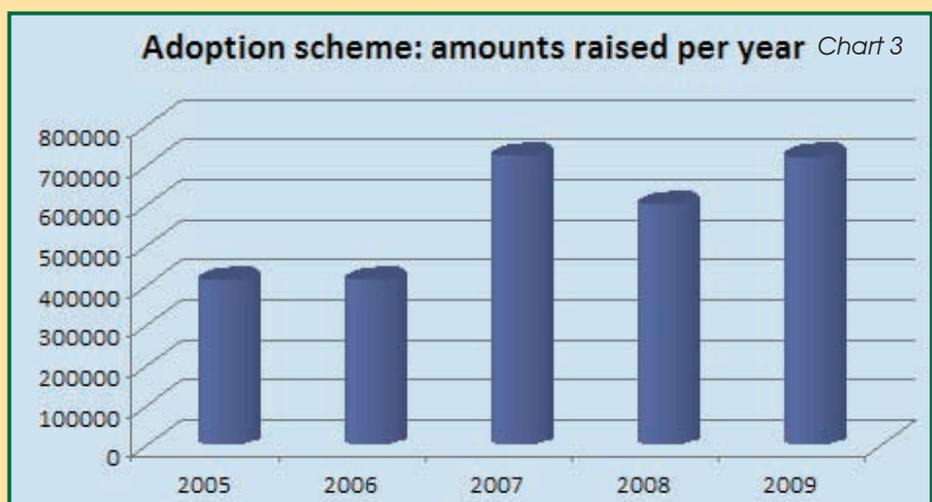
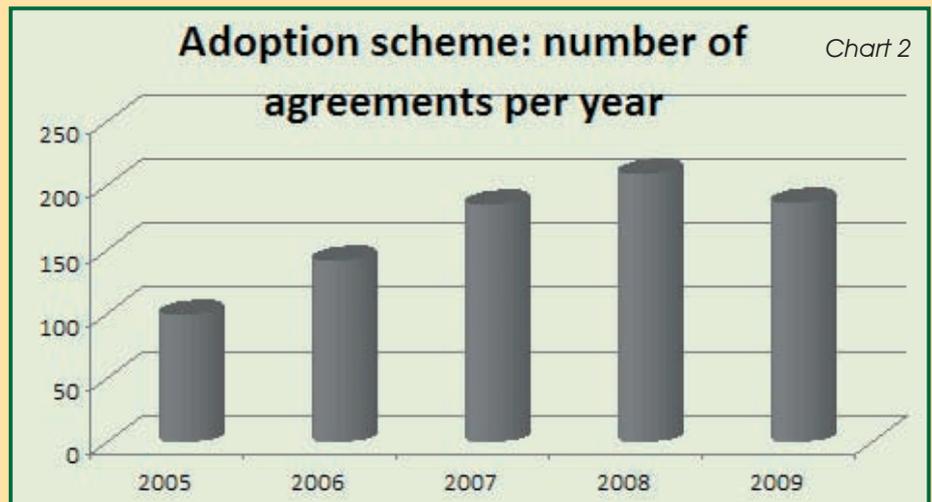
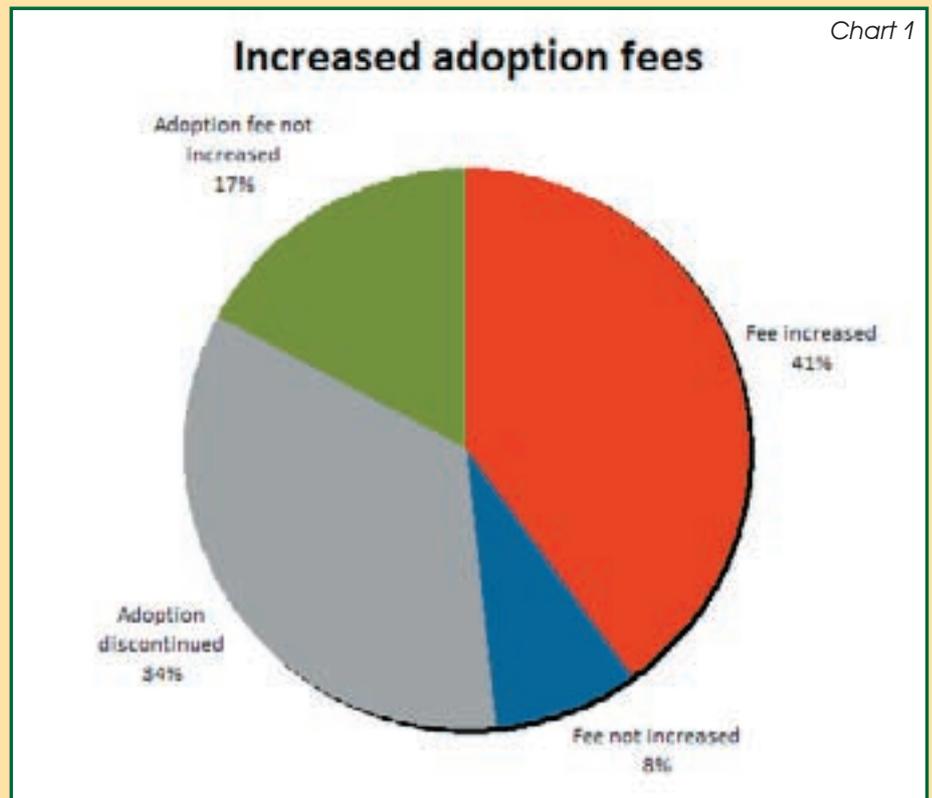
Andrea Balejova, Ing Vera Vrabcova

The zoo has had the animal adoption scheme in place since 1990. Once launched, this effective method soon became a significant source of funding. It should be noted that it was Usti nad Labem Zoo who first took the advantage of the economical changes in the country implemented following 1989, presenting this opportunity to the public. Over almost 20 years, large numbers of foster parents, whether individuals, enterprises, groups of children or others, were included on the list. Our gratitude is certainly extended to everyone, but particularly to those whose support continues, demonstrating their long-term commitment to the zoo.

In 2009, we had to review the costs for adopting each animal. This was necessary because recurrent annual increases in the expense of animal management no longer matched the adoption amounts desired. Being fully aware of the risk of reduced numbers of adoption agreements against the increased values, from reasons namely including the financial crisis that had affected everyone, no matter if businesses or households, we were seeking to offer a compensation in form of benefits and gifts to all existing foster parents; nonetheless, in 2009 everyone could still have the option of paying the same amount as in the previous years, of course under the previous conditions. Each donor could make their own decision; **Chart 1** shows the results. In 2009, a total of 188 adoption agreements yielded CZK 718,813 - this means CZK 118,296 more than in 2008, despite the foster parent numbers that dropped by 21 persons. The numbers above, as well as comparisons over the period of five recent years are shown on **Chart 2 and Chart 3**.

The cities and villages the foster parents came from mostly included those throughout the Usti Region; nonetheless, there were also supporters dwelling in some more distant places, like Prague, Cheb, Mlada Boleslav, Dvur Kralove nad Labem, Pelhrimov and others. The distribution of zoo's foster parents by place of residence is shown in **Chart 4**.

The greatest number of individual



supports range from one thousand to two and a half thousand Czech crowns, where we record 108 agreements that mostly cover creatures held in the animal house called Exotarium. The range from 3,000 to 9,000 Czech crowns includes 62 agreements. Finally, agreements on the animals with adoption fee of CZK 10,000 or more count 18, which is due to the numerous pack of the Malayan sun bear, the most attractive species in the group. For better representation, please see **Chart 5**.

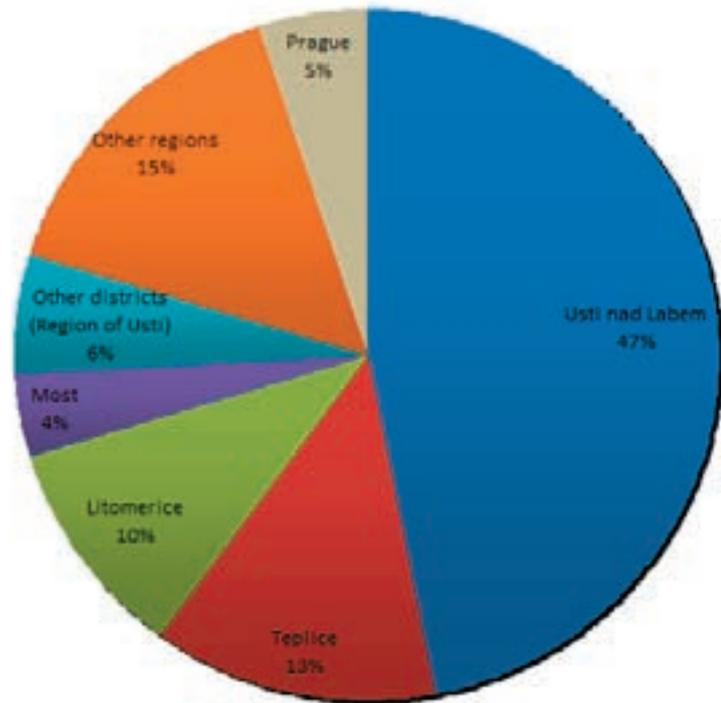
Adopting an animal is in fact a financial donation that can be declared a deductible item by natural and legal persons according to Czech tax law (§ 20(8), Act 586/1992, as amended), which sure must have been something to consider for many donors. If a donor prefers making the adoption agreement for a shorter term than full year, then a proportional amount can be calculated. Adopting an animal is also a great idea for a present - adoption certificates given to loved ones on a special occasion, such as birthdays or weddings, were nothing rare.

The donors adopting animals are rewarded for their favour by a free entrance ticket, with a number of entries and category determined by the amount donated, and a certificate of adoption. In addition, a small sign with donor's name is placed near the adopted animal or its exhibit. Naturally, every donor's name is listed in the zoo's annual report and on the website. In fact, the form for adopting an animal may be found on our Internet pages, and is now a powerful tool for streamlining the adoption process and is continually contributing to getting ever more donors.

In October every autumn, a Foster Parents Day is held (**Picture 1**), including a programme featuring news from the previous year, be it animals born, exhibits constructed or other developments.

Proportional representation per district

Chart 4



Number of adoption agreements per price range

Chart 5



Living together — 2008/2009 EAZA Campaign

Ing Vera Vrabcova



Usti Zoo has been contributing to the campaigns announced by the European Association of Zoos and Aquaria since 2000, when the first of these - the EAZA Bushmeat Campaign - was introduced to the public. While every campaign is normally announced in autumn at the EAZA Annual Meeting, the Usti nad Labem Zoo's involvement mostly aims to begin in January of the following year, which can be understood because it always takes some time to prepare for the campaign, appoint the most suitable Czech name, translate information materials and select appropriate activities. For the years 2008 and 2009, a campaign named Living Together was introduced at the EAZA Antwerp meeting, which for the first time involved only Europe, the area we live and are familiar to. For many this might be difficult to grasp due to the widely-held notion that conservation efforts concern distant locations rather than immediate surroundings. Although European wildlife is not its main focus, Usti nad Labem Zoo endeavoured to develop activities to promote the fact that protecting nature in Europe might be something that everyone can contribute towards. Satisfaction would come of this even if it meant that people were made aware of the issue.

Basically, target groups included two categories - general visitors and schools. Concerning the general

public, information panels (**Picture 1**) developed in partnership with other Czech zoos were used, installed by the wolverine enclosure as the only European carnivores in the zoo's collection. A cash-box was placed in the zoo's entrance office where visitors could insert an amount of money devoted to specific wolverine research and conservation projects in Sweden. An event developed for the general public, which in particular involved children from Usti nad Labem and the surrounding towns (Teplice, Litomerice, Decin), was underway at the Carnivore House over the period of spring holiday for each district. Seven sites were

available inside the house, where children could perform various self-activity tasks related to the carnivore life and skills. Every visitor could also become involved in the carnivore-dedicated project day held on the occasion of the Earth's Day, which included discovering intriguing facts and the possibility of buying products to help support the conservation project by a small amount of money for everyone. In May, the zoo held another public event in cooperation with Usti nad Labem Boy Scouts. Titled Tracking the Fox, the programme again combined the fact discovery component and motional activities (**Picture 2**), but also brought the financial benefits (sales of ceramic bears). During the summer holidays, an event named the Carnivore Day was dedicated to carnivores and the campaign as such.

Activities for schools were structured depending on age of the students. For children from kindergartens, the zoo launched a ceramic competition named Make a Bear for the Zoo attended by about 10 groups, with children products then being sold on various occasions throughout the year and proceeds donated to the conservation project. Children from primary schools could develop their potential on the occasion of the Earth's Day right in the zoo grounds on 25 April 2009. Those of year 1 to 5 could present a theatre performance showing posi-



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tive aspects of carnivores, with only one group making use of this opportunity - the nursery from Vojnovicova Primary School, performing outside the Carnivore House (**Picture 3**) and then in front of the Koliba Restaurant. The students of year 6 to 9 could register their projects and perform their activities around the zoo grounds, which was responded by only two schools - again Vojnovicova Primary School of Usti nad Labem and Buzulucka School from Teplice. That day, the Boy Scouts of Nestemice joined the carnivore campaign activities by offering a competition named the Carnivore Trail to all newcomers, where especially children could test their physical and learning skills. For secondary and vocational schools, a competition was launched for individuals and teams of up to three persons, whose task was creating a PowerPoint presentation dedicated to European carnivores, with 46 works collected from 53 students coming from Usti nad Labem, Dubi, Steti and Roudnice nad Labem. For year 6 to 9 students, an educational programme on European carnivores was developed, including an introductory PowerPoint presentation and self-activity worksheets. This programme was charged and the funds raised again sent to support the Swedish conservation project. In total, Usti Zoo collected and sent over CZK 15,496.

Living Together: a knowledge competition of three stages

A special three-stage knowledge contest developed for the upper level of secondary schools and the first level of eight-year grammar schools formed a

special part of activities within the EAZA campaign. Underway in the period from January to May, the event was designed for students of schools in Usti nad Labem, Teplice and Litomerice districts, to which contest propositions were circulated. The first round took place in January and February, with a total of 199 participants from the target districts. In addition, students from Most became involved, as the contest was also available on the zoo website. The participants were asked to respond twenty quiz questions and think over the set of five topics. Everything had something to do with European carnivores, especially those living in the wild throughout the country. The works delivered were scored by an expert jury and the best fifty of them qualified for the next round.

The second run took place in March and April and the task of those

competing was creating their own presentations on wolverines, either in writing or with use of computer, video and audio tools and resources. At the same time, everyone had to include in their work the observation of the behaviour of wolverines held in Usti nad Labem. The high level of most works was a nice surprise for the jury, so scoring was not that easy. In this part of the contest, 25 best participants could be shortlisted.

The third round was held on Friday 29 May 2009 right in the zoo grounds with all the finalists attending! They faced a great portion of work related to the topic. In the morning, they had to deal with self-active jobs, where in addition to the general questions about European carnivores they had to solve several practical tasks, including identifying footprints and body language or comparing differences between the carnivore species kept in Usti and their close European relatives. As part of the work, everyone had to produce a short article addressed to the residents of the area to which large carnivores returned after many years, with the aim to avoid repeating past mistakes in the coexistence of humans and carnivores. In the afternoon, the finalists tried to identify sounds, skins, skulls or even whole specimens of several native carnivores (**Picture 4**). A unique Carnivore Trail became the main part of the programme, when signs of a carnivore were scattered around a demarcated part of the zoo and the participants were asked to find as greatest number of carnivore traces as possible. In addition, time of doing so was measured to everyone, which was also part of the score. The abso-

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lute winner of the contest became Sandra Brabencova from Vojnovicova Primary School, **(Picture 5)** her classmate Katerina Skokanova from the same school placed second and the third place was taken by Jan Kohl from Biskupske gymnazium (grammar school) Bohosudov.

The last thing to mention is that every participant of the grand finale proved a surprisingly high level of expertise and their performance was wonderful.



Staff



Staff

Zoo executives

Mgr Tomas KRAUS	Director (up to 31 May 2009)
MVDr Vaclav POZIVIL	Director (as of 1 August 2009)
Jana CERNA	Deputy Director; Senior Manager, Finances
Ing Petra PADALIKOVA	Senior Manager, Animal Husbandry
Jiri HANZLIK	Senior Manager, Operations & Technology
Ing Vera VRABCOVA	Senior Manager, Education and Publicity

Specialist personnel

Ing Pavel KRAL	Animal Manager
Bc Tomas ANDEL	Animal Manager
Zdena SVORCOVA	Marketing Specialist
Mgr Stanislav LHOTA	Animal Research

Other senior staff members

Frantisek TRIEBL	Manager, Transport Services (up to 6 October 2009)
Hana ROHACKOVA	Manager, Horticulture and Landscaping
Jaroslava DOBROVOLNA	Manager, Animal Rescue Centre to Usti nad Labem Zoo

Executives:	5 persons
Animal Husbandry:	32 persons
Finances:	5 persons
Operations & Technology:	12 persons
Publicity and Education:	1 person
Animal Rescue Centre to Usti nad Labem Zoo:	3 persons
Public works staff:	20 persons

TOTAL as per 31/12/2009: 78 persons



**Legal
Information**

Legal Information

Zoologická zahrada Usti nad Labem, příspěvková organizace

Drazdanska 23

400 07 Usti nad Labem

Czech Republic

Legal form: Non-profit, city co-funded organization
ID: 00081582
VAT ID: CZ-00081582
Telephone: +420 475 503 354
Telephone & facsimile: +420 475 503 421
Email: zoo@zoousti.cz
Internet: www.zoousti.cz, www.choboti.cz
Full legal name in Czech: Zoologická zahrada Ústí nad Labem, příspěv. org.
Registered address: Drážďanská 23, 400 07 Ústí nad Labem, Czech Republic

Founder: Statutární město Ústí nad Labem / Statutory City of Usti nad Labem
Founder's address: Velká hradební 8, 400 01 Ústí nad Labem, Czech Republic
ID: 00081531
Mayor: Mgr Jan Kubata

Zoo Director and CEO: MVDr Vaclav POZIVIL



The ZOO is a member of:

