



Annual Report 2010



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From the Director's desk

The zoological park in Usti nad Labem has recently become a haven of rest and a place to educate the wide audience, this making the premises not only a part of relaxation areas, but also a component of cultural and educational life of the city and its population. The breeding priorities set and the comprehensive collection of animals indicates the prospective direction that the zoo should take in terms of animal management as well as constructing and redesigning the existing breeding facilities, not mentioning the overall development of the zoo in future.

The north of the country and the Usti nad Labem region in particular is an agglomeration having a hallmark of past times. The brand of heavy industry, unhealthy air and lunar-like landscape can be very difficult to overcome. With the ongoing process of making the north of Bohemia as such more attractive, the unexampled surrounding and the increased offer of ever-expanding services as part of active resting makes it possible to integrate the zoo into cultural, learning and leisure activities designed not only for the limited range of people in the Region of Usti, but also for the neighbouring areas.

Hand in hand with this tendency, modern zoos should not only keep pace in terms of collection structure; they should also be creating adequate infrastructure, this meaning a satisfactory network of social facilities, dining opportunities and comfortable car parks, plus form a safe place for day-long resting and provide related cultural activities like children's playgrounds, places to rest and souvenir shops. The possibility of spending free time even during periods of adverse climatic conditions should be amongst the standards as well. Creating a nice place for every visitor to return, make a stop when passing through the northern region, feel happy and receive good care in terms of physical needs and state of mind, thereby strengthening the emotional bonds to the zoo in Usti nad Labem on every occasion, is something highly desired.

In 2010, the zoo received a substantially lower number of visitors compared to the five recent years. We can wonder whether this was just a consequence of widely proclaimed crisis, unfavourable weather or the society's overall trend. Despite the dropping numbers in zoos elsewhere in the Czech Republic, one should not forget the abundant problems relating to raising the attractiveness of the zoo environment. Even though Usti nad Labem Zoo is certainly not a much-sought tourist attraction, either for its surroundings or the label of being located in northern Bohemia, it still offers an attractive environment with lots of experience, be it the sea lion training, enrichment of orangutans and other animals or the opportunity of strolling the zoo jointly with elephants. Usti nad Labem Zoo offers the visitor plenty of options to not only enjoy the sweet and short moments of animal shows, but also find a picturesque place to relax, sit or rest all day long. In short, the zoo offers a place where the visitor is always welcomed back. The zoo seeks to achieve a state in which the name Usti nad Labem is linked with the zoo rather than with the chemical industry or the issue of fellow misfits. The zoo is a jewel in the depressing settings of the industrial town. We would like to build a modern zoological garden making a pleasure of repeated coming back to everyone. Our efforts, however, face a total debt of the region and lacking public funding. The process of redesigning and recovery is too slow and the lack of capital funding is restricting the zoo management to dealing only with situations that are a matter of urgency. Continued postponing the investments is leading to reducing the zoo's attractiveness compared to other animal parks in the country, which enjoy the opposite situation with the development underway and the new exhibits becoming a great attraction for visitors and tourists. Heart-warming for us can be the construction of the zebra house that commenced in 2010. This facility, the temporary substitution of which had served since 1974, is planned to be completed and formally opened in 2011. The zoo's internal debt of repairs and capital projects is tremendous, which makes me believe that gradually we will find solutions and concerns throughout the zoo's partnership as well as raised attention of the zoo founder, i.e. the Statutory Town Usti nad Labem, to seek a conceptual solution and continue the progressive modernisation of the zoo. I wish Usti Zoo enough patriots and genuine interest of people for whom the zoo is a place, where they like to return and one they can boast.

Finally, I would like to thank all the visitors, friends and animal fosters, as well as the supporters and everyone who is not inattentive to the zoo in Usti nad Labem. Big thanks go in this hard period to the staff members for doing everything possible to make the visitor coming back and recalling our zoo with love.



**Animal
Husbandry**



Senior Manager's report

Ing Petra Padalikova

In 2010, animal transfers carried out within the framework of the European Association of Zoos and Aquaria (EAZA) prevailed over other activities, with almost twenty operations of this type taking place throughout the period. This doubled the previous year's numbers and was caused in particular by efforts to relocate young animals bred by rare species as a result in the especially successful year 2009 (**Picture 1**).

Capital construction activities were condensed into the second half of the year. Despite the unfavourable financial situation of the founder, funds were successfully generated to initiate construction of new housing for the Hartmann's zebra. The new building contains 14 well-equipped boxes and a part of the house can be customised and used for future housing of other hoofed mammals, such as antelopes. The work is expected to be finished in spring 2011.

Proceeds from the operation entitled "Allies to Allies" were used to purchase an outdoor alligator enclosure camera system. It serves to continuous overseeing the area and is believed to help prevent causes of vandalism and disturbance of animals experienced in the recent years. The remainder of



the funds was used for adjusting the alligator wintering facility. The new premises will provide the animals with a doubled space. In addition, the depth of the pool was considerably enlarged and a heating cable built in the dry part of the area to facilitate heating. Moreover, the facility will also enable separate housing of the male and the female, should any aggressive behaviour occur.

Compared with the previous year, there was an increase in the total number of species within the

collection, with particular enlargement of the bird and reptile stock. As per 31 December 2010, Usti Zoo held a total of 213 animal species, with a small increase in the number of individuals up to 1040 animals held by the end of the year. The zoo's international cooperation involved participating in 32 European Endangered Species Breeding Programmes (EEP), with another 16 species registered in European Studbooks (ESB).

As for the offspring produced at the zoo, 2010 was another year of success, with the birth of a female **harbour seal** (*Phoca vitulina*) being the most important breeding event. Thanks to the six-year-old female Mary timing the birthing process to take place in the morning, the staff were able to oversee the first hours of the youngster's existence. Despite the initial concerns, Mary showed to be an excellent mother (**Picture 2**). As every effort of reproducing the species in Czech and Slovak zoos has failed and the number of European institutions breeding harbour seals is extremely low, the young and cute baby female earned the attention of media and visitors and was given a Norwegian name Jente later in September. Unfortunately, the female seal suddenly died two weeks after the naming event, with the post-



mortem report showing acute swelling of the brain, the cause for which could not be determined. Despite this sad fact, the trouble-free course of the birth and the opportunity for Mary to practise mother's care of her offspring present an extremely valuable experience, so everyone is hoping to see the breeding to repeat the next year.

The birth of the zoo's first **South American tapir** (*Tapirus terrestris*) was another equally important event. Despite keeping tapirs since 1999, a special house in order to provide the species with ideal conditions for reproduction could be constructed only in 2008. The birth of baby female Tira shows the success of that measure. The case of the newborn tapir was the first female's birth as well. Again, no problems with managing the offspring were encountered.

Several events took place at the Carnivore House. At the beginning of the year, the collection was expanded with a new large feline arrival - the **clouded leopard** (*Neofelis nebulosa*). Usti Zoo had some experience with the species over a short period during the devastating floods in 2002, when a pair of these fascinating predators was evacuated from Prague Zoo. Eight years after, the zoo could finally see the inclusion in the related breeding programme and welcome their own animals, with the first newcomer being male Cayan, a yearling from Paris Zoo, while his future mate Lenya was acquired by the zoo on their visit to Howletts, the UK. In breeding these felines, the point of success consists in early connecting the male with the female. This should happen until the male is one year old, otherwise there is a high risk of fatal injury to the female right by the male. Due to the fact that the male had reached eight months when arrived, we had no time to waste. The process of bringing the two animals together was successful, so all we need is to keep fingers crossed in hoping for future offspring.

During the year, all the leopard cubs born in 2008 left Usti Zoo, with young **Amur leopard** (*Panthera pardus orientalis*) Kitan heading for Nordens Ark, Sweden, while his brother Kirin was



subsequently transferred to Prague Zoo. Dudley Zoo is now home to young snow leopard female (*Uncia uncia*) Nanga. With approved breeding by the EEP coordinators for both species for the subsequent year, the zoo can look forward to an additional wave of young leopards. Changes occurred in the collection of small felines as well. First, the 2009's cubs of the **fishing cat** (*Prionailurus viverrinus*) moved within the EEP framework to the zoo in Eskilstuna, Sweden, and Beauval, France. Due to the suspected presence of Salmonella in the small feline quarters, the breeding pair was joined together later than usual. The next birth took place only in early June and as the female was already an experienced mother, she managed to breed three (1.2) cubs. Secondly, the development in the **Geoffroy's cat** (*Leopardus geoffroyi*) was not very favourable, as the breeding female died. Despite early veterinary intervention, efforts to stop the bacterial infection failed.

Many events occurred at the Old World Primate House. As part of the transport of the clouded leopard female in February, the zoo brought a male **Mt. Kilimanjaro guereza** (*Colobus guereza caudatus*) from Colchester Zoo. Boasting a long-term breeding record for the primate, this zoo is the only institution in Europe to have kept the pure *caudatus* subspecies, which

features a hairy tail and a mantle of white hair of great length on the back. As Usti Zoo's animals are very similar to this subspecies in terms of phenotype, the six-year male Merti was a very good candidate for a position of a breeding male for the local stock. Shortly after the arrival at the zoo, however, the animal began to suffer from intense diarrhoea, which did not improve despite every effort and the primate soon died. Post-mortem examination found inflammation of the pancreas, a disease that is in fact impossible to treat in this group of animals. This again left the four local females without a male, where completing the group remains a great challenge for the future.

Even in 2010 the reduction in the number of species at the Old World Primate House could not be avoided, when the zoo was forced to stop keeping the **entellus langur** (*Semnopithecus entellus*), with two last remaining females sent to Ostrava Zoo. On the other hand, the zoo was successful in stabilising the numbers of the second member of the leaf-eating primates, the **Javan langur** (*Trachypithecus auratus*), by importing a four-year-old male Manuk (**Picture 3**) from Dvur Kralove Zoo to join the three young females, which happened early in 2010. Javan langurs are found in two colour types, so Manuk's grey forms an interesting contrast to



the local ferruginous females. The process of joining together took place smoothly and soon after mating was observed with the oldest female. The result was the birth of a baby, but the female lacked experience and failed to breed.

The group of **De Brazza's monkeys** (*Cercopithecus neglectus*) enlarged with another animal born. This time it was a female, as well as with the group of **mandrills** (*Mandrillus sphinx*). Unfortunately, due to still failing efforts to develop a new enclosure for the latter species, every additional newborn animal causes wrinkles on the forehead at the moment despite the initial joy of successful breeding. The last-named of species with major updates during 2010 is the **northern white-cheeked crested gibbon** (*Nomascus l. leucogenys*). Following the death of the breeding male, the group stagnated at the level of one breeding female and three juveniles aged 2-5 years. Adding a new male had seemed to be very difficult, especially for fear of possible infanticide. In 2010, the zoo took a resolution to complete the group, with the oldest young one, male Bert, travelling to French Cleres Zoo first, and then a young male Samun brought from Liberec Zoo. The uniting process was initially underway without problems, but about two weeks after, there was a large conflict in the group, when the youngest animal was injured. The male was separated for some time, but once he rejoined the group, the situation unfortunately repeated with even breeding female Fey wounded this time. It became obvious that the reason for the conflict

between the two adults was the most recent youngster. Given that neither long-term separate housing nor outing the male was possible, the staff was forced to make a decision very rapidly. The male was brought together with the older youngster in the indoor enclosure, thus allowing for establishing a new breeding pair. Female Fey with the younger animal was left in the original exhibit, and it remains to wait for completion of the pair until weaning.

Changes too occurred in the primate collection kept at the Exotarium. The **ring-tailed lemur** (*Lemur catta*) group expanded, with another animal born. The other female became involved in the reproduction as well, but unfortunately the animal born suffered an open fracture of the femur when less than two weeks old and had to be euthanised. For the third breeding female, there has been a long struggle with inflammation of the genitals. The 2010 birth was an issue and had to be carried out by Caesarean section.

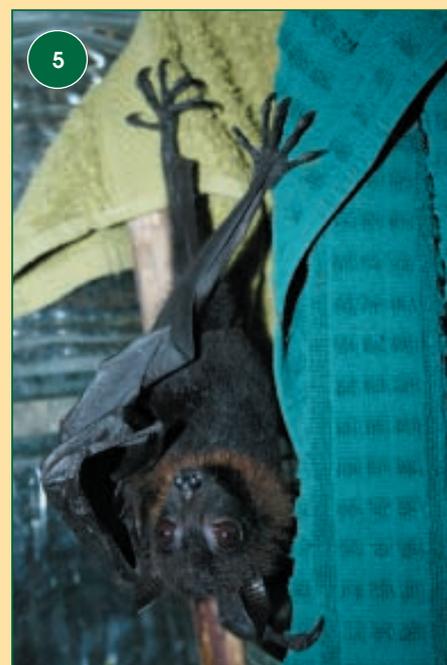
The two breeding pairs of the **ruffed lemur** (*Varecia sp.*) (**Picture 4**) reproduced as well. As regards the **red-ruffed lemur** (*Varecia rubra*), the managers decided to discontinue breeding once the offspring has been weaned, since juveniles often showed problems with thyroid function, this being suspected to be a possible genetic defect. While the female was sent with her two daughters to Safari Monde Sauvage, Belgium, the breeding male with this year's son was included in the mixed bachelor group consisting of two species that the zoo now keeps behind the scenes.

For the callitrichid collection, **pygmy marmosets** (*Callithrix pygmaea niveiventris*) bred as always, managing rearing three young animals in two litters. In addition, a capturing trap constructed by the keepers themselves was installed in the species' exhibit in 2010, this allowing the managers to catch particular individuals without causing stress to the rest of the group. The trap is in use in common medical procedures, such as microchip implementing, plus it facilitate capturing animals for permanent separation from the

group. It was nevertheless not the only improvement carried out within the callitrichid stock. Based on the findings of the Jersey Zoo, the premises were also fitted with compact UV lighting sources in the form of mercury lamps, under which the animals sun-bathe while receiving the necessary UV rays. Another change was the including genuine Arabic gum into a regular diet, as it forms a natural source of calcium for these gumivorous primates and the supplement used so far the animals almost refused to consume.

The first breeding in Usti Zoo's history was achieved in **golden lion tamarins** (*Leontopithecus rosalia*). Despite the young age, the female gave birth to two animals in 2010, with however just one of them reared successfully, as the female originating from Dvur Kralove Zoo was weaned too early and therefore did not have the opportunity to find how to care for offspring as part of the process of rearing siblings, this being a handicap that was much in evidence in rearing the juvenile mentioned above. With the great support of the male, the rearing process ultimately succeeded.

Another clawed monkey species, **cotton-top tamarins** (*Saguinus oedipus*) bred one juvenile. On the other hand, breeding in the stock of **golden-handed tamarins** (*Saguinus midas*) was not one with success. Earlier in 2010, two groups of this species were held. Due to space issues, one of them was sold to a private



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breeder. One of the exhibits within the southern part of the Exotarium house was modified to provide access to an outdoor enclosure and thus suit the needs of the other group. Sadly, the breeding female gave birth to a dead juvenile shortly after moving to the new quarters. The next birth took place in the autumn and did not go without complications. The extremely long expulsion phase forced the staff to intervene, with attempts to perform a C-section, but unfortunately a disrupted uterus with upcoming intoxication of the abdominal cavity was found by the veterinarian, so the female had to be euthanised.

In 2010, breeding activities started in

another callitrichid species, the **white-lipped tamarin** (*Saguinus labiatus*). In fact, breeding efforts in this species was something the zoo already handled years ago. A young female arrived from Bojnice Zoo, a descendant of a male originating from Usti nad Labem. Based upon the recommendation of the studbook keeper, this animal was paired with a young male from Tierpark Gettorf and everyone hopes to see the first offspring soon.

As regards the **two-toed sloth** (*Choloepus didactylus*) stock, females were exchanged with Dresden Zoo by Usti sending their weaned juvenile to Dresden, while getting a female Sid, which was already an adult

animal. This way the breeding group was enlarged to 1.2 animals, so the reproduction will not depend just on a single female. The young animal born the previous year went to Lesna Zoo in Zlin. Everyone was happy to see another juvenile produced by the primary female.

Positive developments included those that were experienced in the group of the **small flying fox** (*Pteropus hypomelanus*) with a breeding success after some years, which happened thanks to the efforts of their keeper. In several unsuccessful attempts to breed from previous years it was observed that weaning was crucial to the development of the offspring. When that period approached, the female keeper started this time with a regular supplementary feeding. Fortunately, the juvenile learned to take food from a syringe, so it succeeded in going through this critical stage of its development (**Picture 5**).

Positive developments occurred in breeding the **red panda** (*Ailurus f. fulgens*). With the failing efforts to complete the pair over the period of almost two years, a recommendation was received in 2010 to obtain a male from Krefeld Zoo to join the Usti-based female, with one-year-old Eugenio completing his journey and arriving in Usti in late May. Despite the smooth process of joining the female, the situation changed later in the year since Eugenio escaped two times from the enclosure area. This surprised everyone, as a few years earlier the enclosure underwent major adaptations as a result of similar escapes of the female. Thanks to the rapid action taken by the zoo security staff, the male could be quickly located and caught. Unfortunately, this forced the animal managers to perform a re-adjustment of the enclosure fence and place Eugenio temporarily in a cage-like enclosure. As the male is likely to remain separated from the female at the start of 2011, the panda mating season is going to be missed.

Asian small-clawed otters (*Amblonyx cinerea*) reared two juveniles in 2010, whilst previous year's offspring departed to a private collection.

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Negative developments were encountered in the case of **babirusas** (*Babryrousa babyrussa*). Unfortunately, the breeding male had to be euthanised because of degenerative changes of the spine, which caused the animal considerable pain. The female was examined by the IZW Berlin team of experts. With a tumour found in the animal's reproductive system preventing any natural birth to take place, the female was made available to Jihlava Zoo, where she can at least serve to potentially stimulate their breeding pair. Terminating the breeding activities for this rare species was a great loss for the zoo. Unfortunately, the EEP situation has not been stable either, since babirusas remaining in Europe count twenty animals, largely of high age, with just a single pair doing well in terms of reproduction.

Breeding in the hoofed mammal section was typically successful in each of the deer species. The **Indochinese sika deer** (*Cervus nippon pseudaxis*) group reared four juveniles, whilst the breeding trio of the **Reeve's muntjac** (*Muntiacus r. reevesi*) enlarged with two young animals produced, with another female giving birth for the first time, which this time was the one imported from Italian Bussolengo. Four cases of calving were recorded in the group of rare **white-lipped deer** (*Cervus albirostris*), resulting in two young animals reared successfully.

In addition, two llama species produced offspring, which in the case of **alpaca**s (*Vicugna pacos*) involved seeing the first crias produced by the new male of German origin,

meaning the zoo currently holds two reproducing groups. Three juveniles were born in the group of the **Bactrian camel** (*Camelus bactrianus*) - **Picture 6**.

For equines, 2010 was a year of success in the **Somali ass** (*Equus africanus somalicus*) stock, with two young mares seen being born. Unfortunately, one of these accidentally entered the neighbouring enclosure of the stud, where it suffered a cervical spine fracture and had to be euthanised, whilst only four months old. The young stud originating from the zoo's stock was relocated to Marwell Zoo. The situation in the **Hartmann's zebra** (*Equus zebra hartmannae*) stock did not change even in 2010: the stud newly imported from Tierpark Berlin has so far not shown good breeding characteristics, so the group remains without any offspring.

Species doing well within the antelope collection included the **Kafue lechwe** (*Kobus leche kafuensis*) that produced three calves. The **defassa waterbuck** (*Kobus ellipsiprymnus defassa*) group is now complete with a new male arriving from Magdeburg Zoo, whilst the triplet born the previous year was successfully sent to a private zoo in Indonesia. In the group of **Rothschild giraffes** (*Giraffa camelopardalis rothschildi*), offspring was successfully reared again by each of the three females. Early in the year, male Enid who had been temporarily separated and placed at the former elephant house was transferred to Montpellier Zoo, France. A sad event was the death of sixteen-year-old male Atbar, a proven breeder who without doubts

belonged to famous Usti Zoo's animal characters. The **nilgai** (*Boselaphus tragocamelus*) stock underwent an unplanned generational change, with Ford the aged breeding male dying, soon followed by one of the breeding females. This left the animal managers with the necessity of retaining the previous year's offspring (**Picture 7**) as a basis for continued breeding.

Earlier in the year, the staff eagerly anticipated the results of insemination of Delhi, the female **Asian elephant** (*Elephas maximus*). Unfortunately, the January drop in hormonal levels excluded any pregnancy. Following the zoo senior staff decision on the artificial insemination project to continue, the attempt was repeated on 26 September, with again Calvin, the bull elephant from Ostrava Zoo, selected as the donor of the sperm. Collection went smoothly thanks to the great efforts of colleagues from Ostrava Zoo, with semen showing good quality. Again, more details on any success of the attempt will be known early in 2011.

The 2010 nesting season was



successful as regards the special parrot breeding facility in that two and three chicks were bred by the **military macaw** (*Ara militaris*) and the **blue and yellow macaw** (*Ara ararauna*), respectively. Repeated breeding success was experienced in the **mealy amazon** (*Amazona farinosa*) and the **Jardin parrot** (*Poicephalus gullielmi*). Following a seven-year pause, offspring was reared by the **violet turaco** (*Musophaga violacea*). **Wrinkled hornbills** (*Aceros corrugatus*) were nesting again. This time it took place twice, this leading to two chicks reared successfully, which unfortunately were males in both cases. Given the rarity of the species, it was resolved as early as two years ago that another pair needs to be formed to allow for a reserve stock, but all efforts to produce a female here or anywhere else in Europe have failed in the most recent years. Over the entire history of the wrinkled hornbill breeding, there was just a single case of a female hatched at the zoo. Sadly, it died due to bacterial infection before reaching sexual maturity. Such a disparity in the sex of hatched chicks is more than striking and clearly deserves some in-depth scientific analysis of causes.

A successful season was also one in the **barn owl** (*Tyto alba*), although the clutch consisting of eight eggs produced only a single chick hatched. This low rate of impregnation seems to be associated with the advanced age of the nesting pair. Once weaned, the young barn

owl was transferred to AVES Rescue Centre for reintroduction. **Snowy owls** (*Nyctea scandiaca*) bred two chicks. These birds form another example of a decision to form an extra pair, with one of the 2010 chicks becoming the very basis. In 2011, this bird is going to be joined together with one bred at Decin Zoo. The only bird of prey kept following the previous year's reduction is the **saker falcon** (*Falco cherrug*). This returned one successfully reared chick. The bird stock was expanded in 2010 with several new species, one of these being the **southern ground hornbill** (*Bucorvus leadbeateri*), a pair of which was formed of individuals originating in zoos in Olomouc and Ostrava and is going to find new home in the former babirusa exhibit, now vacant. The former flamingo enclosure is to serve in 2011 for housing a mixed-species community with prevailing aquatic birdlife. To this end, a triplet of the **white-faced whistling duck** (*Dendrocygna viduata*) was brought from Ostrava Zoo. The large dry part is to provide settings for the breeding pair of **demoiselle cranes** (*Anthropoides virgo*) obtained from Lesna Zoo. The creatures can be seen for now in the outdoor enclosure near the Elephant House (**Picture 8**).

The reptile department reports another breeding success in the row for the *Cyclemys pulchristriata* turtles, whilst the first-ever breeding was achieved in the **knight anole** (*Anolis equestris*), the latter also being a species of which the breeding triplet was reduced by shipping the submissive female to Paris

Zoo. Another breeding success came with the two species of **kingsnakes** (*Lampropeltis* sp.) and last but not least, with the **royal python** (*Python regius*). Changing the male brought clear benefits to the zoo's female, the result being the five eggs protected by the female's body in the upper floor of the exhibit. The animal managers' decision not to intervene produced one juvenile hatched right on display. Several new species were added to the reptile collection. The riverine exhibit inside the Elephant House was expanded with the Asian **black marsh turtle** (*Siebenrockiella crassicollis*) added to the existing dwellers, the last terrarium in the row downstairs of the Exotarium exhibit became a new site for a triplet of the **common chuckwalla** (*Sauromalus obesus*), a member of the iguana family, and the lesser display was stocked with diurnal **Madagascar day geckos** (*Phelsuma madagascariensis*). By the way, the latter species was donated to Usti by colleagues from Ostrava Zoo (**Picture 9**). In the section of amphibians, **black poison dart frogs** (*Dendrobates auratus*) reproduced as usual. The frog collection expanded with nine juveniles of the **African bullfrog** (*Pyxicephalus adspersus*) added; these animals come from import from Tanzania.

As part of professional activities, animal husbandry staff members took part in 2010 meetings of the UCSZ's specialist committees held in zoos in Liberec (primates and felids, hoofed mammals), Ostrava (parrots), Prague (amphibians and reptiles) and Decin (deer), plus they participated in the session of the Animal Record and Transfer Committee meeting held in Kostelec nad Cernymi lesy. On the other hand, Usti nad Labem Zoo hosted the 2010 elephant and pinniped committee meetings (**Picture 10**). Under the provisions of the UCSZ General Meeting, Head of the Animal Husbandry was appointed a coordinator of the *In Situ* Conservation Projects and Scientific Research Committee. The animal husbandry staff joined the EAZA Annual Conference held this year in Verona, Italy, under the auspices of Bussolengo Zoo.



Veterinary care

MVDr Renata Pozivilova

The vendor of veterinary services in 2010 continued to be Sdruzeni veterinarnich lekaru a sluzeb (Association of Veterinarian Doctors and Services), with the veterinarians providing standing care (**Picture 1**), as well as services of availability over the weekends and public holidays.

2010 was the year of the re-licensing procedure to extend the zoo operator authorisation under the Act 162/2003 Coll., Act on Zoological Gardens, with the Ministry of Environment being the licensing body on the basis of inspection carried out by the Czech Environmental Inspectorate, as well as the locally relevant Regional Veterinary Administration office, and after discussing all the reports with the Commission on Zoological Gardens. This licensing procedure takes place every other year. Another license extension was granted to Usti nad Labem Zoo in hearing the positive and consenting reports from all those participating, which eliminated any risk of failure to perform the zoo's mission.

Building alterations to the Animal Rescue Centre created proper facilities for disabled individuals of native fauna species, which until 2010 had been receiving the refuge in the zoo premises. This also satisfied the requirement of the Regional Veterinary Administration to avoid handicapped animals being placed at the zoo because of potential transmission of diseases from wildlife to zoo-based animals. Since the Centre is managed by the zoo, it is served by the same veterinarians.

During 2010, pre-arrangements were being made for artificial insemination of Delhi, the female elephant, with regular blood testing and determining the blood levels of hormones underway, as well as several ultrasound examinations conducted by the colleagues from the IZW Berlin. The best time to perform came in the late September with Calvin, the bull



elephant from Ostrava Zoo, selected to be the donor of the sperm as in the previous year. This time, the quality of freshly collected semen was excellent, and the process of semen collection as such carried out by IZW Berlin as well as subsequent transfer to Usti nad Labem went smoothly. The same applied to the insemination operation as well. The 2010 was also marked by two major successes in reproduction. A female South American tapir was born after the preceding ultrasound examinations and confirmed pregnancy; the animal is lively and active. In addition, a female harbour seal was born but unfortunately died suddenly two months after. The post-mortem examination and other tests in SVI Prague detected hydrocephalus internus, which most likely was a congenital defect since no infection was found.

Even if animals are healthy and sound, their health needs to be checked from

time to time. When that is the case, animals mostly need to be narcotised, so testing is carefully planned to perform as many operations as possible over a short period of time. Some of examinations were carried out in collaboration with colleagues from the IZW Berlin. These specifically included a male Amur leopard born at the zoo in 2009. In addition to a full check-up, blood testing and ultrasound examination was carried out including that of sexual organs. The animal was found to be healthy and is now a prospective breeder for future Amur leopard breeding activities.

Joint activities with the IZW Berlin team also included an examination conducted on the babirusa female (**Picture 2**). The aim was to determine whether the animal was healthy and might be a potential candidate for artificial insemination, due to serious degenerative changes of the spine

found in the male babirusa, which severely restricted the animal's movement, so the male was unable to breed normally. Ultrasound examination of the female was disappointing for everyone: with a considerable tumour and other minor changes to the reproductive systems found, these animals are unfortunately not going to reproduce any further.

Worth-mentioning surgical treatments included Caesarean section in the female ring-tailed lemur (**Picture 3**). As the surgery went well and the female still lives in the group, it has a fair chance to continue successful rearing in future.

The number of preventive and therapeutic activities comprised 380+ laboratory tests and 142 post-mortem examinations. 150 animals were transferred outside the zoo premises, whilst 51 animals arrived at the zoo; 160 animals died, this including minor aquarium fish and amphibians.



Nutrition and feeding

Bc Anna Hrudkova

In 2010, the Usti Zoo's animal collection feeding and nutrition budget amounted to almost CZK 3.5 million. As a result of subsidizing financial crisis and the debt of the town, there has been ongoing pressure on the department to save money, even at a price of reducing species attractive to visitors but with increased demand for feeding, such as flamingos.

The volume of vegetables and fruit (**Picture 1**) supplied by Teplice-based Hoka Company on a periodical basis twice a week was successfully reduced by CZK 480,000 compared to the last year, which could be achieved mainly due to the food discarded by Hypermarket Globus Trmice and Hypermarket Albert (former Hypernova) that the zoo receives in the form of donation, paying just for the transport, which takes place three times per week.

Efforts were underway to substitute rather expensive components of diets by cheaper commodities, including apples, which is largely consumed food with an increase in quantity by almost 4 tonnes in 2010, so the total volume fed in 2010 was 29 tonnes. Fodder beet is the item typically consumed by the creatures we nurse in quantities amounting to 25 tonnes, the beet being stored during winter



in two pits within the premises of the park. Other important components of diets include carrot, with about 20 tonnes fed in 2010. Although bananas are an essential commodity which is too difficult to replace, the quantity consumed was successfully reduced with almost 3 tonnes saved compared to the previous year, namely thanks to the products discarded by the supermarkets as well as compensating the item by jams and stewed fruits donated by individuals. Total quantity of bananas consumed was almost 6 tonnes in 2010.

Meat has been sourced from the Mimon-based Vasa Company

for already three years. In 2010, the carnivorous animals we nurse consumed a total of 6,978 kg of beef supplied by the firm above for the average price of 49 CZK per kg, amounting to a total of CZK 341,922 CZK per year. The meat delivered is one appropriate for human consumption; even though the resulting price level is rather high, the beneficial effects of meat quality is something that the health of the animal collection clearly reflects.

There was a minor change in procurement of poultry meat (**Picture 2**), with frozen pullets now sourced from Vodnanska drubez and frozen chickens and skeletons supplied by a Krmiva Posvar's sales agent, the former being of human consumption quality as well. With a total of 5,710 kg of poultry meat fed in 2010 and the average price of 27 CZK per kg, the total cost of the commodity amounted to CZK 154,170. This means that the use of poultry meat in fact equalled that in 2009.

The volume of herrings eaten by the pinniped stock was reduced, with 1 tonne saved compared to the 2009's 5.4 tonnes, the reason for this being more frequent days of fasting, because pinnipeds suffered digestive problems, plus the fish supplied were often returned and exchanged for other types.





A noticeable increase can be seen in the consumption of rabbit meat, which has been sourced from Mr Drba, Roudnice nad Labem or private breeders served as suppliers from time to time. 5.5 tonnes for approximately CZK 308,000 were fed in 2010.

Feed rodents present an integral part of diet in small carnivores and predatory birds. Although the zoo was capable to cover a certain proportion by in-house production (**Picture 3**), the balance had to be outsourced. Seeing that the volume of the rodents purchased as well as total quantity consumed has reduced compared to the previous year was relieving. In fact, this can be a result of the stopped tradition of keeping injured predatory birdlife from the wild. Currently, those birds of prey stay at the zoo over a limited time of necessary treatment and then they are released back into the wild. With 4,000 rats and 17,000 mice less and 433 hamsters more than in the previous year, the numbers of these animals fed in 2010 amounted to 5,820 rats, 20,100 mice and 5,059

hamsters.

Pellets form a considerable component of feeding rations, with standing suppliers being Sehnoutek a synove, partnership, a company based in Volec, delivering the required amount upon agreement by telephone approximately every two months. The not very favourable weather for feeding the green fodder (**Picture 4**) in 2009 caused the use of pellets to increase. Despite every supplier's effort to source less expensive commodities for their pellets, thus making their products cheaper, the zoo was far from achieving any greater cost savings. The approximate quantity of ruminant pellets was 12 tonnes for roughly 63,000 CZK, while that of the compound feed designed exclusively for the giraffe was 85 quintals for 93,500 CZK. The quantity of purchased special zoo pellets designed for children's zoo vending machines (**Picture 5**) amounted to 7.5 quintals, which perfectly fits the level of 2009. This time the entire stock was however not sold to the zoo audience, which



reflects the decreased level of Usti Zoo visitor numbers, with reasons including the unfavourable weather mentioned above. Other types of pellets include special zoo animal compounds, with 50 quintals consumed by fallow deer and the same quantity used by horses, for a total of CZK 38,500 and 31,900, respectively. The level of ostrich and mice pellet consumption equalled that experienced in the previous years.

Obviously, vitamin preparations need to be administered throughout the animal collection in addition to routine feedstuffs and pellets, with almost 5 q of these sourced at diverse price levels added to the feeding rations in 2010.

As in the previous year, three staff members participate in daily operations in terms of feed preparation, this including two persons employed on a permanent basis. All the suppliers deserve many thanks for the successful cooperation in 2010, which the same being anticipated for 2011.



The harbour seal (*Phoca vitulina*) and its husbandry at Usti nad Labem Zoo

Bc Tomas Andel

Creatures highly attracting the visitor throughout the zoos certainly incorporate members of the earless seal family (**Picture 1**), this currently comprising 10 genera, of which eight refer to true seals, while the remainder covers the elephant seal and the hooded seal. The number of currently living species has dropped to 18, with the West Indian monk seal (*Monachus tropicalis*) most likely becoming extinct in 1950.

In the course of evolution, earless seals developed a number of adaptations to aquatic life, these including in particular the perfectly streamlined body shape, limbs converted into flippers, closable auditory canals and many others. Most of their time seals spend in water, where they cater for food, this largely consisting of different species of fish, cephalopods and occasionally crustaceans and molluscs. The animals return for resting to the dry land or ice floes on a periodical basis, even though they can sleep in water as well. Over the breeding season, they gather to form numerous colonies on beaches, where they deliver and rear their young. Seal milk is a highly nutritious one in that it contains up to 50% of fat, allowing the offspring to develop and gain weight very quickly. A thick layer of subcutaneous fat serve the animal not only as excellent thermal insulation, but also protects the seal against hydrostatic pressure at their great diving depths that normally range from 100 to 200 m, with diving periods about 30 minutes between breaths. A female elephant seal diving into the depth of 1600 m over the period of 2 hours between breaths is referred to be a record holder. During such diving, the heartbeat rate will reduce to only 10 beats per minute, while the standard condition is around 150 beats per minute. When swimming, seals can achieve speeds from 22 to 37 km per hour, with crabeater seals being even able



of reaching speed of 25 km per hour when moving on ice. Species-specific length in seals can range from 1.2 to 6 m, the weight varies between 65 and 350 kg. Striking sexual dimorphism occurs in the elephant and hooded seal, where females are much smaller than males. Of the eighteen species of the earless seal family, European zoos hold representatives of three species, which is the Baikal seal (*Phoca sibirica*) - a seal endemic to Lake Baikal, the population of which is estimated to 60,000 to 70,000 individuals, then there

is the grey seal (*Halichoerus grypus*) held for example at Podkrusnohorsky zoopark Chomutov, a place not very far from Usti, with its population estimated at approximately 300,000 individuals in the wild, and the harbour seal (*Phoca vitulina*), a species held throughout the country in Usti nad Labem and Jihlava, which with some 500,000 individuals in the wild is the most common among all pinniped members.



The harbour seal (*Phoca vitulina*) is amongst the lesser species of true seals, with males growing to 150-180 cm and the weight of 55-105 kg, reaching sexual maturity between year 4 and 5. Females are smaller and mature anywhere between 3 and 4 years of age. They can live for 25 to 35 years and eat a quantity of food on a daily basis, equalling 6-8% of animal's total body weight. The harbour seal ranges over the coastal areas throughout the northern hemisphere and forms five subspecies. Hair colouring is highly variable, ranging

from pure grey to grey-brown with dark spots. In the wild, cubs are born in the period from early March until mid-September, depending on the site of occurrence. The harbour seal is the only seal species whose young can swim immediately after birth. When born, they already feature a cover of adult hair instead of the easy-to-wet undercoat that heat-insulates the seal pups of other species, with the dense juvenile fur including undercoat (lanugo) removed when still in the mother's uterus, and stores of subcutaneous fat used as thermal

insulation.

The beginning of the breeding history in this pinniped and visitor attraction dates back to 13 September 2001, when a young harbour seal pair was imported from Tierpark Nordhorn, Germany, consisting of a yearling male Junior and female Jenny of the same age. Sadly, the female died in May 2005 during veterinary surgery as a result of a congenital heart defect. That same month Junior was successfully integrated with a new female Mary, which in turn was

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imported from Odense Zoo, Denmark, forming the existing Usti Zoo breeding pair together with the male **(Picture 2)**. The animals then reached sexual maturity and subsequently, changed proportions of the female became apparent in early summer 2010, which was correctly, although with some level of uncertainty, considered to be a high stage of pregnancy. Since that time, Mary was being closely monitored on a daily basis.

In the early morning of 23 July 2010, a significant change in female's behaviour was observed, which was particularly evident in the growing unrest and rapid irregular breathing. At this point the staff was no longer in doubts the birth had been nearing. To make sure the female is kept undisturbed, the area surrounding the seal pool was closed for the public and everyone expected the course of things to come. Eagerly awaited, the first-ever harbour seal born in the Czech Republic did not take very long to appear, with a foetal membrane **(Picture 3)** seen at 12.14 pm. Only three minutes later, everyone could proudly watch a newborn cub **(Picture 4)**. Within ten minutes after birth, the young one started calling

and making contacts with its mother **(Picture 5)**, whilst just in less than an hour after the birth it joined the mother in the water. In the late afternoon, first successful nursing was observed and everything seemed to be all right. The health condition was checked the next day and the young one of a female sex - as it appeared during inspection - weighed **(Picture 6)**. The animal's weight was 7.30 kg on hour 24 following the birth, which is considered to be a standard birth weight for the species. Standard values were found out throughout the subsequent process of ongoing weighing, with the values following the weight gain curve in young harbour seals. The female continued to thrive to the enormous pleasure of employees and visitors of the zoo.

When the annual meeting of the UCSZ Pinniped Committee was underway, which the zoo hosted on 23-24 September 2010, all the committee members spent breaks between the sessions by the seal exhibit, watching the three-month cub with interest as it happily played with its mother, so the sudden and unexpected death of the young seal five days later was a deep shock for everyone. The post-mortem

examination carried out on the very same day by the Prague National Veterinary Service determined hydrocephalus, i.e. a swelling inside the brain, to have been the clear cause of death, with however failing to establish whether the disease was caused by genetic predisposition or occurred as a result of bacterial infection. Furthermore, accident or other kind of injury was clearly excluded as the cause of death.

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Working at a zoo can often be far from being idyllic and bringing joy however viewed so from the outside. Apart from enjoying breeding successes, it also brings moments of sadness and disappointment. If such is the case, there is no other choice but lifting one's head and trying to make the most of the knowledge and lessons learned no matter what the failures are. Only then one can continue to develop the zoo to the full satisfaction of all visitors, staff and, after all, the animal collection.



Husbandry in the South American tapir (*Tapirus terrestris*)

Bc Tomas Andel



In terms of development, tapirs are currently amongst the oldest extant mammals on Earth and are thus a vivid example of „living fossils“. Already in the Tertiary they formed a very numerous and more widespread group and their appearance has changed only to the minimum extent over the past 35 million years. Until now, tapirs survived owing to their natural shyness and cryptic way of life in the impenetrable forests. Members of the odd-toed hoofed mammal order, they form the tapir family, which comprises a single genus - tapir. The genus is sub-divided into four separate species, of which three, i.e. the Baird's tapir (*T. bairdii*), South American tapir (*T. terrestris*) (**Picture 1**) and the mountain tapir (*T. pinchaque*) range over the South American continent, while the Malayan or Asian tapir (*T. indicus*) inhabits tropical zones of India. Despite the common ancestor, the last-named species is geographically and genetically quite distant from the other tapir species.

The largest mammal of the continent's rainforests, the South American tapir (*Tapirus terrestris*) can achieve 2 m in length when adult, with shoulder

height being around 1 m and weight as much as 300 kg. They live in the lowland areas of the northern and central portion of South America east of the Andes. The constant pressure from the rampant deforestation, illegal hunting and competition with livestock has resulted in continuous decline in numbers and unfavourable fragmentation of the existing population. The consequences of the negative impact of hunting are even amplified with the very low ability of this species to re-populate the territory in which it already became extinct. During the most recent 33 years, there has been a reduction in the number of wild South American tapirs by almost 30%. Tapirs enter sexual maturity before reaching the second year of life, with males achieving this a little bit later than females, those being pregnant 390-410 days and delivering usually a single calf, with two young born very rarely. Females nurse their offspring four months, converting them subsequently to 100% solid food. Tapirs are typical herbivores that can daily eat the quantity of food that equals 4-5% of animal's total body weight. Solitary animals, males seek for females in the wild only during the

mating season. The social behaviour of tapirs in captivity is animal-specific and greatly influenced by individual's nature, experience gained and food availability, as well as the size and arrangement of the enclosures. Some zoos keep tapirs entirely separate, bringing them together with the sole purpose of reproduction, while in others, such as Singapore and Kuala Lumpur, the animals are housed in a single exhibit containing 5-10 individuals.

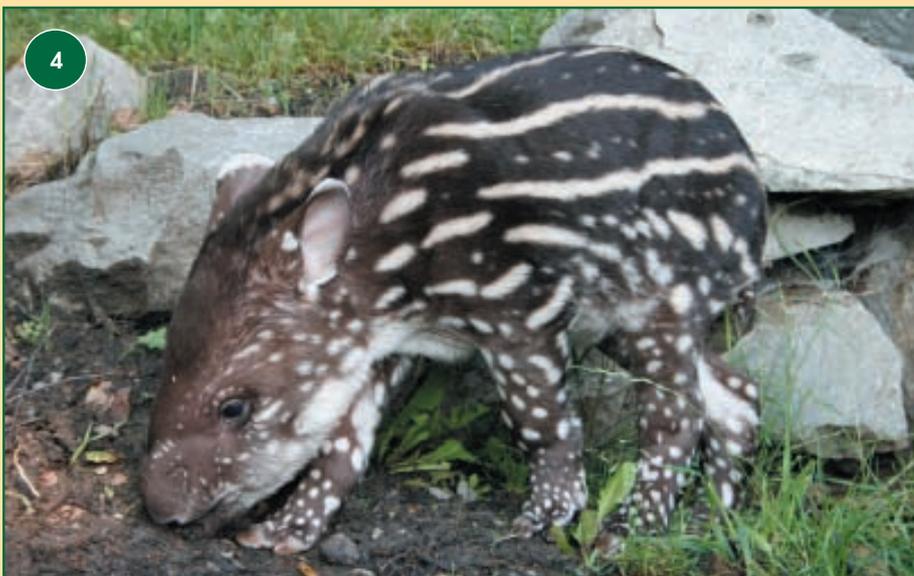
Managing these remarkable mammals is something that Usti nad Labem Zoo has been engaged in since 30 April 1999, when Pepa, then a fourteen-month male tapir, was imported from Odense Zoo, Denmark. Subsequently, two-year-old female Yoka arrived the following year in February. Imported from the French zoo of La Fleche, this animal unfortunately died of blood circulation failure in August 2000, making Pepa to wait for another female until May 2002, when it was assigned nine-year-old Kessy. This female tapir was born at Dresden Zoo and came to Usti nad Labem via the zoo in Zlin. However, no calves were ever seen even from this newly assembled pair, as Kessy suffered many health problems,





so it received more attention from veterinarians than from the male. Despite the good veterinary care, the female's health continued to get worse, with the animal eventually dying of complicated pneumonia in December 2002. In June 2003, female Jasa was loaned from Ostrava Zoo; having already reached fourteen years, this female tapir was meant to make company to the male until

a young animal and prospective breeder is found. In May 2005, Jasa was returned to the caring hands of Ostrava colleagues and the current Pepa's companion, a young female Isara (**Picture 2**) brought from the zoo in La Fleche, France, in October 2007. A new tapir enclosure in the bottom part of the zoo was formally put into use in parallel with grand opening the 2008 visitor season and has been



inhabited by the tapirs until now.

Unlike with seals, where the female's pregnancy was only estimated, pregnancy in tapirs was confirmed by ultrasound examination. The birth took place at night prior the morning of 25 July 2010 at the inner quarters without any presence of keepers. The following morning, immediately upon detecting the newborn calf, the first check for animal's health was performed, with the young female as well as her mother found to be perfectly fine and free of any post-partum complications. With the three-year-old Isara guided unmistakably by her instincts in delivering its first-born successor all the necessary maternity care, everyone could enjoy watching the happily sucking young tapir as early as several hours after birth. Any staff concerns about how the male would react to the newborn dissolved after the first few hours of continuous monitoring. As the male's behaviour was bearing no signs of nervousness or aggression, a decision was adopted not to separate him from the mother and the calf, which during the subsequent weeks proved to be correct. Rearing the juvenile in the presence of both parents went only smoothly despite the fact it is only a female taking care of the offspring in the wild. Since young tapirs are able to follow their mother soon after birth alike other young odd-toed mammals, the zoo visitors could with a little luck and patience observe the small Tira, this being the tapir's name given to it later, as she was getting familiar with its enclosure accompanied by her parents (**Picture 3**) or resting in the inner quarters.

This story has topped off the animal managers' efforts to build a matching pair with eventual success, the eagerly anticipated birth of the first South American tapir in Usti nad Labem Zoo (**Picture 4**).

Making best use of time in Bornean orangutans

Patrik Mateju



Animals kept in captivity often suffer a lack of opportunities to spend time and any surplus energy. Enrichment can make the animal's life more diverse, influence healthy development of juveniles and ultimately help to reduce stereotypic behaviour. In the real life, it is important to focus on the natural behaviour of the species with efforts to simulate normal wild conditions. Food for animals ranging in varied tree levels should be served by hanging it in heights, while the same for ground-dwelling creatures can be dispersed or hidden in substrates.

As regards the Usti Zoo's group of Bornean orangutans, various items are employed, such as clothing, cardboard boxes or paper bags, hoses, etc., for hiding food and then for playing, with old clothes which the animals like to put on themselves being undoubtedly the most popular commodity. Furthermore, simple devices are in use, such as a maze-like structure on the overhead bars or feed barrels.

A quite new and a little more complicated device is a thick-wall metal case nick-named a feeding

box, a structure complete with shelves added inside and holes made in the outer shell (**Picture 1**). In addition to illuminating the inner content, the holes are used for moving and dispensing food or putting a drinking straw through the facility for intake

of fluids as well as taking out mash, yoghurt and varied mixes with a stick (**Picture 2**). The animal department had the equipment fabricated by the zoo's technical section. Since orangutans are very strong and innovative creatures, durable materials were chosen, with every detail taken into account to prevent any injury to animals or anchors being removed with the consequence of exhibit damaging. Installed in the indoor facility in September 2009, the device underwent severe testing by the orangutan trio, which lasted almost a year and a half. In the light of the lessons learned and findings from observing the animals in getting titbits the staff can boldly say that the device above may easily compete any feed vending machine manufactured by foreign specialists, with particularly costs being the indisputable advantage. While feeding machines come at a price of about EUR 3,000, the estimated material cost of the Usti's feeding box was 7,000 CZK, plus the resistance is unexampled compared to the plexiglass used in the standard machines. Finally, the wider



selection of applicable feed ranging from the dry blend of nuts and pellets mentioned above through vegetables, fruits, mashed and mixed food to even yoghurt drinks is also unmatched.

The orangutans were observed to deal with obtaining snacks from the feeding box 20-40 minutes on average, which is quite enough in terms of filling their available time (**Picture 3**). The greatest skill and patience within the group was that showing by the female.

In one of their visits, a group of friends of Prague Zoo's lowland gorillas pledged to raise money for another feeding box to be placed in the outdoor enclosure. By the way, the same people had been helping with the 24/7 monitoring of gorilla females before birth via the internet broadcast as part of the Odhaleni (Revealed) project. The box was constructed free of any charge in the late 2010 by Regaly, a company headed by Mr Blaha, with just costs of material and galvanising claimed. The group members eventually raised the money by collecting the required total among themselves and the new box is to be donated to the orangutans in early 2011.



A golden lion tamarin reared

Zdena Nyariová



Usti nad Labem Zoo have been golden lion tamarin (*Leontopithecus rosalia*) holders since 1998, with however coordinator's approval to breed never received before 2005. Although the original female's implant was estimated to have expired at that time, this animal never entered the oestrus and died in 2007 of cancerous tumour in the ovaries.

A new female was received in 2009 after a long process of negotiations and many reminders sent to the coordinator (**Picture 1**). An animal reared by parents at Dvur Kralove Zoo, the female was of very low age, only one year old. Although the Usti male was fourteen at that time and with no offspring ever produced, it was still a mother-reared animal as well.



At that time, the golden lion tamarins were kept in a mixed exhibit along with two-toed sloths (**Picture 2**), which was working well and without any problems, with the golden lion tamarins even observed grooming the hair of the sloths and stealing food from their mouths.

The first delivery took place on 8 December 2009, when the female gave birth to male twins. The next morning, one juvenile was found dead on the ground with its limbs bitten, while the other was being carried on male's back, which everyone considered to be very strange, since carrying the offspring the first days after birth should be a female's task. However, the female's attention for the infant was zero, even despite any young tamarin's voice signals; additionally, any male-female contacts were avoided by the female. The male was striving to carry the young one properly, save moments when the juvenile began to whistle and mother failed to come for feeding. This caused the male to be nervous, making every efforts to put the young one down, which eventually did happen and the young one was killed by the male.

The second birth took place on 23



May 2010. In the morning, one juvenile was found to have been killed, while the other was held on the abdomen of the female, who looked very frightened with subsequent efforts to cram herself into the slot between dead trunks, leaving this shelter only when the infant started fidgeting. The female apparently lacked carrying skills. She was falling over the branches and trying to get rid of the infant. The way the male was assisting the female was incredible with him sitting beside her all the time and sorting through her hair. Once the female began startling too much, the male pushed her away so that she even could not be seen in the shelter. Nonetheless, this male's behaviour eventually led to female calming down. The situation was under all-day-long monitoring, with no animals' attempts to access food or the water bowl observed. With the house closed for the public, the staff still had no idea what was so stressful in there for the female.

The next day nothing has changed. Whenever the male was about to leave, the female was following him and running in a very flighty manner. In the afternoon, the infant fell from the parents to the ground, with the adults starting to attack the sloth sleeping three metres away from them instead of going down to pick the baby, only running to take it back after their female keeper arrived to push the sloth away. Even though the heating

season was soon to be over at the time, so the sloths used to spend their day basking under the lamps without being active, it could be still seen how much their presence is stressful for the tamarins. Following two days of every male's effort to position himself to help the juvenile climbing on the male's back, the third day the father eventually took the young tamarin by its head and pulled it to the male's body. Then the female calmed down and came to collect food and have some water; in fact, the animals had been coming for food just before going to sleep.

Over the following three weeks, the lion tamarins spent 80% of their time inside the nest box, while the rest was spent on the top of the box (**Picture 3**). By that time the staff was aware of the necessity to relocate the small family, but still waiting until the young one develops a little bit. Due to the stressing environment, the juvenile only began to leave the parent body on week 8, just for very short periods. The staff came to move the animals on month 3, when there was no potential risk of the young failing to survive once the

mother has stopped nursing. Given their conservative nature, it took the golden lion tamarins a full month to settle in their new environment, during which the juvenile achieved full independence.

The new settings (**Picture 4**) were also more favourable for making contacts between the group and the keeper as well as providing more enrichment features, such like a hollow bamboo stem with holes for worms, holes drilled into the tree to offer Arabic rubber or sponge biscuits etc. In the late October, there was another oestrus. Everyone hopes that the female will undergo the next post-partum period much better.

When it comes to this point, the author suggests that this very female may have been taken from the parents much sooner than it was able to learn how to carry offspring by observing the younger siblings, since animal's own experience and adopting the rearing skills by imitating is crucial for primates in that they can learn how to care of their own offspring once they reach maturity.



Rearing in the violet turaco

Andrea Gruntova



The violet turaco (*Musophaga violacea*) belongs to the family of turacos, i.e. *Musophagidae*. Tropical Africa dwellers, these birds range in woodlands, forests and parks with a dense cover of trees where they can be found flying from place to place and hopping on tree branches. They often enjoy streaming water by using it for bathing and showering. Nests are built at the approximate level of 6 metres and are made of twigs collected and assembled by the birds to form structures similar to a basket as regards shape and size. Special to the species is the fact that their violet plumage contains turacin, a pigment that is water-soluble and includes copper.

Usti nad Labem Zoo has been the species holder for several years, with birds kept in varied exhibits throughout the area over time (**Picture 1**), when eventually the pair was placed in the Exotarium's outdoor aviary. A major problem was that the female was used to peck the eggs during the nesting season, and therefore no young were hatching. This behaviour was probably caused by stress and

disturbance from passers-by. The first breeding success finally arrived in July 2003.

Since the former breeding female died, a new breeding pair was set up in spring 2010, placed at the wintering facility and relocated in the late April into the exotic bird breeding centre with no visitor access. A dense network

of branches of diverse gauge and length was installed within the 3x3x2m aviary, with the branches still bearing leaves. 2/3 of the mesh area along the perimeter were covered with a reed fence to ensure maximum privacy for parents when nesting. A wicker basket with the diameter of 35 cm and depth of 20 cm was attached to the ceiling in the rear part of the aviary. Tinder from felled trees was used as a bedding material, plus small twigs were dispersed on the ground to give the birds the opportunity of final nest treatment.

Despite the female starting to visit the nest as early as in the beginning of June, a round egg of table-tennis size was not laid sooner than the first week of July. No female's action of moving off the nest occurred throughout the incubation period, i.e. 24-26 days, except for occasional feeding, this taking place only in the afternoon, when the facility was quiet. The chick hatched on 1 August, but was checked only on 4 August. The young bird looked fine with its cover of black down feathers. Since the female was very aggressive, the staff stopped to inspect the nest more frequently. The



ration doubled in terms of quantity and the juvenile was thriving (**Picture 2**). On day 16, the chick was found on the floor, so was returned to the nest. With this situation repeating two days later, branches were added into the aviary and around the nest to make the young one able to return by itself.

By early September, the young bird was able of hopping along the branches throughout the aviary. Its body was slowly fledging with violet cover feathers and the bird was walking with its parents to the feeder, able to feed itself around 20 September. By that time, the female had already been sitting in the nest for 14 days, warming another egg. In the late September, all the three birds were moved to the wintering grounds due to cold weather. A candle lamp check revealed that the egg was not fertilised. Since the juvenile was still not fully feathered and coloured, it was retained with its parents (**Picture 3**). In the early November, blood samples were taken for DNA testing. The chick was weaned and turned out to be a male. By the end of 2010, the bird had been fully fledged and indistinguishable from its parents.

To conclude, the rearing period as such was underway without the slightest problem, with the parents showing excellent care of the young one. The female started to occupy the nest for several days before laying the egg, which involved treating the nest and spending quite a long time on it, showing highly aggressive behaviour before and during the nesting period.

As regards feeding, turacos are



frugivorous birds, so the daily diet is based on soft fruits such as banana, apple, kiwi, plums, grapes and others, with vitamin balls Nutribird T16 designed for toucans and aracarís added on a daily basis. The vitamin products in use comprise Superhit D (once per 14 days) and Nutri mix EX-A for exotic birds, with varied quantities of the latter applied: in winter, it is served once per week, while before and during the breeding season the dosage is increased to 3 times per week. In rearing, the product is administered on a daily basis over the period of one month. The list of species-specific nutritional requirements is complete with water-soluble vitamins: Amivit E and Acidomid, each of them administered every other month. These are applied on a monthly basis. .

Most recently, turacos are very well spread in private collections where they are kept by the holders

in glasshouses with high humidity and temperatures above 20°C. In such conditions, the birds often nest throughout the year.

As regards representation in zoos throughout the country, the violet turaco is now held by Olomouc, Pilsen, Dvur Kralove and Lesna, the last listed being at the same time another institution where turaco breeding efforts met with success in 2010, with four chicks produced. In European zoos, the violet turaco is relatively wide-spread and kept in a total of 66 institutions, which comprises 70 males, 92 females and 27 birds of unknown origin, with however rearing success being rare with only 15 chicks bread and reared in 2010, these being reported from Barcelona (4), Alphen (3) Edinburgh (2), Frankfurt (2), Leeds (2), Al Wabra (1) and Warsaw (1).

The clouded leopard (*Neofelis nebulosa*) – a new species at Usti Zoo

Bc Tomas Andel



The clouded leopard was scientifically described by Griffith in 1821, with however Sir Stanford Raffles referring to the new animal as early as a year before the above as he had learned about the leopard while staying in Sumatra. Nonetheless, creature's tribal name Rimau Mahan was the only notation contained in the referral above. Historically, two continental clouded leopard subspecies were described: *N. n. nebulosa* (Griffith, 1821) ranging over the area of Indochina and southern China, and *N. n. macrosceloides* (Hodgson 1853) inhabiting the sub-Himalayan area from Nepal to Myanmar. In addition, one island subspecies was described as *Felis diardi* in 1823 by the famous French zoologist and paleontologist Baron Georges Cuvier. Any taxonomy updates in these felines came up as late as the advent of molecular systematics. An in-depth analysis of skin

performed in specimens from northern India and Taiwan by Dr Andrew Kitchener in 2006 revealed that the skins were indistinguishable from other samples derived from individuals from the continent. Based on his research, Dr Kitchener proposed these felines to be classified as two monotypical species, *Neofelis nebulosa* and *Neofelis diardi*. A subsequent molecular study of Buckley-Beason *et al.* (2006) was fully supporting this morphological subdivision, especially in that the studied mitochondrial DNA clearly showed genetic differences, this being compared to the difference between lions and jaguars. The activities above made *Neofelis diardi* the first large feline discovered following 180 years, the previous one being in 1821 exactly the continental form of the clouded leopard.

The clouded leopard is the smallest member within the large feline sub-family (*Pantherinae*) of felids (*Felidae*). Typical features of this beautiful and mysterious feline are short limbs with wide paws and long claws, elongated body, long tail and a specific pattern on their fur that forms the grounds for their name (**Picture 1**), another example of which can be boasted only by the marbled cat (*Pardofelis marmorata*) from Southeast Asia.

The natural habitat of clouded leopards is primary evergreen rainforest, which still continues to be a plentiful source of food and shelters needed for these felines, with the former being in particular a diverse range of small and medium-sized vertebrates, both terrestrial and arboreal.

The clouded leopard was long

considered to be a primary nocturnal carnivore, but the ever-increasing numbers of this animal's images taken has proven it is quite active during the day as well.

Radiometric tracking of an adult female over the period of two months found that its home range was extending over the area of some 33 sq km. Following 85-109 days of gestation, the female gives birth to 1-5 cubs, with however 2 to 3 being the usual number. The young begin to take solid food on week 7-10, whilst still being nursed by the female until they reach one year approximately. Sexual maturity is achieved on month 20 to 30.

Despite a variety of conservation activities and the fact that clouded

leopards are under strict legal protection in almost every range country, their population trend is still declining, with the big threat for them being chiefly a permanent loss of natural habitat due to uncontrolled logging and poaching. In addition, their fur with long canine teeth has been a highly valued commodity in illegal markets.

The first "Cloud of Usti" in history became an eight-month-old male Cayan (**Picture 2**). Imported in January 2010 from Menagerie du Jardin des Plantes, Paris, a month later this animal obtained a companion brought from the UK's Howletts Wild Animal Park, a two-year-old female leopard Lenya. Managing techniques in these beautiful felines in captivity are quite specific and somewhat

different from those in other species of large felines in that setting up a breeding pair of still immature animals is the most important prerequisite for future successful breeding as it substantially eliminates the risk of aggressive behaviour of males towards females, this often ending up in necks bitten through followed by death. During the spring months, the animal staff managed to put the two animals together after a few minor complications so they now form a prospective and harmonising pair. In the Czech Republic, other clouded leopard holders are Prague Zoo and more recently Ostrava Zoo. Aside from the three Czech animal parks, there are only 17 zoological institutions throughout Europe involved in the keeping this feline.



Breeding revival in the alpaca (*Vicugna pacos*)

Josef Pospichal



In 2010, six young alpacas were born to seven adult alpaca females at the zoo, this concluding the long period of stagnation with almost no offspring produced following the death of the breeding male three years ago.

Ranking amongst domestic animals, the alpaca (*Vicugna pacos*) was and is still bred for fine wool and meat in South America, to which the animal is native. In the middle of the last century, alpaca breeding activities however achieved favour in North American holders as ones for leisure rather than for farming. Alpaca holders began to organise themselves into associations with breed standards being published, shows and judgment events held and animals put to breed based on the results arising from the judgment, as is the case in dogs. As this trend was hitting Europe, it reached the Czech Republic as well following the 1989 takeover, even though animals were in fact held in zoos before that time, with the alpaca included in Usti Zoo collection as early as 1967. The reason for the popularity lies in very low requirements of these animals and the colour of their hair that ranges from white and brown to black and may have many tones and unexpected combinations. Breeding alpacas for meat is thus no option, plus proceeds from sale

of their fibre are nothing large should the farmer manage any customer, which for the zoo's 2010 staple was Ms Prazanova who can manufacture tasteful decorative items and fashion accessories for winter, like hats, gloves, scarves etc. Shearing alpacas every year has become a custom at Usti Zoo (**Picture 1**), this being done in spring for several reasons, like ensuring animal comfort in hot summer months, prevent skin parasites of varied

origin to settle in the skin and making the assessment of animal condition easier.

Despite the fact that selling young alpacas is also one of the zoo's sources of income as these form a much sought-after animal within the private breeder community, the aesthetic and exhibit value of alpacas still remains the main benefit since we are zoo operators.

In October 2007, the zoo owned six females able to reproduce (Group 1) with their age ranging from 6 to 15 years. The animals were kept in a large enclosure together with Bactrian camels. In addition to that, setting up a second breeding group (Group 2) from zoo's own female offspring began, with a separate grass paddock allocated for the animals, one that was not much in use. The animal managers' task then was to provide a suitable breeding male for each group.

The first male for Group 1 arrived in November 2007. Loaned from Olomouc Zoo, this animal was soon found to have incorrect front limb conformation, so was not put to breed. Although with no imperfections in terms of exterior, the second male named Slimmer loaned too from Olomouc Zoo and arriving in May 2008 proved to have been definitely





unsuitable for breeding, the reasons being not only the extreme aggressiveness of this animal, but mainly its impracticality when mating, this resulting in a single case of a female becoming pregnant throughout the male's housing period of 15 months, with countless attempts to mate. A prolonged and incurable disease forced the staff to euthanise 16-year-old Jirina, then the zoo's oldest female.

After the negative lessons learned concerning loaned animals, the zoo chose another option, with a two-year coal-coloured male purchased in August 2009 from Stuttgart Zoo and named Mysak (**Picture 2**). Mating was observed two weeks after integrating the male into the herd, with all females in the group found to be pregnant in the mid-year 2010.

One of females, 13-year-old Brigita, unfortunately died in March 2010, with the probable cause of death being tympanites due to eating unhealthy food. Besides, the post-mortem examination showed that the animal was pregnant.

The offspring was being born one by one in October and November 2010, with all of the animals being females and of diverse colours: black and white spotted, brown and white spotted, black with white patterns and black. Sadly, the black female died a few days after birth, which was apparently caused by the sucking reflex being inadequate. The other three crias exhibited standard viability and any supplementary feeding was not necessary. There were also no health problems during

the rearing period (**Picture 3**).

The male for Group 2 was sourced in May 2008 from Anden-Alpakas, a Germany-based private farm of high-quality. Named Orisek, i.e. Peanut (**Picture 4**), this cinnamon-colour animal is by author's opinion considered to be the most valuable alpaca within the stock in terms of exterior and the mechanics of movement. As the male was in fact only 11 months old at the time of his arrival, the animal managers still had to wait for the results of his breeding capacity, since such an early age is not appropriate for admitting males to females.

At the time of being set up, i.e. 2007,

Group 2 consisted of Myska (Mice) and Betka, two females from the zoo's stock, with only the former animal of grey and brown retained for further breeding and grey-white Snehurka (Snowy White) with red-brown Nina added later. The first to give birth in Group 2 in November 2009 was Myska. Sadly, the juvenile, which was a very small-sized female, died four weeks later for unclear reasons. The second cria in the group was born in July 2010 to Nina, with the process of rearing this rusty-brown male running smoothly without complications.

In November 2010, it was again Myska giving birth to another tiny rusty-brown female. Conjunctivitis appeared on the third day after birth, but following repeated application of the Ophthlmo-Framykoïn eye ointment, these problems resolved and never reappeared throughout the rearing period. On day 6, the juvenile began to show unusual weakness and lassitude. Since shifting from colostrum to milk may sometimes greatly reduce the milk production in the lactating female, as reported by Veselsky and Vozenilek in their study entitled *The Alpaca and its Husbandry at Usti Zoo as early as in 1976*, it was likely that this was the very problem involved. Although the udder check was found to be one of a standard size and teat canal patency was fine, testing the juvenile by feeding a milk replacement showed the animal was likely very hungry. Supplementary feeding was employed starting at 120 ml of Sunar served twice per day, increasing a week after to 150 ml



twice per day. Any additional increase was not applied as it was necessary to keep the juvenile's need to take the milk from its mother and thus making the female's lactation continue. On week 10, it was possible to reduce the ration to 150 ml per day, with the parallel necessity of paying increased attention to monitoring the cria's health and progress of natural milking. Four weeks after, the supplementary feeding was finished, with no signs of any delayed development in the young alpaca throughout the rearing period and no health complications observed save the conjunctivitis mentioned above **(Picture 5)**.

The third female in the group, Snehurka, then already a three-year-old animal in the autumn 2010, was still not showing any signs of pregnancy at that time, despite the male Orisek's repeated attempts to mate this female during 2009, with

however Snehurka escaping or defending by spitting. Since the attempts to mate eventually stopped, it warranted everyone to believe that Snehurka had become pregnant, although copulation as such was never observed, as the animals are normally kept together on a 24/7 basis.

In the autumn 2010 it was therefore clear that Snehurka was infertile, with the male showing no interest in the female. Therefore, Snehurka was moved into Group 1 in November to join male Mysak. Sadly, the scenario repeated with this group, with Mysak currently showing no interest in the female as well, but there is still little hope that the mating had been successful, as may be confirmed by sonographic testing, which otherwise can at least discover a defect in the reproductive organs that could be the cause of atypical female's behaviour.

To compensate for Snehurka, a 17-month-old female of rusty colour named Berneska was integrated into Group 2. Having reached both social and sexual maturity, this animal is the only descendant of male Slimmer, this making the female valuable within the zoo's breeding stock as it is unrelated to both current males. Mating was observed as early as several days after the female joined the group.

The reproductive qualities of both Usti's males can be considered as very promising. Additionally, with the existing technique giving the managers the possibility to restock using the F1 females produced at the zoo, chances are that the future batches of cuddly offspring will be generous enough. To conclude, relying on an unproven young male breeder from a high-quality breeding stock was worthwhile.



Asian elephant (*Elephas maximus bengalensis*) update

Jan Javurek, Petr Kiebel



The previous year cannot be deemed successful as regards the developments in elephants. Early in the year, everyone was awaiting impatiently the results of the blood analysis made following the November 2009 artificial insemination, with hormonal values keeping levels that quite a long time were neither contesting nor confirming any pregnancy. Samples were delivered several times to IZW Berlin's laboratories, which only returned final results on 15 February, this giving negative feedback to the great disappointment of Usti Zoo in stating that the unique artificial insemination using frozen semen had failed.

A meeting of keepers, veterinarians and zoo executives was held on 5 April, resolving to continue with the project of artificial insemination and give Delhi another chance to produce offspring, with the proven elephant bull Calvin from Ostrava Zoo re-selected to sire the potential offspring and fresh sperm to be used instead of frozen one.

Examination was made on 7 May (**Picture 1**), showing that Delhi was in very good health condition; what's more, the uterine fluid that caused

problems in the past was not diagnosed - just a small fibroid was found on the uterine wall, which was not deemed to bring any complications in future insemination efforts. Intensive training was launched in form of inserting the insemination catheter using hand or dummy probe, plus usual periodical blood testing was underway.

The next examination took place on 29 August, reconfirming that Delhi was ready for insemination. LH peak was evident on 8 September based on blood analysis, signalling that

ovulation might take place in the next two to three weeks.

The insemination was underway on 26 September. In the morning, the IZW team collected Calvin's semen, this being running very quickly and smoothly thanks to the great work of Ostrava colleagues. Subsequent microscopic analysis attested the excellent sperm quality. Then the team moved to Usti Zoo, where a final ultrasound examination took place, confirming the potential follicle rupture and release of egg to take place soon. Because IZW team's time issues, Delhi was administered a substance designed to cut the maturation process short, giving the animal a greater chance of fertilisation by the semen to be inserted. The process of insemination as such lasted about an hour (**Picture 2**), with the female staying perfectly calm and nice all that time thanks to training.

At the end of the year, the process of confirming the result was copying that of the previous year, with analysis of 29 December neither contesting nor confirming the pregnancy in Delhi and the animal staff having to wait for the results until the following year.



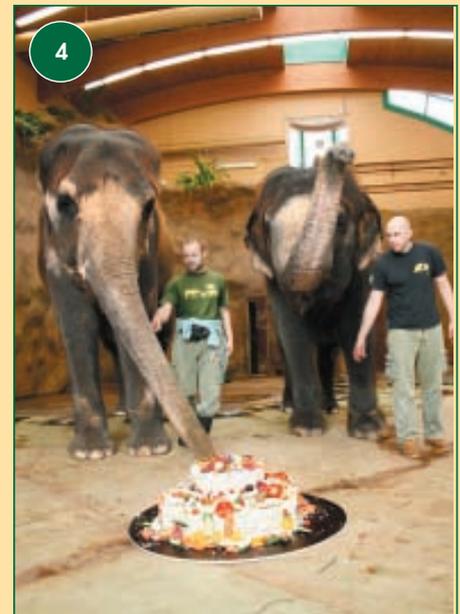


In June, the small natural lake at the lower part of the elephant enclosure was improved by strengthening the bottom by reinforced concrete because of elephants sinking quite a lot into the clayish subsoil of the lake, this being the reason for female Kala even refusing to enter. The fact that the work had been made well was immediately confirmed by the animals showing a great interest and enjoying frequent bathing, the latter meeting also with a positive response from visitors when being done very often after exercising (**Picture 3**).

The 19th meeting of the UCSZ Elephant Committee in the row was held at Usti Zoo on 14-15 May. Attended by colleagues from Ostrava, Liberec, Dvur Kralove and Prague, the session focused namely on elephant foot care, with the Usti Zoo elephant staff giving the report on this key topic as well as informing everyone on the artificial insemination of Delhi, plus they presented draft concepts for future breeding and a report on conservation issues in elephants. The second day of the conference was dedicated to visiting the elephant breeding facility at Leipzig Zoo.

In 2010, Kala the elephant female had been staying 25 years at Usti Zoo, which was celebrated from 30 November through 5 December at the Elephant House. Both females got a big cake made of cooked rice and bread as well as vegetables and fruits containing to a lesser extent delicacies such as brussels sprouts, red beet, kiwi,

strawberries, blueberries, nashi pears, pomegranates, watermelon, coconut, lavender flowers and the top of the exoticism, pitaya fruit (**Picture 4**), this in addition to the kinds quite common in their daily diet like carrots, turnips, cucumbers, tomatoes, peppers, apples, bananas and oranges. As part of the Elephant Week, a display was underway in the visitor zone at the Elephant House that featured historical photographs of the two female elephants, those originating either from the zoo or visitors archive. Visitors presenting an elephant photograph were winning a small annual card with a picture of Kala and an elephant hair. When interested, every visitor had the opportunity to look behind the scenes each day and ask the keepers for anything they liked to know. As a closing event, gifts were prepared by the keepers on Sunday, 5 December,



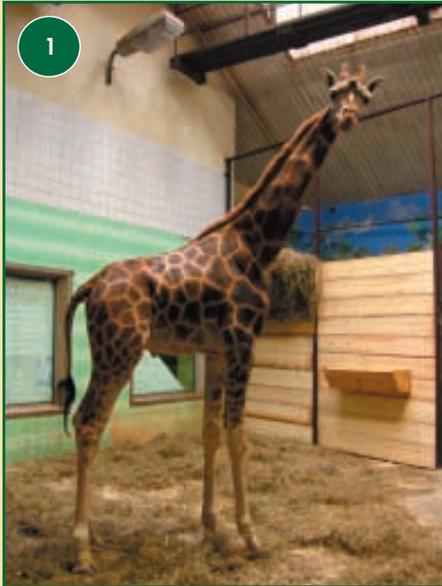
which involved enrichment in the form of fruit and vegetables packed in boxes. Due to bad weather, the boxes were dislocated throughout the stall. The zoo also managed children from nurseries and primary schools to get involved by hanging coloured and sketched toilet paper cardboard cylinders on a large wooden elephant model, thereby creating a long trunk. Under the attention of media, an event of official measurement took place on 6 December once the Elephant Week was over (**Picture 5**) with a record result - the elephant trunk measured 104.7 metres and contained some 1155 cardboard cylinders.

The elephant staff would like to thank the animal fosters and the Dorant Company, the latter providing catering services on a regular basis for all the professional and background staff while inseminating and subsequently



Rothschild's giraffe (*Giraffa camelopardalis rothschildi*) update

Michala Kralova



Several new developments occurred as regards the zoo's breeding group of the Rothschild's giraffe. With the stock counting seven individuals - male Atbar, adult females Jenny, Etna and Syrenka and calves born in 2008 - Enid, Jonka and Sotiba, time had come to send all three subadults to other zoos in light of new births expected.

Females Jonka and Sotiba travelled in the late 2009 to Peaugres Zoo in France. The loading process went very smoothly in both animals - one might say that they even escaped right into the trailer. The Dutch Ekipa company, a specialist in animal transfers, took over the whole task. The same trailer was used to move male Enid, the most recent offspring, with the destination being however only the former elephant house because of the delayed construction of a new house at Montpellier Zoo, where the giraffe was to travel. In fact, the animal settled very quickly in its temporary premises (**Picture 1**), mainly thanks to the special care of keepers, who was greeting the young giraffe with a piece of dry pastry every morning, which helped the animal to refresh its good communication skills in a little while as in the previous group situation. With the

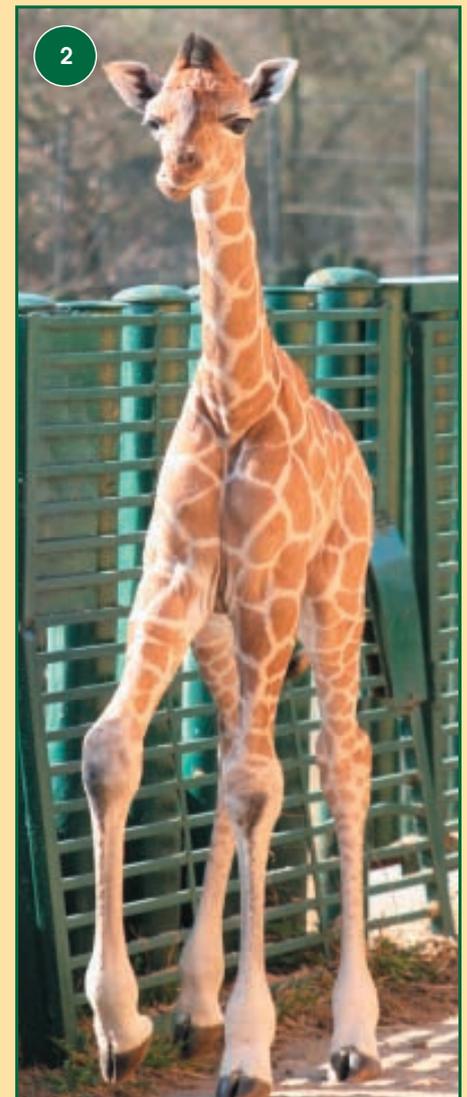
day of Enid's departure to Montpellier drawing near, the male was put to sleep on 11 February 2010 to collect blood for testing, apply a microchip and inspect animal's hoofs for possible trimming. The act of anaesthetising and reviving took place very smoothly due to the excellent arrangements. Day D - i.e. the young giraffe's leaving day - came on 12 March 2010. During the preparation of the trailer, Enid was transferred into a lesser box, where he was being calmed by the keepers. The loading process as such was too running very well. The young male giraffe was integrated in Montpellier into their bachelor group.

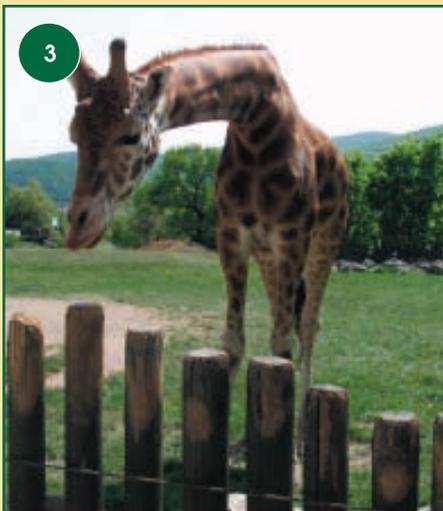
The 2010 was the year when the staff was happy to look forward to three new calves as well as in 2008, which happened already for the second time in the zoo's history. The first female starting to give birth became Jenny, the oldest female and experienced breeder (19). The birth took place on 2 February 2010 in the morning. The delivery went smoothly and lasted for about 1 hour, Jenny giving birth to a healthy 3/4 male, who stood 160 cm high. Experienced mother, Jenny produced her ninth calf in the row. Due to the rather cold February weather, Jenny and the calf joined the group outdoors after some 3 weeks. Everyone in the herd was showing interest in the young male by constant watching and sniffing.

The zoo then received an offer from the Veterinary Faculty Brno for full blood testing free of any charge, with Jenny's young male thus selected for the purpose. The animal was separated from the mother and its blood was collected. Despite some extent of male's frightening, the animal was collaborating rather than making any greater complications.

Subsequently, everyone was anti-

cipating the second birth. This happened on 31 March 2010, with Etna (11) becoming another female giving birth. The whole group was outdoors - Etna was released into the pen to speed up any action of putting it indoors, while the remainder were ranging in the lesser enclosure. With Etna's belly having already dropped down, more frequent monitoring was underway. Since sighted to have started to twist her back legs because of the dropped belly after 2 pm, the female was put indoors and separated in a small stall, starting giving birth around 2.30 pm. The indoor premises were protected from





any disturbance, and a tripod with a camera was placed in front of the stall to record the birth. The staff was inspecting Etna every 15 minutes to check if everything was okay. The birth lasted one hour and went without any troubles. When the keepers went to check the female after the birth, everyone was amazed, as the calf seemed to be very large yet it was still lying. Therefore, the young giraffe was measured immediately after getting up and found to stand impressive 203 cm high! Just for the record, the average height of the calves referred to in the bibliography ranges from 160 to 180 cm. This was the third birth given by Etna, this time it being a sound and healthy male, who with his height of 203 cm was the highest giraffe calf born over the Usti Zoo stock history which dates back to 1983 **(Picture 2)**. Since the weather was nice and sun

was shining, Etna and the calf were put out into the pen as early as two days after the birth.

Now that the two females already gave birth, that of Syrenka was all that remained, this expected to take place at the end of April 2010, with estimates being correct as the giraffe started out on 29 April 2010 in the morning, so was separated from the group and placed indoors. The birth was underway from 11.00 to 11.38 am and free of any problems like that in the previous two females. Syrenka gave birth to a rather small but healthy female. Both animals were released out and joined the herd on 8 May 2010.

On 26 May 2010, a naming party was held with all three calves, these receiving names from the initials of their mothers, with Jenny's male calf named Jamy, that of Etna called Ebony and the female calf of Syrenka was named Soroti.

Sadly, there was still an unfortunate event in 2010 in addition to the happy moments in the form of calves born, with the breeding male Atbar **(Picture 3)** lost on 2 May 2010. In the early April, he developed health problems in the form of clear discharge from the nostrils. As this was increasingly worsening, any animal's outdoor activity in colder weather was limited, dust formation in the stall put to minimum and care was taken to add vitamins to the male's diet. The health

issue resolved after 14 days, but the male however got worse on Thursday, 29 April 2010, with a green discharge from nostrils observed. On Friday 30 April 2010, Atbar was noticed to display inappetence and sunken eyes in the morning after the herd has been released into the outdoor enclosure. Therefore, he was administered antibiotics by the veterinarian and received the best quality feed in the form of apples, carrots, alfalfa pellets, giraffe pellets, vitamins, oak branches, dandelions and first-quality hay. On Saturday, 1 May 2010, the male was re-administered antibiotics and continued to receive feedstuffs of good quality. Although inspected by a keeper who saw the male eating dandelion and nibbling oak branches and looking a little better unlike Friday, Atbar was found dead in the stall on Sunday 2 May 2010 after 7 am by the weekend-serving keeper. The post-mortem exam showed ulcerative gastric cancer (stomach tumour), which resulted in the animal's death.

A few details about Atbar:

Born at Olomouc Zoo in 1994, Atbar arrived in Usti in 1996 at the age of 2 years and 2 months. 500 cm tall, this male giraffe was an easy-going, inquisitive and communicative animal, never discomposed by anything; he was absolutely cool dude and the only member of the group who could be stroked without dodging head. Atbar successfully sired 14 descendants in his life and was with his 16 years the oldest male giraffe throughout Czech and Slovak zoos.



Due to this sad event, the zoo's Rothschild giraffe stock shrank to six individuals **(Picture 4)**. To this date the zoo therefore stands without a breeding male. What is also unfortunate is the fact that the next year there will be no newborn calves, because Atbar did not manage to mate the post-partum females. Any arrival of a new male breeder cannot take place before the subadult giraffes leave to other zoos.

Zamba, the rhino lady

Ing Pavel Kral



19 November 2010 was the day of celebrating the 40th birthday of female Zamba, the oldest rhino in Czech zoos, which took place by the rhino outdoor enclosure. In addition, the 2010 was important by topping off 30 years of rhino stock at the zoo. The small event involved several gifts pre-arranged and handed to Zamba (**Picture 1**), especially a cake made of female's favourite treats (**Picture 2**).

When I started my employment at the zoo as keeper many years ago, I was to undergo an on-boarding process by circulating through the animal houses, this including the one for rhinos. I immediately knew that working with rhinos would make the greatest sense to my career. I was lucky to keep in close touch with the creatures over the period of eight years. In the beginning, the fact that such powerful and dangerous animals can be managed in captivity made me wonder, assuming that they were aggressive in nature and coming any closer to these would not be advisable.

I took care of four adult animals then - Dana, Saša, Zamba and Lotzi, recognising gradually that these were placid rather than aggressive

in character, and indeed, that rhinoceroses do love human contact, with stroking around the ears, neck and back, as well as cleaning the body by a wire or bristle brush being their greatest reward. I made friends with each of the rhinos with time, assuming Zamba was the exception. She was a very flighty animal and often a handful when being released to the outdoor. Unlike other rhinos, Zamba used to turn back as she walked through the stall and keeper's failing to close the enclosure gate in time often returned her going back indoors. On some days she would not

go out at all. Running against the fence while in the enclosure, this animal was occasionally raising fear. Zamba was the particular rhino of which any new on-site trained keeper had to be warned in terms of careful handling. Perhaps it was aging or the regular cleaning in the morning that changed the female's behaviour with time, with its flighty manners slowly fading away. Generally, Zamba's nature has approximated that of the remainder of the rhino stock. She stopped being sulking while going out and her overall manners became calmer. This was handy for any occasional veterinary surgery, blood collection etc. The calmed nature of this animal also allowed for cutting her second horn when it cracked and dehorning was of urgent need since there was a risk of the female's horn being broken or getting jammed while Zamba was moving around the enclosure. Any other circumstances would force the staff putting Zamba to sleep and then perform the treatment. However, every anaesthetising operation entails some risk, which was something no one wanted to run. This way Zamba did not challenged any dehorning. The process of calming was certainly facilitated by another of female's pleasures, which is regular feeding. Various rhino goodies such as carrots, apples, bread and buns, but also good-quality hay are eaten with great taste. As regards schedules, Zamba



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likes regularity, respecting which is having a big influence on the rhino. Every move, be it just an hour, will be absorbed very negatively.

Zamba was captured in the Umfolozi Reserve located in South Africa during one of the expeditions of Ing Josef Vagner, the former director of the zoo in Dvur Kralove. About two years old at that time, Zamba was delivered after a short quarantine along with other animals to Dvur Kralove Zoo on 31 May 1972. From 1970 to 1973, a total of 13 rhinos were imported into this zoo, this including 4 males and 9 females. The whole stock was kept together in the beginning. Once some animals have left and a female Smudla arrived, a group of females, this comprising Zamba, Smudla, Faith, Tessa and Saša, was held together with male Dan. Dan mated or attempted to mate all the females except for Smudla. Social behaviour in this group was studied by MVDr Vladimír Mikulica, later on the director of Usti nad Labem Zoo. As early as that time he could observe the bond of Zamba towards Saša, as well as the aggressiveness of the former, this being the biggest within the group. A total of three births were given by females at the site, with Faith giving birth twice and Tessa once. Since Dvur Kralove wanted to concentrate efforts to make the northern form of the white rhinoceros breed, the group as such was split and distributed to other zoos in the 1979-1980 period.

Zamba arrived at Usti nad Labem Zoo along with Saša on 19 November 1980, followed by Dan 15 days later, on 4 December 1980. The group was then made complete with female Lotzi coming from Tierpark Berlin. While Saša and Zamba were rather forming a bond between each other, male Dan always kept away from all females (**Picture 3**). Saša was

observed to have been the most attractive for Dan already from the beginning, which was later confirmed during the regular oestrus periods of the female and subsequent mating. Saša gradually gave birth to three calves - males named Sagan, Doran and Dino.

When Saša's oestrus was underway, Zamba rather kept herself away accompanied with Lotzi, only in 1993 we managed to induce oestrus in Zamba as well in cooperation with MVDr Vahala. It was suggested that non-breeding females may sometimes fail to cycle because of swollen hymen. Even though Zamba was mated on recurrent basis back in Dvur Kralove in the 1976-1979 period, we decided to investigate her reproductive tract. With no traces of the hymen found in the narcotised female, MVDr Vahala applied oestrus-stimulating agents (Enyper and PRID). Having undergone recurrent oestrus and mating with male Dan (**Picture 4**), Zamba never became pregnant as was confirmed subsequently. Hormonal stimulation of the female continued, with several attempts made from 1986 to 1995 using Praedyn. Further efforts to involve Zamba in reproduction were carried out employing modification of diet

as well as putting the female together with the then six-year-old male Sagan, with however neither distinctive oestrus nor mating occurring any longer.

Zamba has since calmed down to even greater extent. I would even say that the death of Dan and Saša in 2008 made the animal accustomed to living alone. I think she now leads a happy life in being managed through schedules like regular releasing and putting in, morning and afternoon feeding and enjoying all the comfort provided when staying outdoors, like sand, mud pool, shelter, dead trunks etc.

Zoological Garden in Usti nad Labem reached a great success in reproducing the southern form of the white rhinoceros, this having been even applauded by animal managers in other European zoos. However, with the rhino house built thirty years ago ceasing to meet the latest requirements for managing these animals, the zoo has lost the opportunity to get a new group of prospective breeders. The only option left is to build a new facility, which is unfortunately something being not considered due to the lack of money. In fact, keeping a group of potential white rhino breeders able to reproduce is not planned by any of the member zoos within the Union of Czech and Slovak Zoos. Maybe that is why the zoo in Usti should take the lead and include the species among its priorities. The last Usti Zoo's calf was born in 1993, so let our efforts be to make sure that it is not the very last white rhino born in Czech and Slovak zoos.

4



Animal Rescue Centre: update

Jaroslava Jezkova



Fundamental activities of the centre did not change much in 2010. With the lesser budget allocated to the centre compared to the previous years, the staff mainly focused on improving existing services for the city and its citizens, this particularly including the field of dog microchipping, where work is still underway to establish a city register of dogs with microchips applied. Although the microchipping duty is laid down by a city regulation, the centre is still receiving dogs without this marking. Every time a dog like that was being picked up by the owner, the person was warned of the fact that the regulation was violated and requested to have the dog immediately microchipped. Concerning the dogs that do have microchips applied, information on the animal is entered into the centre's registry once the dog has left the premises so the staff can immediately notify the owner of any repeated placement of the animal at the centre.

The only 2010 investment was the completion of three boxes for handicapped wildlife, so the centre is now able to accept, accommodate and provide help to animals like injured swans and other creatures from the wild.

As regards treating incoming abandoned and stray dogs intended for adoption, the procedure remains the same, with the dog being microchipped, vaccinated,

dewormed after release from the quarantine and then placed in a boarding kennel (**Picture 1**). In 2010, dogs that passed through the centre counted 564, of which 259 dogs were eventually adopted. The overall statistics are given in the **Table** and the **Figure 1 a 2**.

As usual, the most common veterinary actions mainly included the re-vaccination of dogs, microchipping and treatment of various viral diseases and diarrhoea (**Table and Figure 3**). For injuries, diverse types of fractures were most commonly encountered, these mostly caused by collisions with cars.

Like every year, the staff focused on promotion of the Animal Rescue Centre activities. Thanks to the great help of

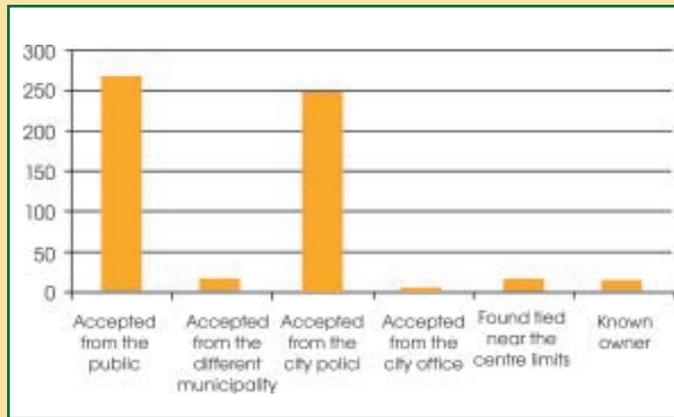
volunteers attending the centre in the afternoon to walk the dogs (**Picture 2**), the centre was able to participate in several displays organised for shelter dogs as well as take part in some dog shows, where allowed by show organisers to offer the dogs housed at the centre to the public, this being of high importance as such events are visited by people with close relationships to the dog so chances are very high the dogs we nurse can be quite often placed this way. The several awards the centre won at varied mixed-blood and shelter dog shows were not only rewarding the work of the staff; in fact, such events can be very often associated with charitable activities. The reward for locating the dog can be dog pellets, snacks and supplies like leashes, collars, muzzles etc.

A very heart-warming for the centre staff was the outcome of the annual centre's event entitled "Four Feet Too Need Christmas Treat", with Usti nad Labem citizens donating not only different needs and treats for dogs and cats, but also animal food for 68 thousand CZK, this representing a considerable support, especially these days when there is no money to waste and the centre has to save wherever possible.

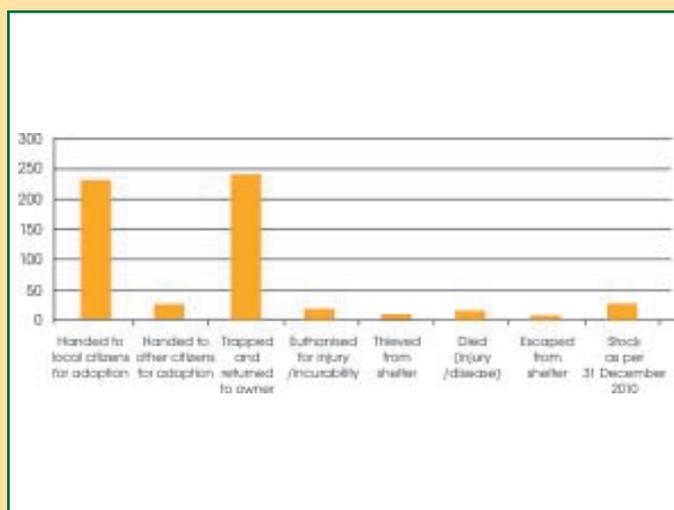
In addition, heating panels were successfully installed in each kennel allowing to keep the nursed creatures warm in the winter. This was possible thanks to the support from donors and co-funded by the centre's budget.



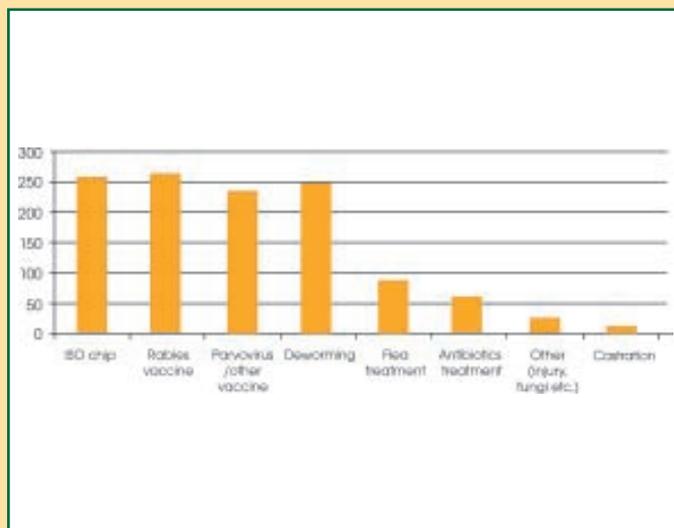
Incomming dogs in 2010 (01-01 to 31 - 12)	
Accepted from the public	267
Accepted from a different municipality	12
Accepted from the city police	247
Accepted from the city office	6
Found tied near the centre limits	17
Known owner	15
Total dogs	564



Outgoing dogs in 2010 (01-01 to 31-12)	
Handed to local citizens for adoption	236
Handed to other citizens for adoption	23
Trapped and returned to owner	246
Euthanised for injury/incurability	14
Thieved from shelter	6
Died (injury/disease)	11
Escaped from shelter	3
Stock as per 31 December 2010	25
Total dogs	564

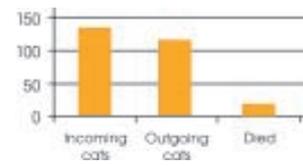


Dog treatment and vaccination in 2010 (01-01 to 31-12)	
ISO chip	259
Rabies vaccine	264
Parvovirus/ other vaccine	239
Deworming	249
Flea treatment	89
Antibiotics treatment	56
Other (injury, fungi etc.)	23
Castration	9
Total treatments	1188
Fees outgoing dogs (vaccine, microchip)	300
Housing fee per day	60
Transport fee, incoming dogs	100
Lump sum per stay (dogs 30 cm-)	1000
Lump sum per stay (dogs 30cm+)	1500
Cadaver fee	22 CZK per kg



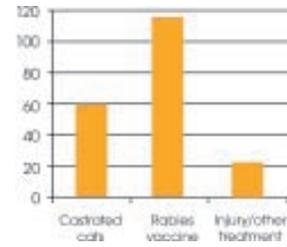
Cats accepted and treated in 2010 (01-01 to 31-12)

Incoming cats	135
Outgoing cats	117
Died	18



Cats treated in 2010 (01-01 to 31-12)

Castrated cats	58
Rabies vaccine	113
Injury/other treatment	23



Pesisir Balikpapan: project update

Mgr Stanislav Lhota, PhD



Launched in 2005, the Pesisir Balikpapan project aims to study and preserve the area of the unique bay along the eastern coast of Kalimantan, i.e. the Indonesia's portion of the island of Borneo. Since 2006, the activity has been conducted under the umbrella of Usti nad Labem Zoo. Translated from Indonesian, Pesisir Balikpapan means the coast of Balikpapan, this being a half-million city that began to develop along the bay coast at the turn of the 19 and 20 century following the discovery of oilfields. Surprisingly, the area has preserved its tropical forests and coral reefs until recently, these having successfully resisted the influence of the developing town over several decades, which is the status the project staff seeks to maintain for the future by making sure these natural ecosystems are capable of handling the civilisation pressures to which they have been increasingly exposed in recent years.

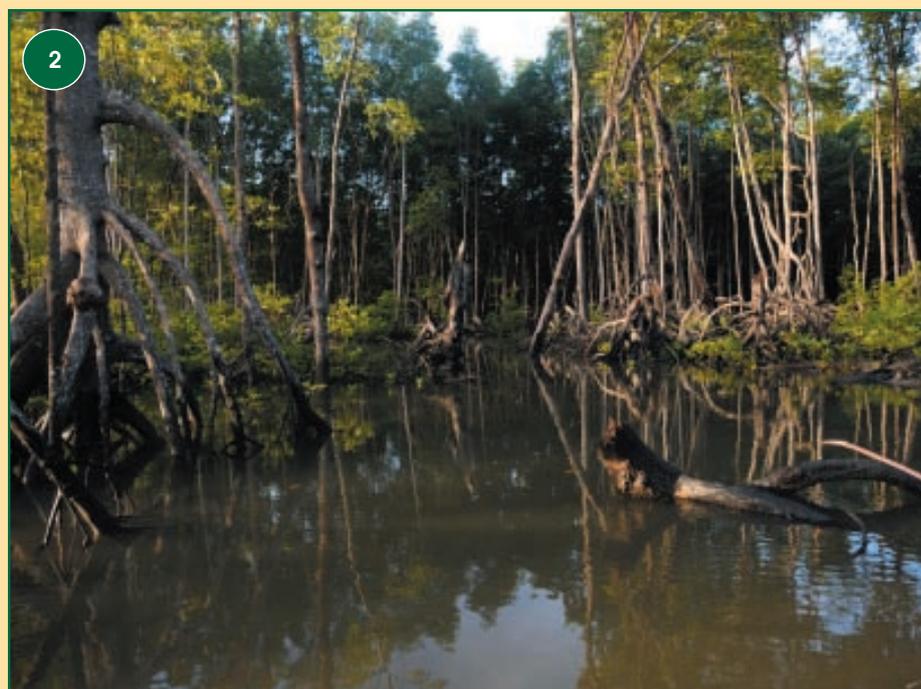
The unique coast

The Balikpapan Bay in fact presents the remnants of a prehistoric river system flooded by sea water following the most recent ice age, giving rise to 150 sq km of shallow sea penetrating through the ancient river valley as far as 50 km towards the inland (**Picture 1**), one with the bed

covered in places by large undersea meadows - vegetation comprising angiosperms of the *Halodule* and *Halophylla* genera that serve as food for the green sea turtle (*Chelonia mydas*), and the dugong (*Dugong dugon*), a herbivorous sea-dwelling mammal. In fact, the local dugongs present one of the last remaining individuals that so far have inhabited waters along the island of Borneo, which is exactly where they had been considered extinct for some time. A remnant popula-

tion of saltwater crocodiles (*Crocodylus porosus*) that have locally survived despite constant pressure can also be found here, as well as some 60-140 Irawaddy dolphins (*Orcaella brevirostris*), creatures that unlike most other dolphins have specialised for life in shallow, turbid and brackish waters in estuaries. Coral reefs that occur in the Balikpapan Bay as far as 20 km from the open sea are also worth-mentioning. There is an interesting gradient in the composition of the local reef communities due to the elongated shape of the bay, with flat and branched corals prevailing as the bay enters the open sea, which gives way to rather resilient brain corals as well as green algae, all of this found towards the rather muddy and brackish waters of the inland bay.

As regards sandy beaches, there are just a few along the bay coast. Instead of these, there are 170 sq km of mangrove forests (**Picture 2**). Mangrove trees cover the muddy coast in the zones influenced by the tides. This vegetation features diverse types of entangled aerial roots that by the way enable the trees breathing, while their shapes have also resulted in specific Czech names of the different types of trees. Given the vastness of the Balikpapan Bay and the differences in the salinity of water throughout its area, a wide





range of different types of mangroves can be found locally, with the diversity of plant species as such being the largest in the world. Also significant is the fact that this forest presents to some extent primary mangroves, those that still remain unaffected by human activity as well as the constant action of waves, which results in the shape of the coastline and thus the location of the mangrove forest being subject to permanent change. In remote parts of the bay, where the tide is already running out of power, the mangrove forests remain stable long enough for them to turn from the low and impenetrable dense vegetation growing on soft mud into the forest of tall trees with powerful roots and stiff mud giving you even the possibility of walking - given that any action of passing through the land of mangroves could be ever termed this way...

From a global perspective, however, the greatest value of mangroves in the Balikpapan Bay lies with the local population of proboscis monkeys (*Nasalis larvatus*), endangered primates that can only be found on the island of Borneo (**Picture 3**). Namely owing to the nose of unexampled size in adult males, this mammal has gained popularity, becoming a symbol and a flagship species for bay preservation, with the population throughout the area being estimated at 1400 individuals, this representing one of the 6 largest known populations of the species and approximately 5% of the total known population. However, the viability of these still remains uncertain. Data from several years of research in the proboscis were subjected to analysis using VORTEX, software that allows predicting the future development

of populations. Based on this modelling, the species might become extinct within the next 25 years in the Balikpapan Bay if the current rate of diminishing of the forest

that these primates inhabit is not halted. Fortunately, these alarming findings met with success in the local mass media and became one of the drivers of increased public interest in this species as well as its habitat.

From sea level right to the jungle

Assuming the catchment area of the bay extends just over marine and coastal ecosystems would be far from right. In fact, it also encompasses the hilly landscapes along upper reaches of rivers and streams, which were covered to the large extent with tropical rainforest still 40 years ago. Termed dipterocarp forest owing to the predominant family of trees (**Picture 4**), it has suffered to the great extent from logging as well as subsequent catastrophic fires that hit Borneo especially in the 1980s and 1990s in connection with El Niño, the





global climatic phenomenon, which has left just last remaining 50 sq km of preserved primary dipterocarp forest, now under strict protection as part of the Sungai Wain reserve. This last remnant, no matter how small, is the largest uninterrupted mass of primary lowland forest along the coast. Extending over several hundred kilometres to the north as well as the south of Balikpapan, this near-to-extinction piece of forest was once amongst the richest areas of Borneo as regards diversity of animal and plant species. The Balikpapan Bay is one of a few places where this diversity has been preserved, with over 1000 species of trees growing and approximately 300 species of birds and 100+ mammal species. The proboscis is not a single primate found locally - in fact, nine more species of primates can be encountered in the area, this including orangutans who are however unnative to the area. The local orangutan population consists of animals confiscated from the illegal market and introduced locally in the 1980s. Other worth-mentioning creatures include the Malayan sun bear, clouded leopard (**Picture 5**), binturong, pangolin, Bornean peacock pheasant, Storm's stork and many others. In addition, local native people believe that the forest is inhabited by children-like goblins that leave footprints on sandy roads. In fact it is, only the paw prints pertain to the red leaf monkey (**Picture 6**).

The survival of the majority of the dipterocarp forest populations depends on allowing future recovery of the secondary vegetation damaged by logging and fires, since the remaining mass of intact primary forest is too small to be capable of holding animal and plant species with diversity like this. Fortunately, since the process of

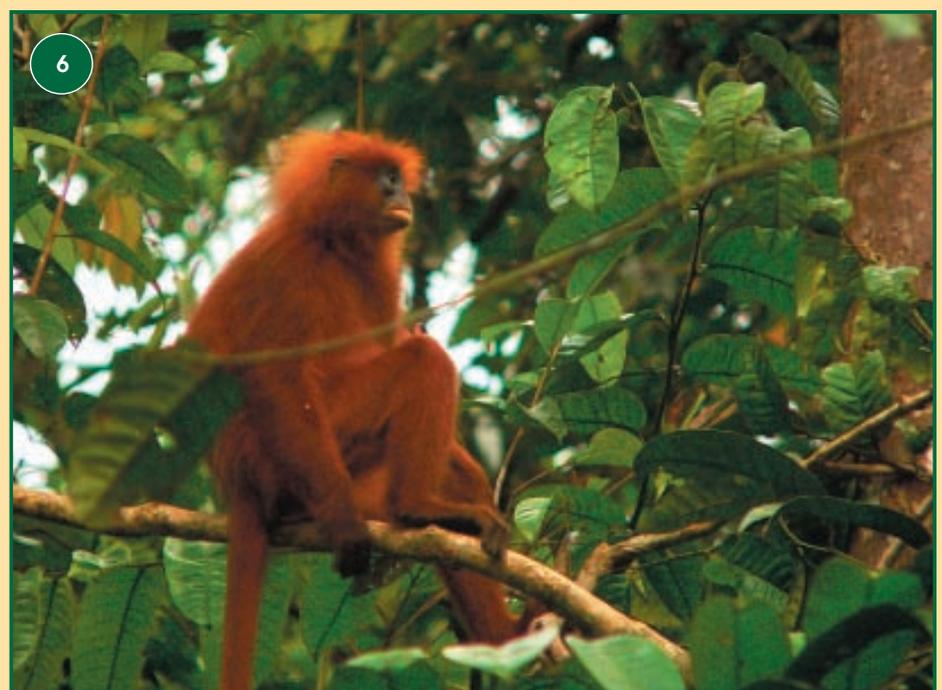
revival of the surrounding secondary forest has been successful so far, encountering for example almost every mammalian species known from the virgin forest is now very well possible in the area. Additionally, the large zones of restoring forests serve as corridors linking the intact forest and coastal mangroves, allowing the animals moving between different types of habitat throughout the bay's basin.

The bay at risk

Sadly, the whole ecosystem of the bay today faces the risk of destruction due to ill-advised planning in terms of industrial development and large-scale agriculture. Despite several non-governmental organisations, various activist groups and the government agencies responsible for the

state of the environment being active in Balikpapan, a few of these have ever visited the remote parts of the bay, so there was nothing preventing the large industrial, agricultural and timber companies from continued destruction of forests and sea. The lack of information available to the competent authorities proved to be the major block in attempting to protect the environment. That is why the project's group of Indonesian assistants has been travelling on a monthly basis along the entire coast and within all the river courses in the remote northern portion of the bay since 2008 (**Picture 7**), collecting information on legal and illegal human activities that cause damage to the natural environment, be it industrial development and fish and shrimp farms being founded, logging, mining and transport of coal, charcoal burning, hunting and other activities. The data are then summarised each month and a report circulated in Indonesian language to the responsible government officials, police, NGOs and everyone with serious involvement. To include the general public, additional report is compiled approximately once per month and designed primarily for journalists, always focusing on a single key topic, which is necessary to highlight for the month in question. Campaigns are organised to raise awareness of the public and put pressure on political leaders; they include participating student groups of activists from two local universities.

Subsequently, details found during the monitoring activities as well as public



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pressure are then applied in a constant negotiation with relevant government authorities and representatives of corporations, ones accountable for damaging the natural habitats. Although the activity was primarily in the hands of foreign researchers, the team's aim was to involve as many local activists from the very start. Recently, the foreign scientists are slowly taking the background position, with the Consortium, an association of 11 non-governmental organisations and government agencies that deal with conservation and environment issues, being the main body to conduct campaigns and proceedings. At the same time, re-opening the Balikpapan Bay Management Body is being considered. The office was founded as part of the Indonesian-American project for sustainable coastal development, but ceased to operate following 2005; possible tasks of this office include the responsibility to receive and manage government financial assistance earmarked for protection and management of the coast.

A new disaster - palm oil

In the recent years, the process of getting some of illegal activities under control has met with success to some extent in the Balikpapan Bay. This involves some operations which have thrived in the past but are still rampant in other parts of Indonesia - in particular illegal logging, starting forest fires and hunting. Far greater threat to the bay is now in activities of big corporations, which have been mining brown

coal, growing timber for paper industry or processing paper, with however those producing and processing palm oil having the worst reputation amongst the others. A commodity used not only in the food industry but also in cosmetics and in the production of biofuels, with major customers including the European Union, palm oil is now responsible for the greatest extent of the destruction of tropical forests in Southeast Asia, which sadly applies also to the Balikpapan Bay, where not only large tracts of forest disappear due to oil-palm plantations (**Picture 8**), but also the coast as such has been heavily damaged by the construction of factories processing palm oil. By the way, the sediments produced by these sites have already managed to kill

life at several unique coral reefs.

Most recently, the strong public pressure especially in Australia, Western Europe and North America has resulted in palm oil corporations seeking to improve their image. An important step was the establishment of the RSPO association (Roundtable on Sustainable Palm Oil) that is assessing profiles of the companies to decide which palm oil can be certified as environmentally friendly. Such products are to bear the "Sustainable Palm Oil" logo as of January 2011 (**Picture 9**). The team has been working together with RSPO since 2009, with a detailed report on the conduct of palm oil companies in the Balikpapan Bay being mailed to each annual RSPO meeting. While it is not surprising that none of the palm oil companies has since met the certification criteria, increasing palm oil consumer and buyer pressure as well as growing movement for environmental protection in Indonesia did force two of such corporations to contact the project team, asking us to cooperate. A programme for reducing the environmental impact was jointly developed by each of the two companies and the team, but with both corporations failing to perform, plans have remained unfulfilled in both cases.

The biggest threat

Fundamental to the future of the wild habitats in the Balikpapan Bay is the threat of building a provincial motorway. Providing access to the major part of the coast

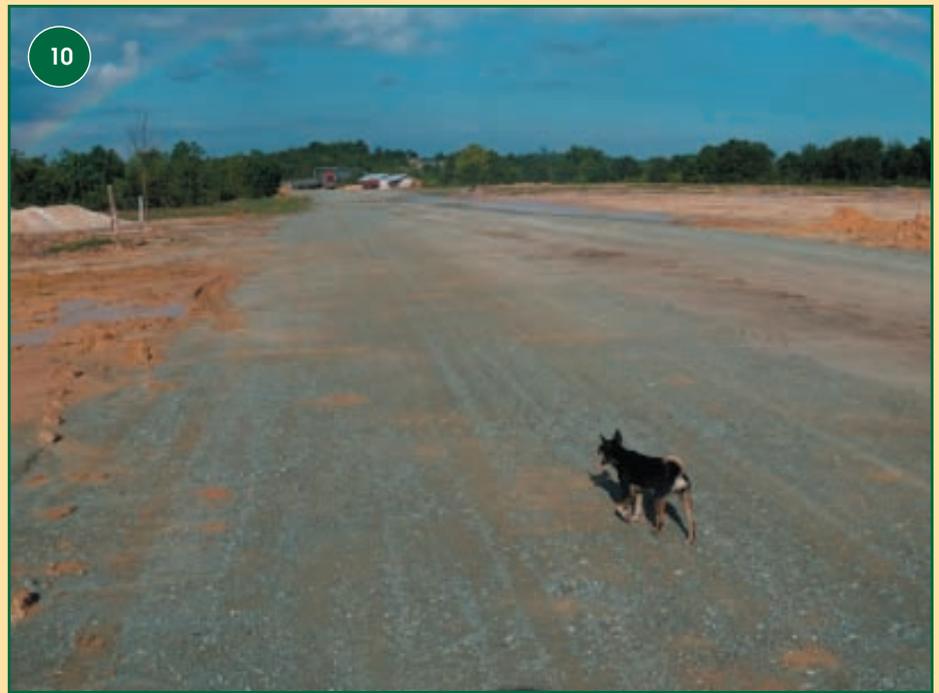
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(Picture 10), it would drive an uncontrollable increase in industrial development, converting forests into agricultural land, illegal logging, hunting and starting forest fires, whilst cutting through every biological corridor, and thus isolating two key ecosystems, i.e. the dipterocarp primary forest and the coastal mangroves, from each other. Making the entire area accessible via the provincial road is highly likely to prevent the forests along the coast survive more than 1-2 future cycles of the El Niño climatic phenomenon, i.e. the next 10-20 years. Soil washed from deforested slopes can then be washed away into the bay waters where it will settle, this leading to the coral reefs and undersea meadows being destroyed, which in extreme cases may include even relatively resilient mangrove forests.

The paradox is that there are alternative routing designs for the provincial motorway, offering not only bypassing the natural landscape of the Balikpapan Bay, but even forming preferable options in terms of economy. They include a bridge to connect the two cities on the opposite sides of the southernmost part of the bay - Balikpapan and Penajam, this eliminating the need for construction of the road enclosing the major part of the bay by a curved section up to 120 km long, thereby opening access to the bay's most pristine corners (Picture 11). The bridge option has the support of local non-governmental organisations, conservationists and local development staff. The stumbling block however consists in several high-ranking officials, who had apparently bought the land in the zones through which the planned long route option is expected to lead, or may have entered into agreements with the large corporations that are interested in building factories or produce palm oil. These few influential individuals have been sabotaging for several years the efforts to build the bridge between the



two cities and divert the planned route of the provincial motorway in a new direction.

In justifying their plans to construct the road along the Balikpapan Bay, the provincial government said it would be done in the interests of local residents, without having

consulted them for anything, though. Although the public opinion poll indicated that 94.5% of residents supported the project, the clear purpose of the survey, funded by the provincial government, was to advocate the construction. Therefore, people interviewed were not aware of any other alternatives, including the option of



erecting a bridge between the two cities to be connected by the provincial road. Even the public media were not mentioning the alternative at that time, this being a situation that has fortunately changed with several years of campaigning. This made the project team to conduct a new poll in 2010 in cooperation with Indonesian university students, with the respondents split into two groups: people residing in areas potentially affected by the different transport solutions, and passengers who were interviewed as they travelled across the bay using current available means of transport, i.e. ferry, ship or motor boats. Analysis of the new data has clearly shown that contrary to the claims of the provincial government, the plan to build a road along the Balikpapan Bay has in fact very little support from local residents, with the majority of respondents preferring a different option of those available. While the group of travellers preferred the option with ferries (i.e. the fastest to implement), local residents were mostly voting for the option of the bridge leading directly from Balikpapan to Penajam (i.e. the one being the most effective over the long term). The data collected now present a very strong

argument for negotiations with the provincial and national government on rejecting the option of building the road along the bay and seeking other alternatives of transportation across the bay.

A variety of campaigns was used in making the local people (**Picture 12**) as well as the international community of scientists and conservationists familiar with the provincial motorway development issue, the latter being delivered for example to international conferences in Kyoto, Japan and Bali, Indonesia, this resulting amongst others in the statement of the Association for Tropical Biology and Conservation, i.e. the largest international organisation focused specifically on the protection of tropical forest and sea; the statement addressing the Indonesian government said that the Association was opposing the construction of the provincial motorway along the coast of the Balikpapan Bay, while promoting the alternative to connect the cities of Balikpapan and Penajam directly through the bridge across the bay. The project team is now in partnership with a group of several similar organisations in the process of launching an international mailing

campaign to convince the government of East Kalimantan that it is losing the trust of international communities through the enforcement of the planned road along the bay of Balikpapan.

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Stock list as per 31/12/2010

	state in 1/1/2010	Birth	Arrival	Death	Departure	state in 31/12/2010
Mammals (Mammalia)						
Addax	2.0					2.0
<i>Addax nasomaculatus</i>	EEP,ISB,RDB=CR,CITES=I					
Alpaca	2.9	1.2.2		0.1		3.10.2
<i>Vicugna pacos</i>						
Amur Leopard	3.1				2.0	1.1
<i>Panthera pardus orientalis</i>	EEP,ISB,RDB=CR,CITES=I					
Angola Lion	1.2					1.2
<i>Panthera leo bleyenberghi</i>	RDB=VU					
Babyrusa	1.1			1.0	0.1	
<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	2.1		1.0	1.0	2.4
<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	4.1	1.0				5.1
<i>Varecia variegata</i>	EEP,ISB,RDB=EN,CITES=I					
Blackbuck	8.10			0.1	4.5	4.4
<i>Antilope cervicapra</i>	RDB=NT					
Blue Monkey	1.1					1.1
<i>Cercopithecus mitis</i>	RDB=LR					
Bonnet Macaque	3.3			1.0		2.3
<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	0.1				1.2
<i>Tapirus terrestris</i>	EEP,RDB=VU					
Californian Sea Lion	1.0					1.0
<i>Zalophus californianus</i>	ESB,RDB=LR					
Capybara	1.0				1.0	
<i>Hydrochaeris hydrochaeris</i>	RDB=LR					
Central American Agouti	0.1					0.1
<i>Dasyprocta punctata</i>	RDB=LR					
Clouded Leopard			1.1			1.1
<i>Pardofelis nebulosa</i>	EEP,ISB,RDB=VU,CITES=I					

	state in 1/1/2010	Birth	Arrival	Death	Departure	state in 31/12/2010
Mammals (Mammalia)						
Collared Peccary	1.2					1.2
<i>Pecari tajacu</i>	RDB=LR					
Cotton-top Tamarin	3.2.1	0.0.1		1.0	0.1	2.1.2
<i>Saguinus oedipus</i>	EEP,ISB,RDB=EN,CITES=I					
De Brazza's Monkey	2.2	1.0				3.2
<i>Cercopithecus neglectus</i>	ESB,RDB=LR					
Defassa Waterbuck	2.6		1.0	1.0	1.2	1.4
<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	2.5	2.1			1.0	3.6
<i>Camelus bactrianus</i>	RDB=CR					
Domestic Dog	0.1					0.1
<i>Canis familiaris</i>						
Domestic Goat	0.2			0.1		0.1
<i>Capra hircus</i>						
Domestic Sheep			2.0			2.0
<i>Ovis aries aries</i>						
Domestic Sheep	1.10		1.0	1.2		1.8
<i>Ovis aries aries</i>						
Eastern Pygmy Marmoset	2.4	0.0.3				2.4.3
<i>Callithrix pygmaea niveiventris</i>	RDB=LC					
Fishing Cat	3.2	1.2			2.1	2.3
<i>Prionailurus viverrinus</i>	EEP,ISB,RDB=VU					
Fosa	1.0					1.0
<i>Cryptoprocta ferax</i>	EEP,ISB,RDB=VU					
Geoffroy's Cat	1.1			0.1		1.0
<i>Oncifelis geoffroyi</i>	EEP,RDB=NT,CITES=I					
Golden Lion Tamarin	1.1	0.0.1				1.1.1
<i>Leontopithecus rosalia</i>	EEP,ISB,RDB=EN,CITES=I					
Guanaco	0.2		1.0	1.0		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			0.1		3.8
<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					

	state in 1/1/2010	Birth	Arrival	Death	Departure	state in 31/12/2010
Mammals (Mammalia)						
Javan Langur	0.4		1.0	0.1		1.3
<i>Trachypithecus auratus</i>	RDB=EN					
Kafue Lechwe	2.3	0.3		0.1		2.5
<i>Kobus leche kafuensis</i>	ISB,RDB=VU					
Kilimanjaro Colobus	0.4		1.0	1.0		0.4
<i>Colobus guereza caudatus</i>	ESB,RDB=LR					
Larger Hairy Armadillo	1.1			1.0	0.1	
<i>Chaetophractus villosus</i>	RDB=LC					
Llama	1.3	0.1			0.2	1.2
<i>Lama glama</i>						
Lowland Anoa	2.2					2.2
<i>Bubalus depressicornis</i>	EEP,ISB,RDB=EN,CITES=I					
Malayan tiger	0.1					0.1
<i>Panthera tigris jacksonii</i>	ISB,RDB=EN,CITES=I					
Mandrill	3.5	0.1		1.0		2.6
<i>Mandrillus sphinx</i>	EEP,RDB=VU					
Maned Wolf	1.2			0.1		1.1
<i>Chrysocyon brachyurus</i>	EEP,ISB,RDB=NT					
Meerkat	1.3					1.3
<i>Suricata suricatta</i>	RDB=LR					
Nilgai	3.4	1.1		1.1	1.1	2.3
<i>Boselaphus tragocamelus</i>	RDB=LC					
Northern Plains Grey Langur	0.2				0.2	
<i>Semnopithecus entellus</i>	ESB,RDB=LR,CITES=I					
Northern White-cheeked Gibbon	1.2.1		1.0		1.0	1.2.1
<i>Nomascus leucogenys leucogenys</i>	EEP,ISB,RDB=EN,CITES=I					
Orangutan	1.0					1.0
<i>Pongo pygmaeus</i>	EEP,ISB,RDB=EN,CITES=I					
Oriental Small-clawed Otter	3.2	0.0.2			2.1	1.1.2
<i>Amblyonyx cinerea</i>	ISB,RDB=NT					
Patagonian Mara	4.1				2.0	2.1
<i>Dolichotis patagonum</i>	RDB=LR					
Pony	1.3	1.1			0.1	2.3
<i>Equus caballus</i>						
Prevost ´s Squirrel	1.1					1.1
<i>Callosciurus prevostii</i>	RDB=LR					
Red Panda	0.1		1.0			1.1
<i>Ailurus fulgens fulgens</i>	EEP,ISB,RDB=EN,CITES=I					
Red Ruffed Lemur	2.2	1.1			0.3	3.0
<i>Varecia rubra</i>	EEP,ISB,RDB=CR,CITES=I					

	state in 1/1/2010	Birth	Arrival	Death	Departure	state in 31/12/2010
Mammals (Mammalia)						
Red-handed Tamarin	2.6			0.1	1.3	1.2
<i>Saguinus midas</i>	ESB,RDB=LC					
Red-chested Moustached Tamarin			1.1			1.1
<i>Saguinus labiatus</i>	ESB,RDB=LC					
Reeves' Muntjac	1.2	1.0.1			1.0.1	1.2
<i>Muntiacus reevesi reevesi</i>	RDB=LR					
Ring-tailed Lemur	1.6	0.0.1			0.2	1.4.1
<i>Lemur catta</i>	ESB,RDB=NT,CITES=I					
Silvered Leaf Monkey	0.2					0.2
<i>Trachypithecus cristatus</i>	RDB=NT					
Snow Leopard	1.2				0.1	1.1
<i>Uncia uncia</i>	EEP,ISB,RDB=EN,CITES=I					
Somali Wild Ass	3.4	0.1			1.0	2.5
<i>Equus africanus somalicus</i>	EEP,ISB,RDB=CR,CITES=I					
South American Coati	4.2				1.0	3.2
<i>Nasua nasua</i>	RDB=LR					
Southern Two-toed Sloth	1.3	0.0.1	0.1		0.2	1.2.1
<i>Choloepus didactylus</i>	ESB,RDB=LC					
Southern White Rhinoceros	0.1					0.1
<i>Ceratotherium simum simum</i>	EEP,ISB,RDB=NT					
Sun Bear	2.4					2.4
<i>Helarctos malayanus</i>	ESB,RDB=DD,CITES=I					
Thorold's Deer	3.6	0.0.2				3.6.2
<i>Cervus albirostris</i>	RDB=VU					
Variable Flying Fox	4.2	1.0		2.0		3.2
<i>Pteropus hypomelanus</i>	RDB=LR					
Vietnamese Sika Deer	5.9	3.1		1.0	5.3	2.7
<i>Cervus nippon pseudaxis</i>	EEP,ISB,RDB=CR					
Wolverine	1.1					1.1
<i>Gulo gulo sibirica</i>	EEP,RDB=VU					
Birds (Aves)						
Blue-and-yellow Macaw	3.3.1	0.0.3				3.3.4
<i>Ara ararauna</i>	RDB=LC					
Blue-fronted Amazon	0.0.1					0.0.1
<i>Amazona aestiva</i>	RDB=LC					
Budgerigar	19.15	0.0.138	0.4	4.1	0.0.86	15.18.52
<i>Melopsittacus undulatus</i>	RDB=LC					
California Quail	2.1					2.1
<i>Lophortyx californica</i>	RDB=LC					

	state in 1/1/2010	Birth	Arrival	Death	Departure	state in 31/12/2010
Birds (Aves)						
Cockatiel	3.1	0.0.2			2.0.2	1.1
<i>Nymphicus hollandicus</i>	RDB=LC					
Common Barn-owl	1.1	0.1			0.1	1.1
<i>Tyto alba</i>	CROH=SOH,RDB=LC					
Common Moorhen			0.0.4	0.0.1		0.0.3
<i>Gallinula chloropus</i>	RDB=LC					
Crested Pigeon	1.1					1.1
<i>Ocyphaps lophotes</i>	RDB=LC					
Demoiselle Crane			1.1			1.1
<i>Anthropoides virgo</i>	RDB=LC					
Emerald Dove	1.0		0.1			1.1
<i>Chalcophaps indica indica</i>	RDB=LC					
Emu	1.1					1.1
<i>Dromaius novaehollandiae</i>	RDB=LC					
Eurasian Eagle-Owl	1.1					1.1
<i>Bubo bubo</i>	CROH=OH,RDB=LC					
Great Currassow	1.1					1.1
<i>Crax rubra</i>	RDB=NT					
Greater Rhea	2.3	0.0.3			0.0.3	2.3
<i>Rhea americana</i>	RDB=NT					
Grey Parrot	1.1					1.1
<i>Psittacus erithacus</i>	RDB=LC					
Helmeted Guineafowl			0.0.3			0.0.3
<i>Numida meleagris</i>	RDB=LC					
Himalayan Griffon	1.1					1.1
<i>Gyps himalayensis</i>	RDB=LC					
Indian Peafowl	2.4.4	0.0.1			0.0.1	2.4.4
<i>Pavo cristatus</i>	RDB=LC					
Little Owl	1.1					1.1
<i>Athene noctua</i>	CROH=SOH,RDB=LC					
Mandarin Duck	1.0		2.0			3.0
<i>Aix galericulata</i>	RDB=LC					
Marabou	1.0					1.0
<i>Leptopilos crumeniferus</i>	ESB,RDB=LC					
Mealy Amazon	3.2	0.1			2.2	1.1
<i>Amazona farinosa</i>	RDB=LC					
Military Macaw	3.5	0.0.2			0.2	3.3.2
<i>Ara militaris</i>	ISB,RDB=VU,CITES=I					
Orange-winged Amazon			1.1			1.1
<i>Amazona amazonica</i>	RDB=LC					

	state in 1/1/2010	Birth	Arrival	Death	Departure	state in 31/12/2010
Birds (Aves)						
Raven	1.1					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	2.1	2.0			2.0	2.1
<i>Poicephalus gulielmi</i>	RDB=LC					
Red-lored Amazon	1.1					1.1
<i>Amazona autumnalis</i>	RDB=LC					
Rose-ringed Parakeet	1.1	0.0.3			0.0.3	1.1
<i>Psittacula krameri</i>	RDB=LC					
Rothschild´s Mynah	1.1					1.1
<i>Leucopsar rothschildi</i>	EFP,RDB=CR,CITES=I					
Saker Falcon	1.3	0.0.1			0.2.1	1.1
<i>Falco cherrug</i>	CROH=KOH,RDB=EN					
Salmon-crested Cockatoo	2.1					2.1
<i>Cacatua moluccensis</i>	EFP,RDB=VU,CITES=I					
Scarlet Macaw	1.1					1.1
<i>Ara macao</i>	RDB=LC,CITES=I					
Snowy Owl	1.1	1.1			0.1	2.1
<i>Nyctea scandiaca</i>	RDB=LC					
Southern Ground-Hornbill			1.1			1.1
<i>Bucorvus leadbeateri</i>	ESB,RDB=LC					
Spot-sided Finch	1.2	0.0.7				1.2.7
<i>Taeniopygia guttata</i>	RDB=LC					
Sun Parakeet	2.2			0.1		2.1
<i>Aratinga solstitialis</i>	RDB=LC					
Tanimbar Corella	1.1				1.1	
<i>Cacatua goffini</i>	RDB=NT,CITES=I					
Tawny Eagle	0.1				0.1	
<i>Aquila rapax</i>	RDB=LC					
Tawny Owl	0.0.1					0.0.1
<i>Strix aluco</i>	RDB=LC					
Ural Owl	1.1					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	0.0.1		0.1		1.1.1
<i>Musophaga violacea</i>	ESB,RDB=LC					
White-faced Whistling-Duck			1.2			1.2
<i>Dendrocygna viduata</i>	RDB=LC					

	state in 1.1.2010	Birth	Arrival	Death	Departure	state in 31.12.2010
Birds (Aves)						
Wrinkled Hornbill	2.1	2.0				4.1
<i>Aceros corrugatus</i>	EEP,RDB=NT					
Yellow-bibbed Lory	2.2	0.0.1		0.1		2.1.1
<i>Lorius chlorocercus</i>	RDB=LC					
Reptiles (Reptilia)						
	3.7					3.7
<i>Trachemys scripta</i>	RDB=LR					
			0.0.1			0.0.1
<i>Graptemys ouachitensis</i>						
African Rock Python	0.1					0.1
<i>Python sebae</i>						
African Spiny-tailed Lizard	3.8			0.1		3.7
<i>Uromastyx acanthinura</i>						
African Spurred Tortoise	0.0.3					0.0.3
<i>Centrochelys sulcata</i>	RDB=VU					
American Alligator	1.0					1.0
<i>Alligator mississippiensis</i>						
Asian Leaf Turtle	2.1			0.1		2.0
<i>Cyclemys dentata</i>	RDB=LR					
Ball Python	2.1	0.0.1		1.0	0.0.1	1.1
<i>Python regius</i>						
Black Marsh Turtle			0.1			0.1
<i>Siebenrockiella crassicollis</i>	ESB,RDB=VU					
Black-bridged Leaf Turtle	1.2.4	0.0.4				1.2.8
<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>						
Central Asian tortoise	4.1.1				0.0.1	4.1
<i>Testudo horsfieldii</i>	RDB=VU					
Common Snake-necked Turtle	1.1			0.1		1.0
<i>Chelodina longicollis</i>						
Cuban Boa	1.1			0.1		1.0
<i>Epicrates angulifer</i>	EEP,RDB=LR					

	state in 1/1/2010	Birth	Arrival	Death	Departure	state in 31/12/2010
Reptiles (Reptilia)						
Cuban Iguana	1.2					1.2
<i>Cyclura nubila nubila</i>	ISB,RDB=VU,CITES=I					
Eastern Kingsnake	1.0					1.0
<i>Lampropeltis getula getula</i>						
Eurasian Pond Turtle			0.01			0.01
<i>Mauremys rivulata</i>						
Fly River turtle	2.0					2.0
<i>Carettochelys insculpta</i>	RDB=VU					
Green Tree Python	0.1					0.1
<i>Morelia viridis</i>						
Greer's Kingsnake	1.1	0.02			0.02	1.1
<i>Lampropeltis mexicana greeri</i>						
Grey-banded King Snake	1.1					1.1
<i>Lampropeltis alterna</i>						
Hermann's Tortoise	0.11		0.01			0.12
<i>Testudo hermanni</i>	RDB=LR					
Honduran Milk Snake	1.2	0.03			0.03	1.2
<i>Lampropeltis triangulum hondurensis</i>						
Horn's Monitor	1.1			0.1		1.0
<i>Varanus panoptes horni</i>						
Chinese Softshell Turtle	0.02			0.01		0.01
<i>Pelodiscus sinensis</i>	RDB=VU					
Inland Bearded Dragon	1.03			0.01		1.02
<i>Pogona vitticeps</i>						
Knight Anole	1.2	0.01			0.1	1.11
<i>Anolis equestris</i>						
Madagascar Giant Day Gecko			0.04		0.01	0.03
<i>Phelsuma madagascariensis</i>						
Marginated Tortoise	1.0					1.0
<i>Testudo marginata</i>	RDB=LR					
Northern Chuckwalla			1.2			1.2
<i>Sauromalus obesus</i>						
Oriental Water Dragon	0.08					0.08
<i>Physignathus cocincinus</i>						
Panther Chameleon	1.0					1.0
<i>Furcifer pardalis</i>						
Red-bellied short-necked turtle	0.03			0.01		0.02
<i>Emydura subglobosa</i>	RDB=LR					
Schneider's Skink	1.02					1.02
<i>Eumeces schneideri</i>						

	state in 1/1/2010	Birth	Arrival	Death	Departure	state in 31/12/2010
Reptiles (Reptilia)						
Siebenrock's Snake-necked Turtle	0.0.1		2.0			2.0.1
<i>Macrochelodina rugosa</i>	RDB=LR					
Sinaloan Milk Snake	2.2					2.2
<i>Lampropeltis triangulum sinaloae</i>						
Smooth-fronted Caiman	1.1					1.1
<i>Paleosuchus trigonatus</i>						
South American Red-footed Tortoise	6.6.2					6.6.2
<i>Chelonoidis carbonaria</i>						
Southeast Asian Box Turtle	3.0					3.0
<i>Cuora amboinensis</i>	ESB,RDB=VU					



	state in 31/12/2010	Birth
Amphibians (<i>Amphibia</i>)		
	0.0.4	
<i>Bufo arenarum</i>	RDB=LC	
Aplash-backed Poison-arrow Frog	0.0.1	
<i>Dendrobates galactonotus</i>	RDB=LC	
Blue Poison-arrow Frog	0.0.11	
<i>Dendrobates azureus</i>	RDB=VU	
Golden Poison Frog	0.0.3	
<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	0.0.32	2
<i>Dendrobates auratus</i>	RDB=LC	
Malayan Bullfrog	0.0.1	
<i>Kaloula pulchra</i>	RDB=LC	
Mission Golden-eyed Trefrog	0.0.8	
<i>Phrynohyas resinifictrix</i>	RDB=LC	
Mossy Frog	0.0.3	
<i>Theleiderma corticale</i>	RDB=DD	
Orange-legged Leaf Frog	0.0.3	
<i>Phyllomedusa hypochondrialis</i>	RDB=LC	
Ribbed Newt	0.0.11	
<i>Pleurodeles waltl</i>	RDB=NT	
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	0.1.8	
<i>Pyxicephalus adspersus</i>	RDB=LC	
White´s Treefrog	0.0.12	
<i>Pelodryas caerulea</i>	RDB=LC	
Yellow-banded Poison-arrow Frog	0.0.12	
<i>Dendrobates leucomelas</i>	RDB=LC	
Yucatecan Shovel-headed Treefrog	0.0.3	
<i>Tripurion petasatus</i>	RDB=LC	

	state in 31/12/2010	Birth
Fish (<i>Pisces</i>)		
	0.0.5	
<i>Botia almorhae</i>		
African Butter Catfish	0.0.2	
<i>Schilbe mystus</i>	RDB=VU	
Angelfish	0.0.2	
<i>Pterophyllum scalare</i>		
Bristlenose catfish	0.0.22	
<i>Ancistrus cirrhosus</i>		
Bronze Cory	0.0.7	
<i>Corydoras aeneus</i>		
Carplooth catfish	0.0.3	
<i>Clarias gariepinus</i>		
Clown Loach	0.0.4	
<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	0.0.48	
<i>Carassius auratus</i>		
Harlequin Rasbora	0.0.7	
<i>Trigonostigma heteromorpha</i>		
Cherry Barb	0.0.7	
<i>Puntius tiffeya</i>	RDB=LR	
Iridescent Shark	0.0.8	
<i>Pangasius hypophthalmus</i>		
Iridscent Mystus Cat	0.0.1	
<i>Mystus vittatus</i>		
Kennyi mbuna	0.0.10	
<i>Metriaclima lombardoi</i>		
Kingsley´s Ctenopoma	0.0.4	
<i>Ctenopoma kingsleyae</i>		
Knifefish	0.0.9	
<i>Xenomystus sp.</i>		
Lemon Tetra	0.0.6	
<i>Hyphessobrycon pulchripinnis</i>		
Maylandia	0.0.16	
<i>Pseudotropheus zebra</i>		

	state in 31/12/2010	Birth
Fish (Pisces)		
Red Bellied Piranha	0.0.3	
<i>Pygocentrus nattereri</i>		
Red Hook Myleus	0.0.4	
<i>Myloplus rubripinnis</i>		
Red Pacu	0.0.2	
<i>Piaractus brachypomus</i>		
Redfin Shark	0.0.11	
<i>Epalzeorhynchus frenatum</i>		
Serpae Tetra	0.0.6	
<i>Hyphessobrycon eques</i>		
Siberian Sturgeon	0.0.1	
<i>Acipenser baerii</i>	RDB=VU	
Spotted Hoplo	0.0.4	
<i>Megalechis thoracata</i>		
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>		
Tiger Botia Loach	0.0.1	
<i>Botia hymenophysa</i>		
Tinfoil Barb	0.0.5	
<i>Barbodes schwanenfeldii</i>		
White Skirt Tetra	0.0.4	
<i>Gymnocorymbus ternetzi</i>		
Invertebrates (Invertebrata)		
Honduras Curly Hair Tarantula	0.0.1	
<i>Brachypelma albopilosum</i>		
Mexican flameknee tarantula	0.0.1	
<i>Brachypelma auratum</i>		
Common emperor scorpion	0.0.6	
<i>Pandinus imperator</i>		



Summary 2010	1 January 2010		31 December 2010	
	Species	Individuals	Species	Individuals
Mammals (<i>Mammalia</i>)	70	303	69	304
Birds (<i>Aves</i>)	40	147	44	220
Reptiles (<i>Reptilia</i>)	38	123	43	129
Ambhiblings (<i>Amphibia</i>)	18	110	17	138
Fish (<i>Pisces</i>)	38	306	34	241
Invertebrates (<i>Invertebrata</i>)	4	4	3	8
Total	208	993	210	1040



Animals reared

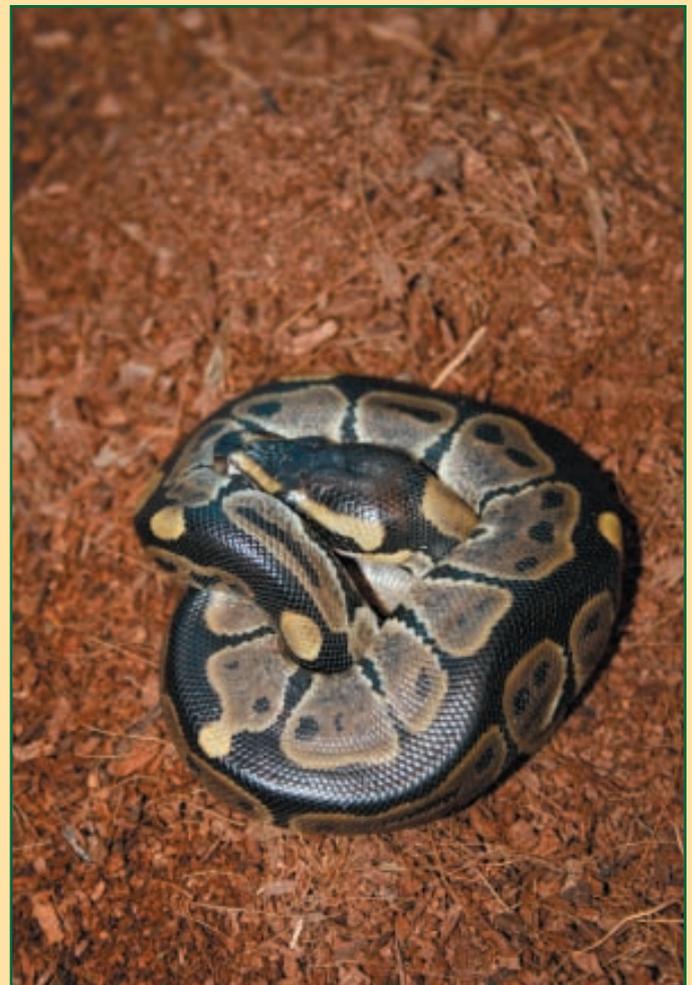
Mammals <i>Mammalia</i>	Born
Oriental Small-clawed Otter	0.0.2
<i>Amblonyx cinerea</i>	
Nilgai	1.1
<i>Boselaphus tragocamelus</i>	
Eastern Pygmy Marmoset	0.0.3
<i>Callithrix pygmaea niveiventris</i>	
Domestic Bactrian Camel	2.1
<i>Camelus bactrianus</i>	
De Brazza's Monkey	1.0
<i>Cercopithecus neglectus</i>	
Thorold's Deer	0.0.2
<i>Cervus albirostris</i>	
Vietnamese Sika Deer	3.1
<i>Cervus nippon pseudaxis</i>	
Somali Wild Ass	0.1
<i>Equus africanus somalicus</i>	
Pony	1.1
<i>Equus caballus</i>	
Baringo Giraffe	2.1
<i>Giraffa camelopardalis rothschildi</i>	
Southern Two-toed Sloth	0.0.1
<i>Choloepus didactylus</i>	
Kafue Lechwe	0.3
<i>Kobus leche kafuensis</i>	
Llama	0.1
<i>Lama glama</i>	
Ring-tailed Lemur	0.0.1
<i>Lemur catta</i>	
Golden Lion Tamarin	0.0.1
<i>Leontopithecus rosalia</i>	
Mandrill	0.1
<i>Mandrillus sphinx</i>	
Reeves' Muntjac	1.0.1
<i>Muntiacus reevesi reevesi</i>	
Fishing Cat	1.2
<i>Prionailurus viverrinus</i>	

Mammals <i>Mammalia</i>	Born
Variable Flying Fox	1.0
<i>Pteropus hypomelanus</i>	
Cotton-top Tamarin	0.0.1
<i>Saguinus oedipus</i>	
Brazilian Tapir	0.1
<i>Tapirus terrestris</i>	
Red Ruffed Lemur	1.1
<i>Varecia rubra</i>	
Black and White Ruffed Lemur	1.0
<i>Varecia variegata</i>	
Alpaca	1.2.2
<i>Vicugna pacos</i>	



Birds Aves	Hatched
Wrinkled Hornbill	2.0
<i>Aceros corrugatus</i>	
Mealy Amazon	0.1
<i>Amazona farinosa</i>	
Blue-and-yellow Macaw	0.0.3
<i>Ara ararauna</i>	
Military Macaw	0.0.2
<i>Ara militaris</i>	
Saker Falcon	0.0.1
<i>Falco cherrug</i>	
Yellow-bibbed Lory	0.0.1
<i>Lorius chlorocercus</i>	
Budgerigar	0.0.138
<i>Melopsittacus undulatus</i>	
Violet Turaco	0.0.1
<i>Musophaga violacea</i>	
Snowy Owl	1.1
<i>Nyctea scandiaca</i>	
Cockatiel	0.0.2
<i>Nymphicus hollandicus</i>	
Indian Peafowl	0.0.1
<i>Pavo cristatus</i>	
Red-fronted Parrot	2.0
<i>Poicephalus gulielmi</i>	
Rose-ringed Parakeet	0.0.3
<i>Psittacula krameri</i>	
Greater Rhea	0.0.3
<i>Rhea americana</i>	
Spot-sided Finch	0.0.7
<i>Taeniopygia guttata</i>	
Common Barn-owl	0.1
<i>Tyto alba</i>	

Reptiles Reptilia	Born
Knight Anole	0.0.1
<i>Anolis equestris</i>	
Black-bridged Leaf Turtle	0.0.4
<i>Cyclemys pulchristriata</i>	
Greer's Kingsnake	0.0.2
<i>Lampropeltis mexicana greeri</i>	
Honduran Milk Snake	0.0.3
<i>Lampropeltis triangulum hondurensis</i>	
Ball Python	0.0.1
<i>Python regius</i>	



Finances



Senior Manager's report

Jana Cerna

In 2010, the zoo staff counted 64.7 persons employed on a full-time basis.

Overview of the financial situation

Item	Thousand CZK
Materials used	2,663.00
Feedstuffs used	3,418.00
Fuel used	522.00
Electric power	3,542.00
Water used, sewerage	1,521.00
Repairs of long-term assets	1,680.00
Payroll costs	14,477.00
Payroll taxes	4,938.00
Depreciation of long-term assets	6,990.00
Other costs	7,117.00
Total costs	46,868.00
Revenues from entrance fees	8,122.00
Other revenues (donations, etc.)	1,560.00
Inclusion of the profit from the additional activities (sales, advertising, rental fees, etc.)	1,352.00
Inclusion of funds	4,990.00
Allocation from founder's budget	25,676.00
Allocation from MoE's budget for zoo operations	2,136.00
Allocation from Usti n/L Labour Office's budget	1,967.00
Other revenues	1,070.00
Total revenues	46,873.00
Profit/loss (profit)	5.00

Payroll incl. taxes were the most costing items of the organisation, with the average 2010 salary amounting to **CZK 16,368** per employee.

Feedstuffs (**Picture 1**) represented another major cost item, when they achieved **CZK 3,418 thousand** in 2010, of which **3,337 thousand** were

spent for feeding the animals based in the zoo. The latter amount included **674 thousand**, which was the cost of feedstuffs produced by the zoo itself, this comprising hay and green fodder as well as mice and rats produced and other feedstuffs consumed in 2010. The balance of **CZK 81 thousand** was food consumed by dogs and cats placed at the Animal Rescue Centre, this being an integral part of Usti nad Labem Zoo.

The electricity costs, structured as the power for common use and that for heat pumps deployed as part of the zoo's heating system, reached **CZK 1,612 thousand** and **1,834 thousand**, respectively. For the Animal Rescue Centre, the amount spent for electricity was **96 thousand**.





The higher water costs in 2010 compared to the previous year resulted from increased water supply and sewerage rates, with sea lions, seals and tapirs being the creatures with the largest volume of water used (**Picture 2**).

Funding from the operational budget for repairing long-term assets of the zoo was spent for the following items:

- Repairs of motor vehicles, housing resources, zoo office, rental of premises, engines and installations.

Major items included the following capital projects and repairs funded through allocations from founder's budget and zoo resources:

- Reconstructing the lower zoo entrance, launching the construction of a new Hartmann's zebra house.

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

In 2010, visitor numbers decreased. The percentage of implementation

of the admission plan, this involving the revenue from admission and an additional fee for the train ride (**Picture 3**), remained to be 93%.

The average 2010 admission fee including the additional fee for the train ride achieved was **CZK 60.13**, which exceeds the one for 2009 by **CZK 1.66** due to increased fee for train rides in 2010. Nonetheless, the average costs per ticket amounted to **CZK 337** in 2010. The balance was covered as follows: **CZK 10.01** raised by means of zoo's additional business

activities like rental, advertising and merchandise etc, **CZK 251.05** co-funded by the founder and **CZK 15.81** covered from the funding allocated by the Czech Ministry of Environment (MoE). MoE co-funds the costs of keeping endangered animal species as well as injured wildlife placed in the zoo premises. The MoE funds were used to cover a part of animal feeding, energy and veterinary costs, plus it helped pay the zoo's expenses of involvement in international zoo unions and associations.

The number of visitors reached **135,064** in 2010, which is a **32,800** decrease compared to the same period in 2009, ending in reducing the revenue part of the budget by **CZK 1,972 thousand**.

The incomes from the additional business activities in 2010 comprised the following items: **CZK 960 thousand** from rental of apartments and non-residential premises, **CZK 1,397 thousand** from advertisements, **CZK 318 thousand** from merchant activities and **CZK 754 thousand** from other activities, this including operating the trampoline tower, sales of animal food in the children playground, commission from suppliers of merchandise, re-invoiced energy in rental activities etc.





**Operations
and Technology**

Senior Manager's report

Jiri Hanzlik



The department was taking part, through its maintenance, transport and horticulture sections, in the majority of repairs and maintenance operations as well as capital projects. With reduced financial resources, some of the defects and failures had to be handled using temporary measures or alternative solutions to ensure cost savings. The result of the above is an ongoing deterioration of technical condition of buildings, enclosures, exhibits, installations and equipment, as well as the technology in use (**Picture 1**). Daily tasks in addition to the staff services as such include the coordination of outsourcers, essential to this being safety, where suppliers are requested to fully comply with the instructions delivered by the local zoo engineers or animal husbandry department members.

In 2010, the zoo again benefited from the contract made with the Labour Office in Usti nad Labem for ensuring personnel as part of the public works scheme. Earlier in the year, the initial numbers however dropped from 20 to a mere 14 employees. With regard to the situation of the national budget, the Labour Office notified the zoo of major reduction in the number of workers in the upcoming year, so numbers of potential workers to be

retained at the zoo remained an unanswered question. In addition to the staff mentioned above, four new employees who had been awarded a six-month contract with an agency providing internship recruitment services were added to the operational staff. Furthermore, two vocational school students (year 3) attended the joinery shop every two weeks for one day under the contract for providing traineeship at the zoo. Owing contracting and ordering some of the professional work the year before, the department was able to ensure the necessary basic repairs

and elimination of urgent operations as they came during the year.

As regards the day-to-day operations, this namely involved workshop services:

- Carpentry, joinery, masonry, electricians, locksmith and plumber work, as well as self-servicing the zoo's car fleet
- Masonry and structural concreting
- Carpentry and joinery work in producing shelters, repairing roofing and replacing specific wooden elements of unsatisfactory quality
- Full-range electrical maintenance, including supply of new installations and technology as well as cheaper and cost-saving lighting systems
- Repairing metal and timber enclosure fencing as well as timber lining along the roads
- Waste management system, including sorting, storage and collection of garbage and animal waste (**Picture 2**)
- Periodical inspection of electric tools and wiring as well as inspection of gas distribution systems





- 24/7 guarding services in the zoo area as well as cleaning services in operating two visitor toilets and the dead animal box, all of that in co-operation with an outsourcer company

- Repairs on the residential apartments in partnership with the housing resources manager, with the number of apartments increasing to the existing nine flats; in addition, zoo employees started to occupy the house No. 557/17 and the newly renovated house No. 559/19

Major repairs and services completed:

- Consequences of the August 2010 storm rainfall eliminated (**Picture 3**), repairs completed

- New contracts for the leasing of land serving for supplies of green fodder signed

- Tender and implementation dossier for the construction of new zebra housing completed, including the land-planning decision on the location of the building and the building permit; in September, the works commenced with earthworks being done by the contracted tenderer, the works to be completed in spring 2011

- The zoo entrance area redesigned and the former cinema hall inside the zoo office converted into a new souvenir shop including constructing a

new separate entrance into the shop (**Picture 4**)

- An agreement reached to lease a part of the former school workshop technological facility; the zoo managed to conclude a favourable agreement on outsourcing the fleet servicing

- Green fodder cut by the horticulture section and distributed 6 times per week except Sundays; the section also played a critical role in making hay produced on the leased land as well as in supplying green browse

- Full-year transport services and to some extent also servicing of vehicles and machines provided by the transport section

- Extension of the Animal Rescue Centre's headquarters designed



for rescued wildlife completed; this included the implementation of a central heating system and other minor work in the surrounding area

- The essential roofing repair at the Carnivore House opened, with roof cleaned and the northern facade of the roof extension modified and lined with sheet metal lining; the insulation of the flat roofs and partially destroyed attic to be yet overhauled in future

- Work done on the technical background of the Koliba Restaurant; due to the hygienic regulations, an entrance for the supply services, food store, changing rooms and toilets for staff added and the kitchen, utensil washroom and part of the terrace for visitors modernised

- The first stage of reconstruction of the wintering facility commenced; this consisted of extending the alligator quarters (**Picture 5**) by joining two boxes, providing a deeper floor and modifying the floor shape, insulating the area following completion of the work and providing hot water for the pool; the subsequent step was the windows and doors throughout the building being fully renewed

- To reduce heat loss, the zoo decided to replace the largest office building windows, with two plastic windows installed with the dimension of 4 x 5m; in addition to this, two windows and the balcony door at the main ticket office were replaced because of security reasons



- Rental activities terminated for the housing unit in the city that formerly served as a service apartment; the apartment inside the house No. 559 modernised with sanitary facilities renovated, windows replaced, new kitchen unit supplied and utility service lines repaired; a new kitchen unit supplied for the apartment inside the house No. 558 as part of the modernisation of the housing resources

- Room plants from citizens throughout Usti nad Labem collected throughout the year; which involved oversized plants for decoration of animal houses; in addition, the following services were being carried out by the horticulture section: supported by the staff hired via the Labour Office, the section staff were preparing plants in four greenhouses, maintaining vegetation incl. its recovery throughout the zoo, comprehensively handling the overall issues of zoo landscape and horticulture, plus carrying out an extensive cleaning and road maintenance in the winter including snow removal and road treatment against ice, with a new technology successfully obtained later in the year - a plough-mounted spreader on a generic chassis designed to help ensure the main service routes are available for traffic in the winter months

- In the second half of the year, a general reconstruction of the aquatic bird exhibit was launched, with the central pool repaired and the wooden visitor walkway renewed (**Picture 6**); work yet to be done comprises completing the exhibit fence, repairing the building sewage services and finish gardening and landscaping work

- Another year of the zoo train operations in the zoo grounds; the train has become a much-sought

attraction at events held by the zoo's founder, so citizens had the opportunity of meeting the train within the Easter and Christmas markets on the main Usti nad Labem square

- A tender managed successfully with the contribution of the founder, which involved acquiring a new tractor

- A contract made with CEZ Distribution, electricity suppliers; following two years of supplies from the United Energy Trading company, the zoo is to shift back to the previous supplier as of 1 January 2011

- A tonne of salt obtained free of any charge to ensure water treatment in the small indoor sea lion separation pool

- The performance of all lease contracts in residential and commercial areas being monitored and documents processed as part of clearing advance payments for services provided to tenants and power supplied via the zoo utilities

- The five-year operation period of the zoo heating system evaluated in November 2010; some of the contractual relationships with the provider of post-warranty repairs of the heat pumps detailed; the contract with the provider of the control and operating module for instrumentation and measurement within the zoo's heating system extended; as part of the assessment, the system received a pronounced positive feedback for its function; the entire heating system

will be handed by the contractor once the seven-year warranty period has expired in October 2012

- T-Mobile Czech Republic retained as a cell phone network operator; the same awarded to the land-line operator, i.e. GTS Novera

- Two sessions of the UCSZ's Development Committee attended by department representatives, these taking place in Dvur Kralove nad Labem (spring 2010) and Jihlava (autumn 2010); both meetings helped to deepen cooperation amongst the zoo community engineers and facilitated the exchange of experience in the area of operations

Overview of major repairs and capital building projects:

Several major operations deserving more detailed information were carried out, with the budget of the City of Usti nad Labem and Usti Zoo's Asset Replacement Fund being the major sources of funding, of which the former allocated capital funds, while the latter was being supplemented during the year from asset depreciation and amortisation as well as non-capital subsidies of the city.





Animal boxes for rescued wildlife as part of the Animal Rescue Centre, Usti nad Labem, the Severni Terasa quarter:

Extension of the north-west wing of the Animal Rescue Centre’s headquarters completed by setting up three new boxes for rescued wildlife, store and a boiler room. By its nature, shape and structuring, the new part of the bricked building has added the lacking area to the existing structure **(Picture 7)**. The heating concept in the building was upgraded, with the former direct heating units installed per room replaced with a central heating distribution system powered by a new electric boiler. Groundwork and landscaping was finished as part of the operation. The works were successfully approved by the building office in March 2010.

Total costs: CZK 662,859.96 (VAT exclusive)

The Koliba Restaurant:

As instructed by the Regional Health Authority, this capital project comprised altering of the indoor area of the premises by modifying some rooms in terms of plan view within the existing background, which mainly consisted of extending the building with sanitary facilities and storage **(Picture 8)**. Thank to the changed layout, the operating conditions now

fully comply with the needs and requirements in terms of scope and quality. At the same time, floor surfaces were completely replaced, new tiling made and all internal surfaces in the background of the restaurant renewed. The repair work included installing a new vapour exhaust system in the kitchen. Completion of the wall surfaces by renewing wall and facade paints was carried out by the tenant itself before opening the main 2010 season, thereby completing the reconstruction of the restaurant to the full extent.

Total costs: CZK 342,000.30 (VAT exclusive)

Lower zoo entrance:

This capital project involved altering the existing cinema hall at the main zoo headquarters and changing use of the indoor area, this now becoming a souvenir shop. A new entrance was erected as part of the front of the zoo office, this including a new wooden platform. Replacement of three windows and the outer entry door was also carried out. Interior installations and equipment were provided by the tenant who subsequently completed the interior of the shop.

The operation included modernisation of the main zoo ticket office providing access from the Drazdanska Street **(Picture 9)**, which involved complete replacement of the roof cover, as well as exterior treatment of the facade maintaining the original structuring that corresponds to the facade of the main zoo office. In addition, all door and window fillings were replaced. The modernisation’s main output is the possibility of serving the zoo visitor needs by means of two entrances and ticket offices, with another entrance built in place of the steel fence, thus providing access into the zoo through an equivalent entrance gate. The surfaces everywhere around the building were finished by means of interlocking pavement of the design maintaining the colour and shape of the previous one. The work done indoors comprised insulating, modernising sanitary





facilities, mounting wall safes and installing an electronic security system to provide protection against burglary and camera surveillance inside the ticket office. Furniture for the repaired building was custom-made to meet specific needs and comply with the dimensions of the main ticket office.

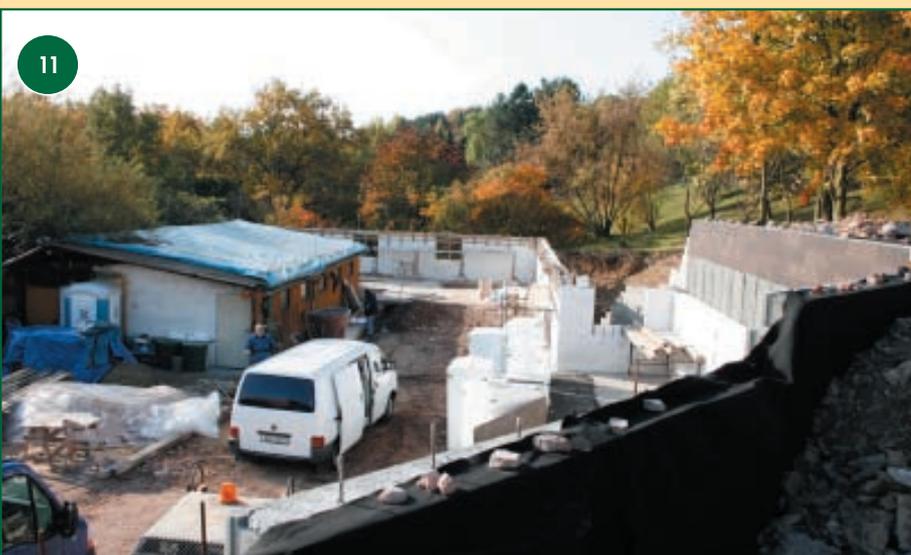
Total costs: CZK 1,001,083.33 (VAT exclusive)

Zebra house:

A project dossier was developed and the construction of the new Hartmann's zebra house launched. The zoo was forced to act upon the poor state of the temporary stalls built 30 years ago in the form of timber construction lacking any insulation.

In September, the construction of the house and groundwork for the retaining wall commenced. Up to 420 cm high, the wall was needed from a structural engineering perspective (**Picture 10**) and completed by the end of 2010. A part of the existing wooden zebra barrack was dismantled by the zoo personnel. As regards the construction part of the house, the contractor managed to complete the foundations, subfloor, some extent of insulations (**Picture 11**), vertical bearing structures and a major part of timber rafters before winter arrived. Due to the onset of quite cold winter, all the wet processes were interrupted in the second half of November, including masonry work. Workshop production of galvanised metal structures to erect 12 boxes was started, the boxes to be assembled yet once the floors have been finished. In terms of the contract, the initial deadline for completion was extended until the spring period of the 2011.

Total estimated costs: CZK 3,500,000 (VAT exclusive)



**Education
and Publicity**



Senior Manager's report

Ing Vera Vrabcova



In 2010, the department underwent several personal changes, too difficult to assess in terms of pros and cons without any real investigation building on the external image of the zoo as viewed by the public. At the beginning of the year, the team was consisting of two permanent female employees, one as a core member, while the second employed under a contract with the Labour Office, with additional staff members working on a part-time basis - an external designer (0.25) and a person responsible for activities related to video and computer technology and online tools (0.25 as well). As of November, a female that had graduated at a secondary school joined the department staff as part of a half-year internship. At the end of the period, however, the cooperation with the Labour Office finished, so the permanent female employee who had already been an established team member and therefore of great benefit for the zoo, was likely to become a freelancer. Despite the difficulties described above, the staff tried hard to prevent any restricting in the activities of the department, be that events for the public, collaboration with schools in implementing educational programmes, website updates, communication with media or other sub-activities. Fundamentally

reduced were however marketing efforts, when the zoo in 2010 due to reduced funds did not employ any paid advertisements, trying to rather make use of barter in the field of billboards located at diverse major tourist places, and in fact there was no one targeting to this in any comprehensive manner.

VISITOR NUMBERS

(Picture 1)

In 2010, Usti nad Labem Zoo received a total of 135,064 visitors, which included 66,233 adults and 68,831 children, meaning that after three years (2007-2009) of being finally increased and overcoming the limit of 160 thousand persons, the attendance unfortunately dropped back to the level of previous years (Figure 1). Compared with

2009, the numbers decreased quite significantly - by 32,800 persons. Such a negative result was influenced by the relatively long winter and cold spring, with March to May period experiencing a decline by 23,574 persons compared to 2009. On the other hand, the hot summer with its extremely high temperatures also did not encourage anyone to visit the zoo (10,802 persons drop). Although the fact that reduced attendance was experienced even in other Czech and Slovak zoos should be taken into account, in terms of percentage Usti nad Labem has found itself at the end of an imaginary chart anyway compared to 2009, with the 19.54% decline.

Total Usti Zoo visitor numbers have been kept under review since 1955, as shown in Table 1.

PARTNERSHIP WITH MEDIA

The zoo now receives a very good media support, with each of the journalists kept updated via electronic mail concerning all zoo-related news and events. It however depends on the editorial decision whether the report is ultimately published or not. In general, the zoo's media partnership network spans across the country rather than just covering the surrounding region.

Television - Attractive stories were broadcast on national news of three major television stations, while the news from the zoo as part of the regional coverage were most

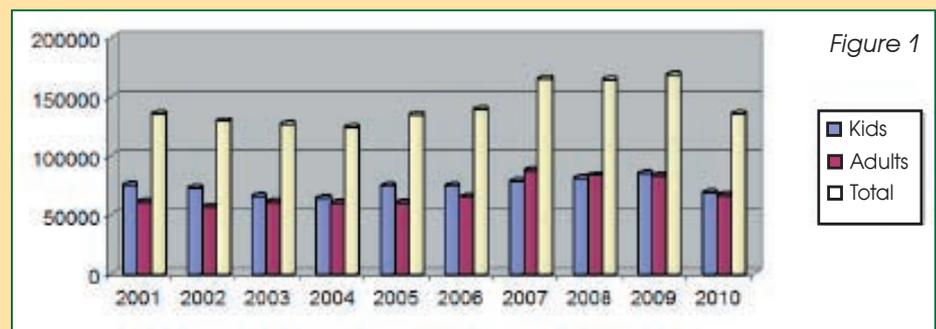


Figure 1

Table 1

Year	Children	Adults	Total	Year	Children	Adults	Total
1955	-	-	56443	1983	70755	71547	142302
1956	-	-	40307	1984	73686	76964	150650
1957	-	-	57151	1985	79585	77778	157363
1958	-	-	70977	1986	89148	84545	173693
1959	34940	40696	75636	1987	83662	80987	164649
1960	36525	39110	75635	1988	85759	92384	178143
1961	46495	36521	83016	1989	76072	83415	159487
1962	42883	47139	90022	1990	61999	65302	127301
1963	40483	44027	84510	1991	54183	58410	112593
1964	45265	44734	89999	1992	63777	63691	127468
1965	39888	48349	88237	1993	62688	63297	125985
1966	39635	46716	86351	1994	61645	53938	115583
1967	38912	44252	83164	1995	65824	57668	123492
1968	30110	42039	72149	1996	74511	62220	136731
1969	35523	38174	73697	1997	73959	64451	138410
1970	29352	33248	62600	1998	74555	64258	138813
1971	22550	45931	68481	1999	81911	70794	152705
1972	21600	51303	72903	2000	81532	67456	148988
1973	32942	42255	75197	2001	74995	60615	135610
1974	42947	37356	80303	2002	72938	56365	129303
1975	45433	43277	88710	2003	65484	60725	126209
1976	70044	30303	100347	2004	64233	60053	124286
1977	79909	30425	110334	2005	74275	60153	134428
1978	59298	51756	111054	2006	74284	65072	139356
1979	56544	53680	110224	2007	77995	87240	165235
1980	60865	54047	114912	2008	80900	83597	164497
1981	70129	73978	144107	2009	84568	83296	167864
1982	74300	66911	141211	2010	68831	66233	135064

frequently broadcast by the local television station. The most attractive 2010 offspring was filmed in the premises of the national public TV in the autumn and broadcast in the national Sunday programme for kids. Several parts of the popular Do You Want Me? TV series were filmed in the zoo grounds in the late 2010, which involved five species held in Usti that are either at risk or attractive to the visitor (**Picture 2**).

Radio - The zoo updates were covered by diverse radio stations, namely those operating regionally, with Cesky rozhlas Sever (Czech Radio North) being the zoo's key media partner and interviewing the zoo staff several times at the station's live broadcast.

Press - The Usti regional dwellers were kept informed namely by means of local newspapers; alternatively, the zoo news were attracting the sections of national daily newspapers dedicated to the region. Furthermore, the zoo was benefiting from partnerships with certain local weekly magazines, while updates on events and new developments also reached a monthly and bi-monthly magazine with its audience being namely Usti nad Labem residents. In addition, major zoo reports were also covered by national magazines.

Online media - In addition to both regularly updated websites operated by the zoo (www.zoousti.cz and www.choboti.cz), reports on what was

happening at the zoo were posted at diverse online information services and servers, such as those managed by the City of Usti nad Labem etc.

EVENTS FOR THE PUBLIC

A total of 29 shows and events for adults and children took place in 2009, these including all-day-long programmes organised by the zoo staff, as well as those arranged in the partnership with other persons, contests and quizzes that the audience could join as part of their visit, and displays on various subjects, of which one was taking place outside the zoo grounds. The zoo promoted its own events namely using



the city transport billposting service, official website posts and emailing to the media and schools, plus making use of the partnership with the Czech Radio North. Information on the events was also appearing in various online information services and daily newspaper articles encouraging the public to visit the events.

Overview of events

GRAND SEASON OPENING

(3 April 2010)

The programme aimed to present the new developments in visitor services and new animals, this including formal opening of the new gift shop and the lower entrance ticket office. This was followed by a stop near the exhibit of Ferda the orangutan, the creature that won the poll for the top favourite animal of the previous year. A naming party with the mandrill took place by the Primate House. A photo exhibition entitled The Zoo in Winter was launched inside the Exotarium exhibit and brand new zoo dwellers - a pair of clouded leopards - introduced by visiting their outdoor enclosure at the Carnivore House. In addition, the winners of the 2009 Animal of the Year poll were announced inside the house and prizes were handed, with the audience including all partners to the competition (**Picture 3**). The event would not be complete without underlying activities like competitions for kids, information booths etc.



THE EARTH'S DAY AT THE ZOO

(24 April 2010)

The programme was dedicated to the EAZA Living Together campaign achieving to help save European carnivores. Information points were available throughout the zoo grounds, where children of five primary schools and scout groups pre-arranged a project day involving various contests and games, creative workshops, facts about endangered carnivores and other activities related to the campaign. Additional opportunities of getting involved were available by the Koliba Restaurant, this comprising four



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different theatre shows performed by primary school students, competitions, musical shows and awarding the winners of the best campaign website competition targeting secondary school students. The event was closed by naming an alpaca cria.

THE DAY OF BIRDS (1 May 2010)

An early morning walk to hear bird songs throughout the zoo grounds was prepared for anyone interested in the event, comprising birdlife watching and examples of catching and ringing birds. Walks were starting at 5, 6 and 7 am and joined by a total of 22 nature enthusiasts, with partners to the event being the Czech Ornithology Society and the City Museum of Usti nad Labem.

CHILDREN'S DAY WITH CZECH RADIO NORTH (29 May 2010)

An entertainment programme taking place on the terrace of the Koliba Restaurant with a theatre show, performing children from the children leisure time community house and other ensembles, contests for prizes and a kid discotheque. Points to compete or learn more about animals were available throughout the zoo grounds. The agenda was complete with naming three young Rothschild's giraffes as a closing event (**Picture 4**).

VISIT THE ZOO BEFORE RECEIVING YOUR MARKS (25 June 2010)

The event was designed for all types of school, giving them the opportunity to visit the zoo in the morning hours free of any charge. Underlying activities

were available, such as contests, presentation of a waste sorting and recycling company, asphalt painting, a giraffe-shaped trampoline and large trampoline, and the zoo train.

FAREWELL TO THE HOLIDAYS...

(11 September 2010)

... or We Are Bringing Merry Frolicking for Your Sorting Help. The event was held in cooperation with the Region of Usti and companies involved in waste separation. The main part of the programme was underway by the Koliba Restaurant as well as around the building, with a number of additional places offering contests prepared for the kids throughout the zoo grounds and available to every visitor. At the very end, a grand alpaca naming party was held.

ST WENCESLAS' DAY WITH RWE AND RADIO BLANIK (28 September 2010)

An entertainment afternoon with contests and a kid discotheque; a theatre show was planned for children but did not take place due to extremely bad weather and the low visitor number. Yet the programme had its special guest - singer Vaclav Neckar, who sang several songs from his repertoire and eventually named nilgai twins.

THE DAY OF ANIMALS AND ANIMAL FOSTERS (2 October 2010)

A well-established event for invited persons; designed as saying thanks to all animal fosters as well as donors, the programme is every time intentionally linked with the World Animal Day, this time featuring a joint tour around the zoo dedicated to the new developments over the preceding period. Professionalism of the guide tour was warranted by keepers and animal managers. While receiving small gifts, several animal fosters could take the opportunity of experiencing a bit of keeper's work like cleaning, feeding (**Picture 5**), washing exhibit glass, choosing names etc., with chances being selected by drawing

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lots. Performance of a historical fencing group was underway next to the Carnivore House. Refreshment, music and enjoying a nice company closed the programme. The event launching also included an unexpected visit of Prime Minister Petr Necas.

THE WORLD ANIMAL DAY

(2 October 2010)

The occasion was celebrated by a country music show and historical fencing performance, both available to everyone.

THE SUNDAY OF GHOSTS (31 October 2010)

The event began with a grand naming party held with the South American tapir calf, this being one of the most important breeding successes in 2010, and continued with carving a jack-o-lantern, showing films with fairy tales and drawing ghostly masks available at the Carnivore House. When it got dark, a lantern procession departed that met with various ghosts along the way (**Picture 6**). The programme was closed with a sea lion show.

THE BURMA DAY (20 November 2010)

The event was organised in cooperation with the Burma Centre Prague and focused on integration of foreigners. The diverse programme included a meeting with refugees

from Burma, examples of Burmese culture and cuisine, photographic display of famine in Burma, showing film documentaries, display of original products of Burmese refugees (which were also for sale), all associated with the zoo's Malayan sun bears named Myanmar and Burma, who come from the same area. In addition, a bear quiz was available with on-site assessment and rewarding.

THE ELEPHANT WEEK

(30 November - 5 December 2010)

The 25th anniversary of Kala the elephant female's arrival at the zoo celebrated, this launched on 30 November with an elephant cake prepared for both Usti elephant females. When interested, visitors were getting the opportunity to look behind the scenes every day, this being accompanied by keepers' narration. Everyone could also enjoy an elephant photograph display and join the attempt at creating the longest-ever elephant trunk from coloured and decorated toilet paper cardboard cylinders. The latter was namely drawing attention of nursery and primary school kids from Usti nad Labem. Afterwards, the trunk was measured and found to be 104.7 m long (1,155 cylinders used). At the end of the week, a Sunday enrichment took place on 5 December in the form of handing gift boxes containing elephant goodies.

THE CHRISTMAS DAY AT THE ZOO

(24 December 2010)

A Christmas morning present-giving event held next to the exhibits of selected animal species, with the first point being orangutans (10.15 am), followed by Malayan sun bears (11.15 am) and eventually elephants (12.15 am). Christmas trees decorated with fruits were made available to all the animals, with gift packs placed under the trees that contained goodies hidden in wooden wool (**Picture 7**). The orangutans also received a big soft toy, being additionally the only animals that could enjoy the gift-giving occasion as part of enrichment over



additional two days after Christmas.

SINGING ON CHRISTMAS

(27 December 2010)

Designed to feature the Christmas atmosphere, the event was held at the Carnivore House and available for everyone seeking to refresh, including carol singing, watching a fairy tale movie or joining a creative workshop. Supporters of our animals even brought presents in the form of fruit, spongy biscuits, nuts and soft toys to place them under the decorated Christmas tree.

Competitions and quizzes:

ANIMALS IN WINTER PHOTO CONTEST

(9 January - 28 February 2010)

A thematic competition was announced, designed for everyone enjoying viewing the animals through their camera viewfinder, with the only condition being to acquire the most attractive winter shots of the zoo and the animal dwellers. Awarding the winners of the competition with a total of 34 photographers participating took place as part of the season opening ceremony on Saturday, 3 April.

THE HALF-TERM HOLIDAY

(28-31 January 2010)

During the half-term holidays, a children's competition was underway; entitled Become a Detective at the Zoo, this game involved a lot of fun in searching of a disappeared animal in the zoo grounds. Each participant was given a little gift immediately after

completion of the route and everyone was placed into a draw for 10 major prizes. A total of 71 participants joined this three-day event.

THE SPRING HOLIDAYS

(13 - 21 February 2010)

The programme at the Carnivore House was available to every visitor and focused on the Living Together campaign designed to support the survival of carnivores in Europe. Kids were trying hard to perform each carnivore agenda item available at different places around the house; once this finished, small prizes were ready for picking at the zoo ticket office. The competition was designed for children residents of Usti nad Labem (118 participants), Teplice (19 participants), Decin and Litomerice districts (73 participants both districts).

THE EASTER SEASON (1 - 5 April 2010)

A traditional Easter quiz entitled For the Egg of the Rhea Bird was open to every visitor. Correct answers were included in the draw for the grand prize - a rhea egg with contents blown out, free tickets to the zoo and other small gifts. There were a total of 248 participants.

THE MAY DAY (1 May 2010)

Entitled Love in the Wild, the traditional quiz was open to every visitor (**Picture 8**) - after completing and submitting the competition ticket in hand at the zoo ticket office, everyone could receive a little gift. A total of 193 children visitors attending had the opportunity of making use of a presentation stand and a portable climbing wall featured by the local YMCA association who became partners to the event.

TRACKING THE FOX (15 May 2010)

Year 6 of a full-day event prepared not only for invited scout troops, but also for every kid visiting the zoo on that day, with the opportunity of testing varied

competitions and activities related to knowledge of natural environments, as well as physical, moving, observation and learning skills.

GET YOUR MARKS AND VISIT THE ZOO

(30 June - 6 July 2010)

A week-long competition for every visitor in the form of seeking correct answers to learn the name of a mysterious animal. Potential emailing of the results was tested for the first time, with the possibility of taking part in the draw for ten small prizes, which was underway on a daily basis, with a winner of the main prize (a sports bag) drawn at closing. A total of 47 visitors attended the contest.

CRISSCROSS THE GLOBE

(12 July - 31 August 2010)

A holiday journey entitled "Criss-cross the Globe - Give it a Probe"; everyone had the opportunity of having fun in finding facts on wildlife and habitats as part of this competitive event dedicated to the International Year of Biodiversity. Visitors could learn more about a different habitat every week, all of this being complemented by facts, photographs and maps, as well as a typical animal species for that region. Additionally, dermoplastic materials, pictures and facts about other famous creatures were on display, with a game for active kids and a quiz question available on a weekly basis (**Picture 9**).

ZOO TRAILS (28 - 31 October 2010)

The traditional competition was open to every visitor, focusing in 2010 on mysterious and ghostly creatures. Participants (125 persons) were included in the draw to win a prize in the form of valuable books, free entry into the zoo and other small gifts.

Displays:

THE ZOO IN WINTER (3 - 24 April 2010)

Photographs of the contest participants were displayed inside the Exotarium exhibit, this being launched as part of the season opening ceremony.

BEAR DISPLAY

(24 April - 30 October 2010)

A display of items produced by children from nursery schools that responded to the call Create a Bear for the Zoo. The task was to create a figure of a bear using diverse creative techniques. The event formed part of activities dedicated to the EAZA Living together campaign.

THE CACTUS DISPLAY

(22 - 27 June 2010)

An established event of displaying cacti, succulents and carnivore plants offering every visitor the



opportunity of admiring products of the Usti local cacti and succulent grower community, plus a number of specimens displayed was on sale.

FAMINE IN BURMA

(20 November 2010 - 31 January 2011)

The event arranged in cooperation with the Burma Centre Prague included the Famine in Burma photographic display, supported by additional facts about issues this country has been facing.

ELEPHANT PHOTO EXHIBITION

(30 November - 31 December 2010)

As part of the zoo’s Elephant Week, panels were available at the Elephant House, featuring historical and more recent photographs of the two elephant females. With the call on the public to contribute historical photographs, the zoo received several interesting pictures of elephants made in the 1985-2000 period.

EVENTS OUTSIDE THE ZOO:

THE ZOO IN WINTER PHOTOGRAPHIC DISPLAY (7 - 31 May 2010)

The display mentioned earlier was also available in the City Information

Centre based in the central square of Usti nad Labem and featured the authors participating in the competition that had been underway in January and February in the zoo grounds, plus several terrariums with animals were on display.

SCHOOL LESSONS AND CONSERVATION EDUCATION

All types of schools can make their own choice from zoo’s conservation education scheme. With 16 different programmes currently available, some of these include multiple options according to participants age. The teaching scheme makes fully use of the Heinrich Lumpe’s Zoo School that suits the needs in terms of technical

support and is equipped with a number of natural specimens and dermoplastic materials. The scheme is mostly in use in May, June and September, but some schools have recently started booking their dates outside of these high-profile months (**Figure 2**). Since 2009, there has been an educational programme fee of CZK 20 per student. In 2010, a total of 58 sessions took place, including 53 educational programmes (**Picture 10**) and 5 guided tours making use of the zoo train, with a total of 1,518 children and students participating. Compared to 2009, the previous year has clearly shown a slight increase in the number of educational programmes used (43 in 2009). On the other hand, there was a significant decrease in guided tours (28 in 2009), so the aggregate total of



Month	Number of students
January	67
February	30
March	16
April	125
May	235
June	430
July	0
August	0
September	158
October	53
November	180
December	100

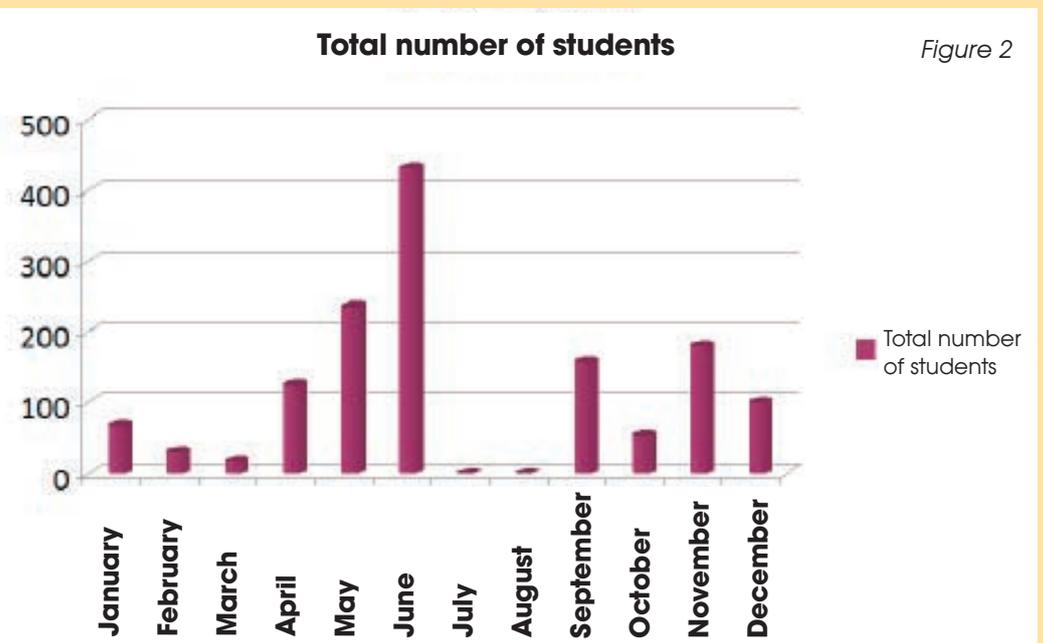


Figure 2

students declined (2,136 kids in 2009). Although the zoo train rides were still in use by schools, particularly nursery schools, making stops in the animal houses and detailed narrating offered by the zoo was rather not demanded.

The option of buying annual group tickets for 20 or 10 visits is still on offer for schools. These can be shared by different classes of the same school and the price is favourable (50% discount). Nonetheless, just a single primary school has ever bought one.

In the late 2010, nursery schools were invited to take part in decorating their own Christmas tree at the zoo, which returned 13 groups of children visiting the zoo and contributing to its attractiveness with products and decorations during the pre-Christmas period.

In 2010, the department staff members took part in several talk shows outside the zoo, bringing some animals allowing a close contact with humans.

A group of children coming to the zoo as part of a suburban children camp was given the opportunity of visiting the zoo behind the scenes.

There was ongoing cooperation with one of secondary schools as part of grade 4 student research activities in the area of studying animal behaviour in selected species.

In collaboration with the University of Usti nad Labem, a group of students

from the Faculty of Natural Science took part in the mandatory seminar for the spring semester of year 3 entitled Using the Gene Pool of Endangered Animals in Captivity for Repatriation Programmes.

The zoo participated in collaboration with the Centre for Environmental Education Litomerice in reviewing a seminar for teachers in environmental education.

In cooperation with the organisers of the international festival entitled Water, Sea, Oceans (25 - 26 November 2010), the zoo formed one of the locations where documentaries dedicated to the theme were on show. This was underway on both festival days at the Carnivore House with films projected on demand. The show was visited by children of nursery schools as well as primary and secondary school students who were given the opportunity of entering the zoo and watching the films free of any charge.

THE EAZA LIVING TOGETHER CAMPAIGN

The campaign of the European Association of Zoos and Aquaria was extended to take another year, whilst the 2010 was declared to be the International Year of Biodiversity. The zoo developed activities for visitors (see Events for the public) and schools of all types, this including the Create a Bear for the Zoo contest for nursery school teams, with children's

items produced employing unusual creative techniques and available on display inside Exotarium from April to October. Primary schools participated in the project days announced to be dedicated to the campaign, with the results being presented to visitors as part of the Earth's Day at each action point and within the cultural programme. Secondary schools were given the opportunity of taking part in the competition to create the best website dedicated to the issue of human-carnivore coexistence.

ANIMAL SHOWS

Animal shows that make use of meeting the animals from close or featuring natural animal traits have already become a routine part of the education work. The much-favoured parts include Moritz the sea lion training, the elephant walk around the zoo and training in their outdoor exhibit, the honey tree for Malayan sun bears, the Bornean orangutan feeding and enrichment, seal or piranha feeding, but even the pony rides, this being one of the top attractions for the youngest (**Picture 11**). Full range of activities is available during the main season, with some events taking place on a daily basis, while others are underway just over the weekends. Many of the shows are accompanied by interesting narration performed either live by the keeper or using a pre-narrated text from loudspeakers.

ADOPTION, FINANCIAL DONATIONS, ADVERTISING

There were diverse ways of ongoing financial support with CZK 754,000 raised within the animal adoption scheme, 281,696 thanks to financial donations and 1,397,045 through advertisements.

THE PESISIR BALIKPAPAN PROJECT

Since 2007, the zoo has been supporting the research and conservation project on the island of Borneo, Indonesia, with the local wildlife being studied by the zoo's





researcher at a particular locality, this namely involving the proboscis monkey. Protecting the unique coastal mangroves through establishing a natural reserve is another measure under planning. Keeping track of the latest updates from the field is possible following the special link on the zoo website. A detailed update on the team activities in 2010 is available within the animal husbandry section of this annual report.

THE ZOOLOGICAL SOCIETY

The Zoological Society was transformed at the end of 2010 from the association of individuals and legal persons into a civic association, the latter registered as per 1 January 2011. These changes however did not prevent the routine meetings to continue, with three sessions taking place in 2010 instead of standard four. Another *Fauna Bohemiae Septentrionalis* volume was also published; numbered 34, it counted 500 copies distributed to diverse scientific institutions in the Czech Republic and abroad. The meeting agenda included handling organisational and

legal matters, with members being updated on a continuous basis on the processes of amending the statutes and bylaws, changing the logo, developing a website and a necessity of expansion of the member numbers, as well as new terms and conditions of further cooperation with the zoo being highlighted. Each meeting was again topped off with a scientific lecture and/or show, except for the most recent, when the performer was absent:

- One of the opening series presenting a documentary on the last-ditch project entitled *The Last Chance for the Northern White Rhino* (20 March 2010)
- Talk and slide-show on Kamchatka (19 June 2010)
- A talk show featuring the natural systems of Papua-New Guinea was planned, but did not take place

ANIMAL OF THE YEAR 2009

Taking place already for the fourth time, the poll was underway online

from January to March 2010 using the zoo website (www.zoousti.cz), with six animals nominated as usual, these involving creatures that had raised the greatest zoo visitor awareness in 2009. The poll had a total of 2,122 participants, with Ferda the orangutan elected as a winner. By the way, this animal was taking the lead over the entire period of the poll. The results were formally published and the main prizes handed to participants selected by drawing lots took place as part of grand 2010 season opening, with the winning creature Ferda enjoying a cake made of fruit and other goodies (**Picture 12**).

MISCELLANEOUS

The team members have been routine participants to the periodical meetings of the UCSZ's Education and Promotion Committee, with Chomutov Zoo being the venue in 2010. In addition, the zoo contributed to the UCSZ's Annual Report by giving a detailed report summarising the preceding year in terms of animal numbers, husbandry news, new exhibits, events for the public, etc.

During the year, the website continued to be used by its visitors as a source of information and updates on developments at the zoo, with other interesting links being added when necessary on an ongoing basis. At the same time, the other zoo's website www.choboti.cz was updated in usual periods.

Further, the zoo presented their publicity materials at every fair and exhibition joined by the City of Usti nad Labem.

In the middle of June, the Usti nad Labem Zoo team participated in the year 13 of the Zoological Games without Frontiers event organised by

Liberec Zoo, where it took the place 5 **(Picture 13)**.

A study trip to Hannover Zoo was arranged by the department in June and joined by Usti Zoo personnel as well as staff from other Czech zoos, Zoological Society members and other persons concerned.

In June, the Stavovske Divadlo theatre in Prague hosted another anniversary ceremony of awarding the Cena D prize (Thank-you Award), which is granted to benefactors and donors in various areas of cultural life. With one of the categories attributed to animal parks, the 2010 ceremony could see awarding the prize to the Scout

Centre Nestemice, whose members have been dedicated to provide volunteering during public events and various work throughout Usti nad Labem Zoo.

In December, the zoo took part in the event entitled Christmas in Usti nad Labem that was held in the city centre during the pre-Christmas time as usually. The zoo pre-arranged examples of contact animals (Cameroon sheep), the opportunity of shopping gifts at the zoo's kiosk and rides in the zoo train.



Staff



Staff

Zoo executives

MVDr Vaclav POZIVIL Director & CEO

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, Publicity and Education

Specialist personnel

Ing Pavel KRAL Animal Manager

Bc Tomas ANDEL Animal Manager

Zdena SVORCOVA Marketing Specialist

Mgr Stanislav LHOTA Researcher

Other senior staff members

Hana ROHACKOVA Head of Horticulture and Landscaping

Jaroslava JEZKOVA Senior Manager, Animal Rescue Centre of Usti nad Labem Zoo

Animal Husbandry: 26 persons

Finances: 2 persons

Operations & Technology: 11 persons

Publicity and Education: 0 persons

Animal Rescue Centre to the Usti nad Labem Zoo: 1 person

Public works staff: 14 persons

TOTAL as per 31-12-2010: 65 persons





**Legal
Information**

Legal Information

Zoologická zahrada Usti nad Labem, příspěvková organizace

Drazdanska 23

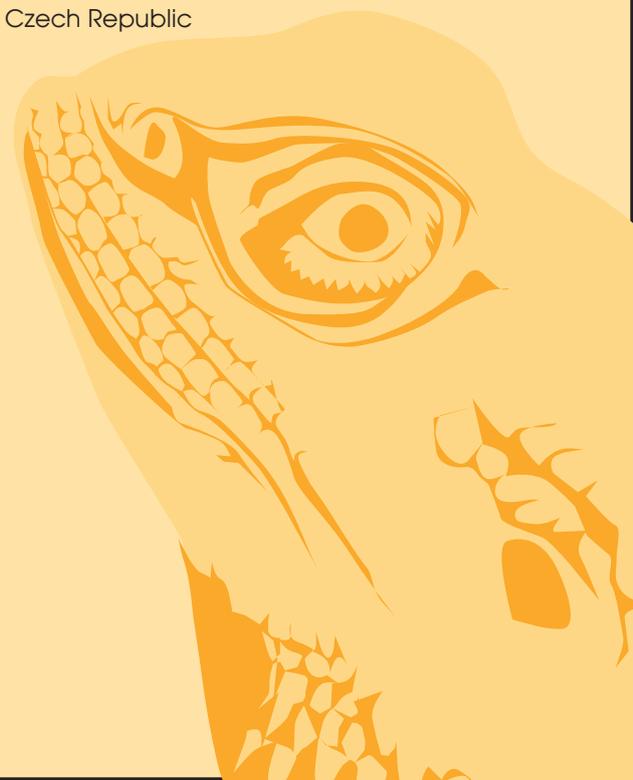
400 07 Usti nad Labem

Czech Republic

Legal form: Non-profit, city co-funded organisation
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 (to 10/11/2010)
Ing Vit Mandik (since 11/11/2010)

Zoo Director and CEO: MVDr Vaclav POZIVIL



The ZOO is a member of:

