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Photos: London Zoo

Happy New Year to all Readers of EAZA News

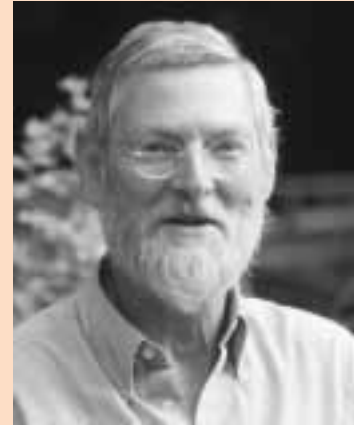


From the Chairman's Desk

Dear colleagues,

First of all I would like to wish all members of EAZA a happy and prosperous 2004! May 2004 be a year with many visitors to your zoos and aquaria, and with much personal happiness for you and your staff.

The year 2003 has been very successful for EAZA. Led by the 'Strategy for the beginning of the 21st century' EAZA improved its internal structure and organisation, and its European profile. The heightening of EAZA's profile is clearly evident in EAZA's improved relationships with animal welfare organisations, its influence in implementation of the EU Zoo Directive in many countries, and in the fact that EAZA's voice is increasingly listened to in regard to European veterinary regulations, among many other activities.



EAZA also considerably increased its profile and presence on the international scene. The very successful campaign to collect European financial contributions for the development of ZIMS (see page 28 in this issue) is an excellent example. EAZA's representation on the council of WAZA, and its activities in CIRCC (WAZA's Committee for Inter-Regional Conservation Coordination) also indicate that EAZA is actively helping to restructure the global zoo and aquarium organisation. WAZA's successful annual conference in San José (November 2003) was a major step forward in shaping WAZA into a true global umbrella organisation in which the regional associations, including EAZA, will play a key role. In their turn the regional associations – especially EAZA, covering the highest number of nations – will have to continue to develop optimal working relationships with the national federations. An effective and transparent three-level structure – national/regional/global – will then be in place.

Another major achievement of 2003 was the completion of the first draft of the second edition of the 'World Zoo and Aquarium Conservation Strategy'. Many European zoo experts contributed to this draft, and it is now up to the membership of EAZA to comment on it and to further contribute to the contents of the final document. The conservation-mindedness of the European and global zoo community has increased greatly over the past few years, as demonstrated during EAZA's annual conference in Leipzig (one of the most productive EAZA conferences ever) and WAZA's San José meeting. The new Conservation Strategy will doubtlessly reflect this.

I sincerely hope that 2004 will show further major developments in the same direction. We must continue to increase our effort and effectiveness at all levels, as the evidence that time for wildlife is running out is becoming ever more overwhelming!

Leobert de Boer
Chairman



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COLOPHON

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Black headed ibis



Photo: Catherine King/Rotterdam Zoo

Over 10,000 coloured leg bands distributed!

As usual, the EAZA Executive Office received and processed a relatively larger number of leg band orders during the months of October and November 2003. Well over 10,000 bands have now been distributed through the EAZA Executive Office since this EAZA service was initiated in August 2000. Almost half of the bands have been ordered for flamingo species, meaning that in theory approximately 75% of all flamingos kept in EAZA institutions can be individually recognised through coloured leg bands provided by EAZA. More information on the EAZA coloured leg band service can be found in the 'Service' section of the EAZA website member area.

Pelican bands



Photo: Catherine King/Rotterdam Zoo

Photo: EAZA Executive Office

21th EAZA Annual Conference in Kolmarden

A team of Kolmarden Zoo and EAZA Executive Office staff have been working hard together in preparation of the upcoming EAZA Conference in Kolmarden. The conference venue is beautifully located in a forested area neighbouring the zoo, and all

participants can stay at the conference hotel or in one of the many charming bungalows situated in and around the zoo. Please do not forget to include the following conference dates in your agenda: 21 - 25 September 2004. An invitation will be distributed by email to all EAZA members late January 2004.

Delegation of CAZG visits EAZA Executive Office

A delegation of the Chinese Association of Zoological Gardens (CAZG) visited the EAZA Executive Office on 13 November 2003. During the relatively short visit there was time to introduce and discuss the structure and most important activities of EAZA. In return the delegation provided background information on CAZG, and some of its members.

The CAZG was founded in 1985 and is at present representing approximately 170 zoological gardens throughout China. The Chinese zoos are proud of their collections of golden monkeys, crested ibises, golden takins, black-necked cranes, Chinese alligators, Chinese river dolphins and giant pandas.

The delegation consisted of Yu Zeying (Secretary of CAZG), and the directors of the Guangzhou Zoo, Chongqing Zoo, Kunming Zoo, Boding Zoo, Changchun Zoo, Wenzhou Zoo and Dalian Forest Zoo. The delegation also visited the Paris, Amsterdam, Rotterdam, Frankfurt, Munich and Vienna zoos in addition to the EAZA Executive Office.



Photo: EAZA Executive Office



EAZA has received copies of several reports produced by CBSG in 2002 and 2003. For more information please contact the EAZA Executive Office.

Bushmeat in Strasbourg

The European Parliament's Petitions Committee adopted a draft, amended report by Proinsias De Rossa (Party of European Socialists, Ireland) on 30 September 2003 on the protection and conservation of great apes and other species endangered by the illegal trade in bushmeat. The report follows the petition addressed to Parliament as part of the EAZA Bushmeat Campaign, assisted by the International Fund for Animal Welfare (IFAW). The petition draws attention to the trade in bushmeat which is carried on mainly in Africa but is also on the increase in Asia and Latin America. This trade is leading to a worrying depletion of wildlife in forests.

The amended report is listed for adoption by the European Parliament in Strasbourg on 13 January 2004. This means the Report will be taken 'under the simplified procedure (Art 110)' without any debate. It is hoped however that there will be an opportunity for Proinsias De Rossa to make a statement before the vote is taken. EAZA and IFAW will be attending the meeting of the Parliament and will be available to discuss this important step with the international press.

The report stresses the need for an EU strategic action plan in this area, as part of a wider policy to support biodiversity. According to MEPs, the EU should seek to involve all concerned, starting with local populations but also including governments and the private sector. There should be particular emphasis on strengthening the capabilities of wildlife and nature conservation bodies, including restrictions on high-powered rifles and the ammunition for such weapons. Forestry management should also enable endangered species to survive. According to the Committee's report, an appropriate proportion of the funding under the European Development Fund (EDF) and the Regulation on financial aid for Latin America and Asia (ALA) should be set aside for these matters. The ECOFAC programme (Conservation and Rational Utilisation of Forest Ecosystems in Central Africa) and the ABAC programme (Alternatives to Poaching in Central Africa) should be given additional funding. Lastly, legal deterrents and penalties should be envisaged to put an end to this illegal trade for reasons of public health, public safety and protection of endangered species.

European presentation of new 'bushmeat' book

The Dutch NGO 'Wasmoeth Wildlife Foundation' organised the European launch of a new book on bushmeat at Dierenpark Amersfoort, the Netherlands on 12 November 2003. The publication of the book 'Consuming Nature' was generously sponsored by Hans Wasmoeth, chairman of the Wasmoeth Foundation. The photo essay on African rain forest exploitation was written by Anthony Rose *et al.* with photographs by Karl Ammann. First copies of the book were presented to Hon. Olivier E. Kamitatu chairman of parliament of the Democratic Republic of Congo and Ulla Sandbaek, a Danish MEP.

Consuming Nature;

A photo essay on African rainforest exploitation

- A. L. Rose, R. A. Mittermeier, O. Langrand, O. Ampadu-Agyei and T. M. Butynski; photography by K. Ammann (2003)

This full-colour coffee table book about the exploitation of African rain forests follows the bushmeat crisis from causes and effects to considerations of the future. Award winning photos by Karl Ammann and collaboration with some of the world's most experienced primate conservationists have resulted in this impressive publication. Pages: 200. ISBN: 0-9745539-0-5 (hb). Price: US\$30.00.

To be ordered from: Altisima Press, PO Box 3430, Palos Verdes Peninsula, California 90274, USA



EAZA Statistics As of January 2004

Number of EAZA members:	289
Number of zoos and aquaria:	271
Number of countries:	34
Number of visitors:	125,000,000
Number of paid employees:	21,000
Number of mammals:	85,000
Number of birds:	115,000
Number of amphibians/reptiles:	45,000
Number of fish/invertebrates:	>> 100,000,000
Number of TAGs:	40
Fish & Aquatic invertebrate	1
Terrestrial invertebrate	1
Amphibian & Reptile	1
Birds	15
Mammals	22
Number of EEPs:	151
Invertebrates	2
Reptiles	7
Birds	37
Mammals	105
Number of ESBs:	140
Reptiles	10
Birds	58
Mammals	72



EAZA Tiger Campaign



Amur tiger © David Higgs

EAZA Tiger Campaign

We are pleased to note that many EAZA members have indicated their interest in continuing their activities in the second year of the EAZA Tiger Campaign. We surely need all of your enthusiastic efforts to reach the fundraising goal, now elevated to €500,000. Please find inspiration for your continued efforts in this issue of EAZA News and on the EAZA website (www.eaza.net).

As you can read below, new campaign materials will be developed. News on Tiger Campaign activities organised by a number of enthusiastic EAZA members and progress of Tiger Project number 2 is provided here, as well as information on practicalities such as transfer of funds and keyrings.

News from project number 2:

'From Data to Action: Curbing Wildlife Crimes in Sumatra'

Between June and August 2003, 145 man hours were spent patrolling the region of Bandar Lampung looking for illegal wildlife products. The train station, where many species are transported through, as well as a nearby bus station and a wildlife market were patrolled. Five main suspects were caught red handed with illegal goods.

A survey of presence of wildlife products in homes of wildlife traders was also conducted. The uncovered information can provide stronger evidence that the traders are participating in the illegal trade of wildlife. It was found that 35% of the wildlife products found in homes were from cats, including tigers.

Funds

The transfer of funds has slowed dramatically over the last couple of months, probably due to the large amount that was transferred prior to the EAZA Annual Conference in Leipzig. However, we would like to urge all participants that have not yet transferred funds they have collected to do this now, as there are still projects which desperately need funding.

It has been decided that projects that are currently receiving funding will have the opportunity to apply for continued funding during the second year of the Tiger Campaign. However, there may be enough funds raised to enable us to support new projects, which have applied for funding through the usual channels.

Keyrings

A large shipment of keyrings will be delivered to Leipzig Zoo for further distribution to German zoos. This leaves only a few keyrings remaining for distribution to other zoos. Orders will be filled on a first come, first serve basis, thus zoos wanting to order keyrings should do so promptly.

Please contact
21stCenturyTiger@zsl.org
to place your orders.



New campaign material

Another CD-ROM developed by 21st Century Tiger is planned for 2004. The CD-ROM will include many new pictures, reports and stories for zoos to use in updating their displays. The CD-ROM will be produced in time for the Easter season and distributed to all EAZA members participating in the campaign.

Please refer to the EAZA website, including the member area, for regular updates on the EAZA Tiger Campaign.



EAZA Tiger Campaign



Photo: Warsaw Zoo

Warsaw Zoo: ready for the next campaign

Warsaw Zoo enthusiastically decided to participate in the EAZA Tiger Campaign to help conserve the tiger in the wild. In the oldest building of the zoo – the wooden stable dating from 1928 – visitors could learn more about tigers through an exhibition. The education panels showed information about issues such as the decreasing home range of the tiger in the wild, other threats and possibilities for protection. Warsaw Zoo felt it important for visitors to realise that the tiger's future depends on every one of us, that people should refrain from buying any (oriental) products made of parts of a tiger's body and should not buy rugs, bags or other items made of tiger fur. Children, from primary and secondary schools, and teenagers could learn more about tigers through special lectures organised by the zoo.

Entrance to the exhibition was free of charge but people could buy pendants with a tiger's eye pattern. All the money we managed to gather – over €1,500 – was used to support the campaign to preserve tigers in the wild. The fundraising efforts of Warsaw Zoo were rewarded with a bronze award.

Warsaw Zoo and its visitors were very enthusiastic about the EAZA Tiger Campaign and everyone is looking forward to supporting other conservation campaigns in the future.

Source: Warsaw Zoo

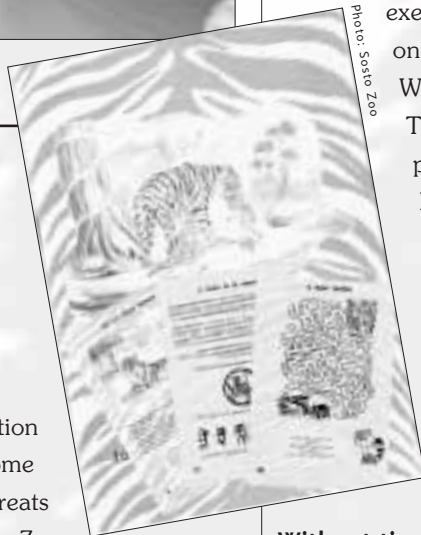


Photo: Sosto Zoo

Sponsored tiger booklets in Hungary

The Hungarian zoos – both EAZA members and non-members – cooperated to implement and coordinate the EAZA Tiger Campaign. For example Sosto Zoo edited and published an impressive poster, which was installed in many zoos. A tiger booklet, mainly meant for children, was also produced. Veszprém Zoo published a similar booklet about bears last year and is therefore quite experienced in producing these kind of educational materials. An application for funding the tiger booklet made in the name of National Federation of Hungarian Zoos was successful, and consequently, 10,000 booklets for the eleven Hungarian zoos could be printed and distributed. Biological, cultural and conservation aspects of the tiger and an introduction to the other big cats appear in the booklet. The booklet also includes many playful exercises for children, and naturally information on the EAZA Tiger Campaign is included too.

While fundraising is an important goal of the Tiger Campaign, Sosto Zoo focused on raising public awareness. The reason for this is that Hungary has a relatively low standard of living and therefore little money was expected to be raised. We found that the education campaign was well received. We spoke not only to our visitors, we also popularised issues through the regional media and on our website too.

Source: Lajos Endrédi, Veszprém Zoo and Janos Szantho, Sosto Zoo

Without tigers still successful

Orsa Bearpark in Sweden exhibited information posters on the EAZA Tiger Campaign just inside the main entrance to the park during last summer. The overall impression is that many visitors read the posters and consequently donated funds despite the fact that Orsa does not keep tigers. We think that the great interest in the campaign is probably due to the fact that Orsa exhibits numerous species of carnivores including brown bear, wolf, wolverine, lynx and Arctic fox. Visitors seem to be already interested in predators and their natural environment, and tigers, as top predators with a similar history of persecution and habitat loss as many of the animals at our facility, are particularly interesting. We think that our education materials have increased the understanding of endangered species such as tigers. We are also convinced of the importance of these kinds of educational materials since they spark many reactions and debate around conservation projects and zoos' involvement with endangered species.

Source: Kenneth Ekvall

EAZA Tiger Campaign

How a small tiger raised a lot of money

NaturZoo Rheine has kept Sumatran tigers since 1972 when two animals arrived from Frankfurt Zoo. This pair reproduced several times and raised cubs, the last one, Sumo, in 1984. Sumo was paired up with female Friederike who arrived in 1990 from Tierpark Berlin. Because of reproductive difficulties in the female, the pair never successfully reproduced. When Sumo died the EEP recommended to send Friederike to Zoo Doué la Fontaine to house her with an old male for exhibit purposes. NaturZoo Rheine then welcomed female Kim, born in June 2000 in Rotterdam Zoo and male Attjak, born in 1988 in Dortmund Zoo. Despite the male's more advanced age he was the most suitable mate for Kim at that time. The tigers were very slowly introduced, and the introduction proceeded without problems.

All the events with and around the tigers are of great interest to zoo visitors and the local media. Our tigers have always been personalities and each change or event is closely observed by, and communicated to, the public. Tiger cubs were anxiously expected, and on 4 April 2003 Kim gave birth to a dead cub and an apparently healthy son. She rejected her son and EEP Coordinator Sarah Christie recommended hand-rearing, as there was a shortage of young Sumatran tigers at that time. Consequently keeper Sonja Hölscher and her Collie dog as well as colleague-keepers began the busy but rewarding task to care for 'Dumai', as the tiger baby was named. The news about Dumai's birth rapidly spread, and the 'Tiger-keeper-collie-trio' appeared in an incredible number of newspapers and magazines and on TV and radio.

We had set a date for a 'Tiger Day', a day of special activities to raise money for '21st Century Tiger', long before the young tiger was expected. The annual zoo programme of events had been printed and distributed before Kim had even conceived. Thus it was sheer coincidence that we could announce that Dumai would make his first 'public appearance' on Tiger Day, 4 May 2003.

Education department staff, keepers and volunteers had prepared a number of activities to inform visitors about tigers and tiger conservation to raise money for the campaign on Tiger Day. For example we had an educational 'Tiger Wheel of Fortune', with which visitors could bid on the hunting-luck of tigers. Face painting and tiger-mask-making was popular with children, and families could participate in a Tiger Quiz. Visitors could leave their name on a panel in life-size shape of a tiger for €1. A sponsored, permanent exhibition on tiger conservation received great attention, and the zoo visitors



Photo: NaturZoo Rheine

generally had a very positive response to all these activities and presentations.

But nothing had been so much anticipated as the first look at Dumai. It was announced that his first public appearance would be in the early afternoon, by which time hundreds of visitors queued in front of the tiger-house, some waiting for up to half an hour to enter and see the four-week-old cub sleeping. Keepers informed the waiting visitors regarding everything they wanted to know about the tiger, and the visitors in return donated money for the campaign. By the evening we had counted 3,750 visitors and €1,000 collected for 21st Century Tiger. Dumai had already become a true ambassador for his wild relatives.

Dumai continued 'acting' in this function: the interest in him persisted and we took advantage of this. We made foot prints of the young tiger and sold them with a 'certificate of origin' and the promise to transfer the money to conservation projects. The keeper prepared a very nice exhibition with pictures from the hand-rearing period and on Dumai's development for our annual 'Zoo Day'. We were able to raise another €500 and we will go on collecting money for the EAZA Tiger Campaign.

There is a good chance that we will have further success in doing so, as tigress Kim gave birth to another litter of twins on 11 August 2003 – but this delivery was not recommended by the EEP. This time however Kim is doing an excellent job raising her young. We believe that Dumai's siblings will also be great ambassadors for their relatives in the wild.

A big thanks to the staff of NaturZoo Rheine for working with dedication for the tigers and the Tiger Campaign, and to EEP Coordinator Sarah Christie for her valuable advice and prompt communication.

Source: Achim Johann

Evaluation of Conservation Projects - a common task for EAZA and CBSG Europe

by Bengt Holst, CBSG Europe, Copenhagen Zoo, Denmark

Zoos contribute to conservation. This is a valid statement that cannot be questioned. But to what extent do we contribute, and how efficient is our contribution? That is an open question that should be asked not only by zoos, but by all conservation organisations. Despite all the goodwill, we often do not know what impact our contributions make because of a general lack of evaluation tools for conservation projects.

This problem was addressed in a special working group during this year's CBSG Conference in Costa Rica, 12 - 16 November 2003. Fourteen participants from six different countries worked for two days brainstorming, analysing and discussing evaluation of conservation projects. The participants converted theory into practise, discussed aims and objectives, and prepared a good report on the subject. In short the aims and outputs of the workshop were as follows:

Aims

- To gain a general understanding of the concept of evaluation;
- To agree on a practical approach for assessing projects throughout their life cycle;
- To agree on follow-through projects and processes;
- To keep people interested and to practise roles and skills.

Output

The output was a checklist of issues to consider when evaluating conservation projects. This checklist may be incorporated into evaluation forms that can be used to:

- select conservation projects (prioritising the projects);
- assess the outcome of conservation projects at different stages,
 - a) to measure success;
 - b) to gain experience.

The checklist now needs to be tested to evaluate how practical it is to use and if it covers all the issues that it should. The best way to do this is to apply the checklist to real projects. And that is where CBSG Europe can work hand in hand with EAZA. CBSG Europe will now convert the list into specific questionnaires that can then be used on the EAZA Conservation Database – not as a true evaluation, but as a pilot project for the development of the final evaluation tools. The EAZA Conservation Database, with more than 500 conservation projects described, provides a valuable basis for necessary tests. CBSG Europe and the EAZA Conservation Committee will conduct this work in the coming year. The evaluation forms will be adapted accordingly, resulting in efficient and user-friendly evaluation tools that can be used by both organisations in conservation work. Furthermore we can use this work to revise the Conservation Database, to ask the right questions.



CBSG EUROPE

ZOO
COPENHAGEN

58th WAZA Conference

The World Association of Zoos and Aquariums (WAZA) held its 58th Annual Conference in San Jose, Costa Rica from 16 - 20 November 2003. Over 170 delegates from 34 countries attended the meeting hosted by AMACAZOOA, the Meso-American and Caribbean Zoo & Aquarium Association, chaired by Yolanda Matamoros. EAZA was represented at the conference by Chairman Bert de Boer and Executive Director Koen Brouwer.

A key topic for discussion was the new World Zoo & Aquarium Conservation Strategy which will be launched in 2004. This strategy lays out what individual zoos, regional associations and WAZA will do to support and achieve sustainable conservation worldwide over the next ten years. Zoo conservation centres will increasingly link education, research and veterinary medicine to vital conservation activities in the field.

Another key topic for discussion was WAZA's Code of Ethics and Animal Welfare. The continued existence of zoological parks and aquariums depends upon recognition that the zoo profession is based on respect for the dignity of the animals in their care. While recognizing that each region may have formulated its own code of ethics, and code of animal welfare, WAZA promotes an ethical tradition which is strong and which forms the basis of a standard of conduct for the zoo profession.

Project Piaba - Buy a fish, save a tree

by Teague Stubbington, Zoological Society of London, United Kingdom and Scott Dowd, New England Aquarium, Boston, USA

There is a deficit in knowledge on Amazon fish species: only 51 of an estimated 3000 - 5000 species have been sufficiently studied to understand their conservation status. This lack of knowledge of fish species in Brazil is partly due to the size of the region: the Amazon basin covers 2.7 million square miles (about 700 million hectares) most of which is inaccessible. Furthermore Amazon fish and their conservation have often been overlooked in preference to mammal and bird species. Fishes, however, play a central role for many Brazilians, both in terms of nutrition and income provision. The value of Amazon fish may also provide a tool for preservation of the whole habitat.

Ecosystem and fish biology

The annual flow of the Rio Negro, the primary tributary of the Amazon region, is more than three times greater than that of the Mississippi River. The watershed for the Rio Negro is mainly from leached groundwater of the Guyana Shield. The river itself is classed as black water with a low pH (average of 3.5 - 5), low nutrients, few dissolved solids and consequently a low conductivity.

Many common aquarium fish are exported from the Rio Negro, e.g. cardinal tetra (*Paracheirodon axelrodi*), rummy nose tetra (*Hemigrammus rhodostomus*), dwarf cichlids (*Apistogramma* sp.) and pencil fish (*Nannosotmus* sp.). The cardinal tetra is the most important species, accounting for at least 80% of the exported fish. This small fish (average length 18 - 25 mm) usually produces 300 - 500 eggs per spawn. Factors contributing to sustainability of fish trade of the cardinal tetra (and many of the other species in this area) include: a short life span (one to two years), rapid reproductive rate, and low impact fishing methods only targeting the required species employed by local fishers.

Water seasons influence fishery

Annual rainfall in the upper Rio Negro is seasonal (annual precipitation of 2,100 mm, average precipitation April to July is 230 mm and September to December is 130 mm). Most fishing occurs during the low-water season (December to March) because fish (mainly overspill from breeding populations) are then concentrated in the main channels and the forest streams. The high-water season (June to August) allows fish to disperse to their breeding grounds within the



Traditional nets for catching Amazon ornamental fishes and holding net



Monitoring water quality in fish holding nets



Ornamental fish catching technique

flooded forest in the headwater lakes and swamps. Fishing success during the high water period is very poor as accessibility to the fishing sites is difficult, and fish are hard to locate and catch. Thus the annual flood cycle helps to naturally protect fish breeding grounds and also imposes a fishing season on the fishers, allowing undisturbed fish breeding activity.

The cardinal tetra is adapted to cope with the environmental changes brought about by the annual flood cycle. This fish has a very high tolerance to large fluctuations in population size and can quickly recover from dramatic crashes in population numbers. This resilience to changes in population numbers is demonstrated through



Photo: Project Piaba

the affects of El Nino-Southern Oscillation (ENSO). During an ENSO the Rio Negro does not experience a rainy season, consequently there are no high-water levels and the low-water season continues for a further six months. This allows continuous fishing of the stocks in the main channels but the water levels are too low to allow access to fish breeding grounds. During the last two ENSO (1983 and 1997), as predicted, the numbers of cardinal tetras exported from the Rio Negro declined as a result of the declining population in the main channels. However during the subsequent fishing seasons the numbers exported were over normal levels, indicating a healthy recovery of the population.

Fishery methods

Fishing trips usually last about two weeks, however most of the time is spent getting to the fishing grounds. Fishing is by hand, and bycatch of this fishery is very low. Single species are targeted, any unwanted species are immediately put back into the water. The catch size is limited by the size of the canoe used. When the ornamental fish market is inactive fishers survive on income gained through the fishing season and turn to subsistence living. Animals hunted then include turtles, howler monkeys, tapir, manatees, paca, and waterfowl. During the fishing season there is a big reduction in subsistence hunting.

Project Piaba

Though resilient to the fishing harvest, many of the fish species are susceptible to longer-term environmental disruption; thus it is vital that the entire Rio Negro ecosystem remains in its current pristine condition. The maintenance of a sustainable fishing industry is a real incentive for local people to preserve the habitat and reduce destructive land use. Project Piaba is a community-based interdisciplinary project established to understand the ecological and socio-cultural systems of the middle Rio Negro basin, Amazonas, Brazil. Its aim is to conserve and maintain the live ornamental fishery, and other renewable resources, at commercially feasible and ecologically sustainable levels.

The town of Barcelos has a population of approximately 15,000. The people living there depend on local resources for their income. Today the Barcelos economy is based almost entirely on the ornamental fish trade. The other significant



The faces behind Project Piaba

export from the region is piassava (palm fibre), used to make brooms. Trade in latex during the rubber boom was historically the major export from Barcelos, until the trade crashed in the early twentieth century, primarily due to the establishment of rubber plantations in Asia from Amazon seeds. Plantations were able to produce rubber at a lower price. Barcelos is home to the Project Piaba field station 'Centre for Aquatic Research and Conservation'. In addition to providing a research centre for project and university staff the centre provides the following facilities: public aquarium, accommodation for visiting researchers, classroom, materials for teachers and students, IT facilities and laboratory space. The centre also serves as headquarters of the Ornamental Fishers Association of Barcelos. It is through this centre that some of the community work of the project is carried out.

Revenue from fishery

More than 65% of the Barcelos population, including approximately a thousand families, is involved in the ornamental fishery. A fisher, locally called a Piabero, usually earns a monthly average of US\$150, while the national Brazilian average is US\$100 per month. The revenue gained from the fishery is the major income source for the region.

Conclusion

Combined characteristics of the ecosystem, fish biology and fishing methods, as well as global market demands all place limiting factors on the fishery. These limiting factors help keep the mechanics of the fishery and harvest levels within boundaries that fish populations can support. Regular surveys done by Project Piaba over the past ten years in sites where the fishery is both active and non-active has shown that the fishery has not caused local extinction of any fish species, nor has it caused declines in population numbers.

The Nubian cobra – a new species of spitter discovered at London Zoo

by Richard Gibson, Zoological Society of London, United Kingdom

*In August 1996, London Zoo's reptile house received a pet-trade confiscation of four black-necked cobras (*Naja nigricollis*). All four snakes were healthy and settled quickly into their new surroundings. Senior reptile staff quickly noticed however, that they were rather strangely marked for black-necked cobras – in fact unlike any cobras they knew – and were unusually timid.*

Identification of the snakes

In March the following year, cobra expert Wolfgang Wüster from the University of Wales, Bangor, and zoo keeper Terry March re-identified the cobras as *Naja katiensis* based upon scale counts. But later that same year Wolfgang Wüster revised his identification after examination of many museum specimens and allocated the rogue cobras to the 'brown phase' of the red spitting cobra *Naja pallida*.

However, Wolfgang Wüster still was not completely convinced. During the struggle to identify the zoo's increasingly

enigmatic cobras it had become clear that they, and other museum specimens like them (all from the northern end of the species' range), were really very different from the normal red spitters. They had different scale patterns on the head, a different body colouration, and eye and throat markings quite unlike those of the red variety.

Wüster decided to resolve the situation once and for all and conducted a multivariate analysis of morphological characters among nine groups of cobras, including six different species. He also collected tiny scale clippings for DNA analysis and comparison with museum specimens. The results were conclusive. The 'brown phase' of the red spitting cobra was a distinct species and he named it *Naja nubiae* after the region Nubia, home of the first black African civilisation in the Nile Valley between Aswan and Khartoum – now southern Egypt and northern Sudan. (See Wüster, W. and D.G. Broadley (2003). A new species of spitting cobra (*Naja*) from north-eastern Africa (Serpentes: Elipadae). *J. Zool., Lond.* 259: 345-359.)

The Nubian cobra is now known to have a wide but patchy distribution in eastern Chad, Egypt (mainly Nile Valley), Sudan, Eritrea, and Somalia. Much of this region is arid but the species appears to favour mesic habitats such as river valleys and lake shores.

First hatchlings

In June 2003, ten baby Nubian cobras hatched from ten eggs laid at the London Zoo. The incubation period was 75 days at 28 - 29°C. The babies were olive green and their markings were especially well defined. The colour will darken and become less intense as they grow older, until they are the colour of the adults by about 12 months of age. They are quite placid and do not readily sit up and spread their hoods or spit venom without provocation. This is the first time this species has knowingly been bred in captivity.



Naja nubiae

Photo: Wolfgang Wüster

Opening of the Conservation Centre in Münster Zoo

by Martina Raffel and Hans Jörg Adler,
Münster Zoo, Germany



Photo: Münster Zoo

Staff of the Conservation Centre (from left to right): Nina Struch (volunteer), Martina Raffel (Zoological Assistant for in situ conservation), Elisabeth Labes (volunteer) and Christiane Adler (Managing Director of Stiftung Artenschutz).

The in situ conservation activities of Münster Zoo have now been given a new base: at the end of 2002, a domicile for employees of the zoo restaurant was renovated and adapted into a modern office. Three rooms are now available to the zoological assistant for in situ conservation of Münster Zoo, the managing director of the internationally working conservation foundation 'Stiftung Artenschutz' as well as for the zoo-based NGO 'Westphalian Society for Conservation (WGA)' and one to three volunteers.

A total of five work stations (expandable by one more) have been established and form a self-contained unit within the zoo. The working conditions thus have improved considerably and volunteers with interest in conservation and fundraising can now actively support the projects and activities while getting

insight in the necessary administrative work and gaining practical experience at the same time.

The most recent conservation project of Münster Zoo just officially started in Cambodia: after approximately two years of preparation, the construction for the Angkor Centre for Conservation of Biodiversity (ACCB) has now started in Kbal Spean, near the famous world heritage site Angkor Wat. Once the government made a contract providing the 25 ha project site last year and a master plan and concepts for the future nature conservation centre were developed, the necessary funds had to be found. Fortunately, the first two potential donors for the project were extremely interested, donating € 330,000 and € 150,000 respectively in support of the proposed conservation centre. The development of the attractive project gives hope that further financial support will be granted.

Collaboration agreement between Zoo Jerez and Estación Biológica de Doñana

by Mariano Cuadrado, Zoo Jerez, Spain

Zoo Jerez and Estación Biológica de Doñana (CSIC) signed a formal agreement on 10 February 2003 to develop new research areas involving both institutions. CSIC, a well-known research institution in Europe, is devoted to basic as well as applied science on biological conservation of endangered Iberian fauna. Recently, this institution received EU approval as a 'Great Installation'. Zoo Jerez will bring veterinary support and instruments for research purposes to the partnership and in return CSIC will supervise the scientific quality of our projects.

Examples of scientific research in which both institutions participate include behavioural research on the reproduc-

tion of endangered species, haematological studies of non-exotic species and diet-related subjects.

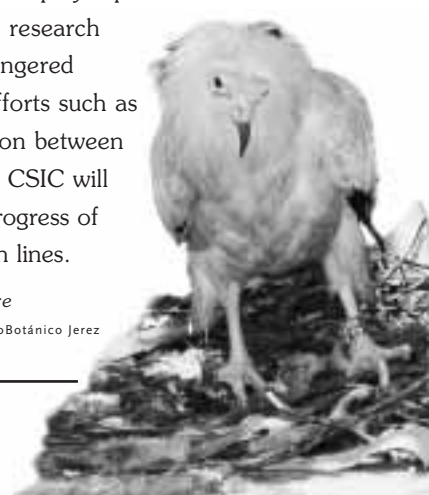
An interesting study of the diet of *Nyctalus lasiopterus*, a bat species that reproduces free-range in our zoo, was published in the Proceedings of the National Academy of Sciences (USA) in 2001. The study showed that some passerine species were among prey taken by the bats, and that consumption of the passerines was associated with the south-western migration of the birds in the Palearctic. Interesting results on the diet of Egyptian vulture (*Neophron percnopterus*) showing the role of carotenoids (an important component of yellow bill colouration) and the ingestion of cattle faeces appeared

in the prestigious publication 'Nature' in 2002. A paper comparing haematology in dystocic and healthy post-reproductive female common chameleons (*Chamaeleo chamaeleon*) was published in 'Journal of Wildlife Diseases'. This study showed that females with egg-laying disorders differed from reference values in an increase in monocytes and in the high concentrations of aspartate aminotransferase, probably associated with tissue trauma.

Modern zoos can play a paramount role in applied research involving endangered fauna. Joint efforts such as the collaboration between Jerez Zoo and CSIC will improve the progress of fruitful research lines.

Egyptian vulture

Photo: J.M. Aguilar/Zoo Botánico Jerez



Expected boom of formal education

by Lothar Philips, Cologne Zoo, Germany

Zoos must play an important role as information centres. The information we have to deliver is not hard science about our animals, but rather the message of 'Agenda 21'. Agenda 21 stresses that not only biological, including ecological, factors are to be considered when decisions are made, but also the economic and social aspects.

The key concept is sustainability

Sustainability means to live in such a way that the earth's resources will continue to offer our children and grandchildren rich and fulfilling lives. If we seriously want to promote these ideas, we have to develop new techniques in formal education. Zoos and aquaria are ideally placed to develop education programmes that are cross-curricular, incorporating also cultural and socio-economic influences on the environment and nature, highlighting human impact and responsibilities. In this context, two documents are highly significant: the rewritten 'World Zoo and Aquarium Conservation Strategy', and particularly for Cologne Zoo and other zoos in the region the new primary school curriculum 'Sachunterricht' for Nordrhein-Westfalen. In German primary schools 'Sachunterricht' combines aspects of biology, chemistry, physics, geography and history in a holistic way. Not only knowledge, skills and competencies are taught, but also attitudes and manners.

'Das Zoobuch'

To reach these high goals teachers are encouraged by the curriculum to visit facilities such as botanical gardens and zoos. Such recommendations increase the demands on the education that zoos provide. Our staff resources are too small to fulfil such obligations, so we must enable school-teachers themselves to deliver lessons in zoos. Unfortunately, most German primary teachers are not trained in science. To help alleviate this problem a little booklet entitled 'Das Zoobuch' (The Zoobook) was produced. The material is designed for use in school and in the zoo. The first part is mainly theoretical, providing information about environmental problems, the protection of biodiversity and how zoos can contribute. It also points to solutions, such as Agenda 21. The 'land' chapter presents cats, elephants and apes. The aquatic species covered include seals, hippos and penguins while the section on life in the air covers birds of prey (owls and falcons) and bats.



The 'Zoobuch' is designed for use not only in Cologne Zoo, but also in many other zoos around the country, as the emphasis is on training in the skills of observation. Short texts provide information on the reasons why a species may be under threat and what we can do in our everyday lives to help. To put these ideas into practice we invited our education colleagues from schools and colleges to participate in training at the zoo. We received 128 registrations. We had many fruitful discussions, and these workshops were the starting point for 12 projects in schools and zoos. We will continue this programme in 2004.

Ark - the Explorer's House, an interactive education centre at the Leipzig Zoo

by Frank Oberwemmer, Leipzig Zoo, Germany

Leipzig Zoo has a long tradition of 125 years but is now being transformed into a 'Zoo of the Future', where visitors engage in a 'wildlife safari' during which the zoo animals become envoys for the protection of their species. From the outset, the master plan for the Zoo of the Future included the creation of an Education Centre in the former carnivore house to intensify the information about nature and species conservation.



The Explorer's House opened in September 2002; construction time was nine months and costs € 750,000 for the house and € 410,000 for the exhibit. This centre employs a sensible approach to learning by using tactile, olfactory, auditory, and visual 'Interactive Education Posts'. Visitors are not required to read signs but are invited to discover and experiment in order to obtain information. Ideally this approach will result in a sustained (educational) impact on the users.

Topics

The 'Zoo History Room' is decorated in the style of a director's office. A book on the desk shows anecdotes from former times and the famous 'Leipzig Lion Hunt' is relayed via headphones and a disk of rotating images. The 'Zoo of the Future Room' presents a model of the master plan for the zoo with comprehensive information given via headphones, and the 'A Day at the Zoo' post. A sliding panel answers species-specific questions about animals in the zoo. The 'South America Room', 'Africa Room' and 'Asia Room' each display a map of the relevant continent with more information and illuminated colour slides. The sustainable lifestyles of the Zoé in South America, the Surma in Africa and the Mongolian people in Asia are explained and their typical homes are shown. Themes such as adaptation of animals to their environment, endangerment factors and conservation projects can be explored via the interactive education posts. Each continent room has typical music or sounds of the wildlife. The 'Species Conservation Quai' presents the full range of wildlife conservation projects which Leipzig Zoo participates in, e.g. international studbooks for tiger and anoa, EEP breeding programmes, and financial support of projects including the 'Endangered Primate Rescue Centre' in Vietnam as well as the 'Wild Chimpanzee Foundation'. The 'Ship Deck' features reintroduction programmes and the National Park idea.



Publications to intensify the use

Thanks to the support of the environmentalist foundation 'Deutsche Bundesstiftung Umwelt', the zoo is able to print a teacher's handout and a handbook for children as well as produce a CD-ROM to intensify the use of the 'Ark'.



Name: Sarah Christie

Position: Programme Manager at ZSL

Favourite animal: Tiger

Pet animals at home: None

Favourite colour: Black. Or possibly gold.

Last book read: Knowledge of Angels, by Jill Paton Walsh

Last music CD purchased: Converting Vegetarians, by Infected Mushroom

How long have you worked at ZSL?

Twenty years (eek). During this time I have been a keeper on various mammal sections (I just made Senior Keeper grade before transfer to office-based posts), Assistant to the Curator and then Conservation Programmes Coordinator, all within ZSL's Animal Department at London Zoo. I am now (since early 2002) a 'Programme Manager' in ZSL's Conservation Programmes office, with responsibility for our 'Carnivores & People' programme which is one of ZSL's six themed Conservation Programmes.

The job was at that time a chance to shift the central emphasis of my role from zoo population management to development of the various field-conservation-related activities I have somehow acquired involvement in over the years.

What do you enjoy most about your work?

The feeling that I'm at least trying to do something that has some meaning outside of just maintaining life and satisfying one's various appetites.

Second, I've been lucky enough to travel a good deal and so have met many fascinating and brilliant people in zoos and other conservation organisations around the world, some of whom have become close friends. These days e-mail and the net give us instant communication with virtually anyone, anywhere, and I use this fully. In addition, ZSL itself is a great place to meet people and pick up new information.

Finally, I have a pathologically tidy mind and I like organising – I find I tend to select projects that require information to be sorted and analysed and then supplied to where it is needed. Managing breeding programmes is an obvious example; editing 'Riding the Tiger' was another; and my current work on the IUCN/SSC Cat Specialist Group's online Cat Projects Database is a third.

What is the most memorable or fascinating event in your career so far?

Two main candidates, I guess; in 1999, finally holding my first shiny bound copy of the book 'Riding the Tiger', which I co-edited with John Seidensticker and Peter Jackson, when it was published after two years of work. And of course the 2003 capture of 'Slamet', I hope the first of many tigers radio-collared on ZSL's project site on Sumatra.

Which important changes do you see happening in the zoo world in the next ten years?

The obvious thing is of course more emphasis on links to the field. Ultimately every major new exhibit will be associated with field support of some kind; the more forward-thinking among zoo staff have been pushing for this for a long time, and both legislation and public opinion are now increasingly urging us in this direction. Technology is going to help, e.g. video links to live action in the field and video cameras in the zoo making it easier to get a good view of animals in large habitat-themed exhibits. A downside of this habitat-focussed development is that it is becoming increasingly difficult to provide any behavioural enrichment that does not clash visually with habitat illusion in major exhibits. Considerable ingenuity on the part of both animal staff and designers is needed to overcome this.

Why does the tiger stand out for you?

Tigers possess a combination of beauty, grace and power that makes them uniquely fascinating. I didn't exactly choose them, though – I was asked to work on the Sumatran tiger EEP in 1991 and it all just developed from there. They really are the perfect animal around which to build a conservation programme; they are umbrella, flagship and indicator species all rolled into one.

Describe one of your favourite exhibits in another zoo.

The exhibit I've most enjoyed in recent years is the polar bear exhibit at SeaWorld in Queensland, Australia (not one of the SeaWorld chain, a separate organisation). This is the only really good polar bear exhibit I've ever seen. The exhibit is superbly well designed with a vast amount of behavioural enrichment built in.

What do you like doing in your spare time, hobbies for instance?

I enjoy good food, good wine and good company, preferably all at the same time. Also reading, listening to music, listening to drama and comedy on the radio, walking in the countryside, working out in the gym, messing about with the plants and bird feeders on my balcony, and keeping in touch with friends around the world through the net.

Key things learned?

Don't be afraid to fail – if you are, it is very limiting. And don't be afraid to change your mind – it is the only way of proving you have one.

Births and Hatchings

MOSCOW - RUSSIAN FEDERATION

According to ISIS information, **inland taipans** (*Oxyuranus microlepidotus*) are now only held in three zoo collections (Adelaide Zoo and Sydney Zoo in Australia and Moscow Zoo). This snake's rarity in captivity is presumably due to its restricted range of occurrence, its aggressiveness (as suggested by its common name – fierce snake) and its exceptionally potent venom: the inland taipan is considered to be the world's most poisonous terrestrial snake.

The original group of inland taipans at Moscow Zoo, consisting of 2.1 snakes born in Adelaide Zoo on 26 April 1995, arrived at Moscow Zoo in October 1996. The snakes were kept separately, under conditions typical for Elapidae in captivity. The first breeding attempts occurred in 2003: the snakes were put together on 19 February 2003, and were separated on 29 April 2003. Pregnancy lasted 60 - 86 days and pre-laying shedding occurred on 12 May (15 days prior to laying). Ten eggs were laid between 27 - 28 May 2003. The whole clutch weighed 368 g, with individual eggs measuring 51 - 62 x 32 - 35 mm and weighing 32 - 37 g. Eight more eggs of similar size and weight were extracted by means of a Caesarian operation (two from the left oviduct and six from the right one), on 29 May.

Hatching occurred between 1 - 3 August 2003, thus the incubation period was 65 - 67 days at 29°C, and 90% relative humidity. The young initially measured (L + L cd) 305 + 50 - 427 + 65 mm and weighed 9 - 20 g. The first snakes to hatch were all males; females hatched later and were larger. One egg contained twins, which upon hatching weighed jointly nearly the same as a normal offspring (9 and 11 g). The first shedding occurred on the ninth day (10 - 12 August). After shedding, all young started to feed on newborn mice. As far as we know this was the first breeding of inland taipan outside Australia.

Source: Sergei V. Kudryavtsev and Sergei V. Mamet



Photo: Moscow Zoo

MADRID - SPAIN

Two **bottlenose dolphins** (*Tursiops truncatus*) were born in the dolphinarium of Madrid's Zoo Aquarium in January 2002, increasing the family group to a total of seven members.

Signs that both females would be birthing soon became visible in mid-January. The staff reduced activities of the animals, as well the number of people accessing the dolphin installations, to a minimum. The females continued to take part in the demonstrations as long as they appeared to feel comfortable and willing to do so.

Two males were born in the group of one adult male and four reproductive females during the evenings of 24 and 28 January. No significant interactions were observed between the adults, which have formed a stable reproductive group since the late 1980's. The young began suckling from their mothers a few hours after birth. The breathing parameters and lactation intervals were recorded by the team monitoring the dolphins 24 hours a day during the weeks following the births.

The difficult climatic conditions in Madrid, with temperatures decreasing below -15°C in winter, did not pose a problem for the survival of the young. The dolphinarium has two covered pools with capacity for the whole population when necessary. Even so, the animals were allowed to move freely into all areas, as the water heating system keeps the temperature constantly above 18°C.

There are several key factors related to this breeding success: a thorough knowledge of each individual and the good management of the group allowed prediction of specific reactions in certain animals.

The delay in the dates of the time of birth (the usual period being December to late January) meant warmer temperatures and better chance of survival. During earlier years, the



Photo: Moscow Zoo

Births and Hatchings



Photo: Madrid Zoo

provision of contraceptive hormones during certain periods allowed to regulate the reproductive cycle, delaying the moment of conception to a later date than usual.

Lastly, the suspension of the daily demonstrations in the dolphinarium for seven weeks once the first symptoms of delivery appeared to provide a better chance of survival for the young. During this time the young doubled their initial weight of 20 kg. Such a decision, which could cost revenue, reflects the conservation policy of Madrid's Zoo Aquarium management. The educational department provided regular information and talks to the visiting public in front of the dolphinarium's sub-aquatic vision panels during the period that the demonstrations were not held.

The father and the two remaining females, were kept in separate pools in order to continue their daily activities. After the seven-week period the mothers and their young moved to the back pools, and demonstrations and training sessions of the other adults could begin again in the main



Photo: Madrid Zoo

exhibition pool without disturbing the mothers and the new-born dolphins. Both mothers and their two young joined the (modified accordingly) demonstrations with the rest of the group on 20 June.

A comprehensive study of the relationships between mother and young during the period of lactation is carried out, in collaboration with students from the Universidad Complutense of Madrid. The study focuses on the stage that a young dolphin becomes independent of its mother; a period that is currently ending. We hope to obtain useful conclusions from this interesting study that will serve to improve handling of mothers and young during this critical phase.

Partial separation of the young from their mothers began 16 months after birth. The new-born dolphins regularly eat 3 kg of chopped fish, play and take part in the demonstrations daily. This is yet another example of the dolphinarium's contribution to *ex situ* conservation and its role in the education of the general public.

Source: Miguel Bueno

INNSBRUCK - GERMANY

Despite major construction projects affecting both the animals and personnel, 2003 has been full of breeding successes at the Alpenzoo Innsbruck. First we must give credit to our pair of **bearded vultures** (*Gypaetus barbatus*), which may be the world's most productive pair: a parent-reared young hatched 24 April 2003 is the 30th(!) successfully raised offspring of our male (BG 019 of the European studbook) and the 28th produced with his current partner (BG 021). The chick was sent to Natur- und Tierpark Goldau, Switzerland on 6 August so that it could participate in testing and adapting new radio-collars.

The birth of a **pine marten** (*Martes martes*) on 26 March 2003 is worth mentioning as well. Alpenzoo feels proud and lucky regarding the successful parent-rearing of ten young **rock partridges** (*Alectoris graeca*) and eight **rock ptarmigans** (*Lagopus mutus*). Both species are adapted to high Alpine habitats and are therefore exceptionally sensitive to bacterial infections. Whereas their natural habitats lay between 1,800 and 3,500 m (NN), the Alpenzoo is situated at an altitude of 700 m. Intensive dry cleaning and feeding of natural foods by the keepers are thought to have been instrumental in these successes.

The offspring were donated to two reintroduction projects in Italy. The rock partridges were given to the 'Centro Ecologia Alpina' (CEA) in Trento, as the breeding couple came from

Births and Hatchings

this institution and a good cooperation has existed between the Alpenzoo and CEA for many years. CEA is undertaking a special research project on physiology and adaptation of released rock partridges within the framework of a series of studies on high alpine ecology. The rock ptarmigans were donated to a project undertaken by 'Agricoltura Veneto' in Verona. This institution has taken the initiative of reintroducing rock ptarmigans in the area of Monte Baldo Nature Reserve, near the Garda Lake. Rock ptarmigans lived in this area until the end of the 1970's. The causes of its disappearance in this area are not known and might be various. Hunting, climatic changes or pressure by numerous predators are possible factors in its demise. A pilot study initiated in 2002 will examine surviving strategies of individual snow partridges monitored using radio-collars. The habitat appears to possess optimal conditions for rock ptarmigans, and the next years will show whether the species will be able to re-establish a population in the area despite predators (e.g. golden eagles and red foxes) and extensive tourism at the edge of the protected reserve. The Alpenzoo born offspring were released at Monte Baldo in September 2003.

Source: Dirk Ullrich



Photo: Colchester Zoo

COLCHESTER - UNITED KINGDOM

Three **yellow-billed stork** (*Mycteria ibis*) chicks hatched at Colchester Zoo on 20 July 2003. Unfortunately the youngest of three did not survive. Staff had tried to encourage breeding in 2002 by building nests for the birds to use, and the parents had laid eggs and sat but without success. The nests were removed after the breeding season and were replaced in the enclosure in spring 2003.

The chicks were first observed, very briefly, on 21 July and more detailed observations were made on the subsequent days. The parents were attentive of the chicks at all times, with the male either on the nest with the female or within close proximity. The chicks were first observed standing, albeit a little unsteadily, on 30 August. On 20 September 2003 one of the chicks was observed in a nearby tree in the aviary. We believe that this is first successful breeding of this species in a European zoo.

Source: Anthony Tropeano

RIGA - LATVIA

Riga Zoo had its first breeding success of the endangered **Malagasy giant jumping rat** (*Hypogeomys antimena*) when two healthy young were born on 17 September 2003. The female was received from Rotterdam Zoo in 2001 and the male arrived from London Zoo on 30 May 2003. The birth took place in Riga Zoo's new Tropical house (opened to the public on 25 May 2001; see EAZA News no. 43/2003, p. 23) where the giant rats are housed in a



Photo: Riga Zoo

Births and Hatchings

nocturnal exhibit with a reversed light regime. Both young left the nest cave early in November and after a week started consuming solid foods. Currently the Malagasy giant jumping rat captive population consists of 66 animals in 10 institutions.

Among other successes with our nocturnal mammals are 1.1 **sand cats** (*Felis margarita harrisoni*), born on 15 September 2003, and 0.1 **brush-tailed bettong** (*Bettongia penicillata ogilbyi*). The previous bettong pair combination did not result in births as the female was aggressive towards the male. She successfully mated with another male that arrived from Frankfurt Zoo in February 2003.

The **fennec foxes** (*Vulpes zerda*) produced two litters, with eight young in total in 2003, and 3.2 Riga-born fennecs were distributed to other collections including Newchurch, Frankfurt and Straubing Zoos, and Suffolk Wildlife Park. Another 2.0 **lesser slow lorises** (*Nycticebus pygmaeus*) were born in 2003, bringing the total number born since 1996 to 19 lorises, of which ten have been raised successfully. All viable offspring come from three founders, and second-generation births have occurred since 1998. Two male Riga-born lorises found their new home in Fuenogirola Zoo in 2003.

Another 1.0 **South American tapir** (*Tapirus terrestris*) was born on 11 September 2003, after exchange of males with Kaunas Zoo in 2002. **Black storks** (*Ciconia nigra*) have bred in Riga since 2002, when our new pair was transferred to the new crane/stork-breeding complex. A female fledged the first breeding season and 2.2 black storks hatched from a four-egg clutch in 2003.

Riga Zoo's Department of Amphibians (previously the Laboratory of Ecology) was established in 1987 primarily to breed native amphibians. Long-term success with the **European tree frog** (*Hyla arborea*), resulting in contribution to a successful species reintroduction programme in Latvia, has already been achieved. The **natterjack toad** (*Bufo calamita*) bred for the first time in 2003, and a total 147 natterjack toads were reared. Spawning was stimulated using hormone injections, and the development of captive breeding methods for this species is included in Latvian National Programme on Biological Diversity.

Riga Zoo joined the EEP for the critically endangered **Fregate Island palm beetle** (*Polposipus herculeanus*) in 2002. Our breeding group was established on 15 October 2002 when 15 beetles arrived from London Zoo. The first-generation beetle in our colony emerged on 16 May 2003 after a seven-month development period. As of 1 December 2003

there are already 163 first-generation beetles in our collection, and second-generation larvae have hatched. Another debut within the invertebrate EEPs resulted in the successful establishment of breeding groups of three **Partula snail** species (*P. radiolata*, *P. tristis*, *P. varia*), with *P. radiolata* already breeding in the second generation in Riga.

Source: Elina Gulbe



Photo: Odense Zoo

ODENSE - DENMARK

The first **Caribbean manatee** (*Trichechus manatus manatus*) birth in Denmark occurred in Odense Zoo. The keepers first saw the perfectly healthy newborn when they arrived at work on the morning of 13 September 2003. The manatee was born in the manatee pool containing four adult manatees. The mother showed protective behaviour in presence of the calf: if another manatee approached she would turn her back toward the 'intruder' and toss her tail forcefully. The newborn was initially a very bad swimmer because its tail was completely soft, and the mother often helped it to the surface to breathe. The tail stiffened after about 24 - 36 hours and the calf could follow his mother around the pool. The mother and young remain in close contact at all times, and we are certain that vocal communication between mother and young is the primary force in keeping them together.

Source: Bjarne Klausen

Note editorial board:

During the night of 4 and 5 November 2003 twin manatees, a male and female, were born at Zooparc de Beauval, France. This is the second time that female Daphné, born at Artis Zoo Amsterdam, gave birth. Her first baby was born in 2001.

New Enclosures

Life on the edge – the creation of Living Coasts

by Simon Tonge, Living Coasts, Torquay, United Kingdom

Living Coasts is an exhibition of marine mammals and birds located on the harbour side at Torquay, Devon, United Kingdom. This attraction is about the coastlines of the world and uses the tag-line of 'life on the edge'. The exhibit was developed by Paignton Zoo Environmental Park using funding from the Zoo itself matched to grants received from the South West Regional Development Agency (SWRDA) and the European Regional Development Fund (ERDF). It is part of a wider harbour regeneration scheme costing UK£ 21 million (±€ 30,300,000). Living Coasts cost just over UK£ 7 million (±€ 10,100,000).

Background

The site is approximately 5,000 m² and is situated on a south-east facing promontory on the north side of the harbour. The spot was first developed during the 19th century as a health spa. It has had a number of other uses, most recently as a nightclub, but since the late 1980's had been entirely derelict. The zoo had planned to redevelop its African penguin exhibit. This site, with its proximity to both a source of clean, cool seawater, and fresh sea breezes to counter the threats from aspergillosis and mosquitos (vectors of avian malaria), was felt to be an excellent location on which to maintain seabirds in general.

Design

The zoo worked with architect Derek Elliott, of Kay Elliott Architects, a company responsible for the design of other marine animal exhibits, for example in Bristol, Shanghai and Emmen. The marine aviary concept was developed to contain five major exhibits – fur seals, penguins, auks, waders and sea ducks. There are five pools, all with wave machines. The auk cliff is the only outdoor auk exhibit in the world. The outdoor areas are landscaped with 2,300 tonnes of substrate nearly 1 m deep in places. This was planted with 7,000 individual plants of 80 species. The entire exhibit is enclosed by a 5,500 m² polyethylene net held up on 35 masts up to 19 m high. The net encloses a volume of 50,000 m³. This serves to keep free flying birds within the exhibit and excludes others, such as the local population of herring gulls.

Living Coasts has wheelchair-friendly ramps throughout. In total there are 650 m of public walkway, deliberately convoluted to make best use of the available space and to maximise



Photo: Living Coasts

visitor stay on what is a relatively small site. The exhibit allows the zoo to interpret coastal conservation issues to its visitors and generate money to put into coastal conservation projects. Visitors pass through interpretation areas before exiting via an extensive shop incorporating stone arches retained from the original Victorian spa. Above this is a café/restaurant with a balcony offering magnificent views over both Torquay harbour and Tor Bay.

Water

The pools have up to 3 m of water with acrylic windows allowing clear underwater viewing. Total water volume is 1,650 m³. All the pools except the wader exhibit are connected to a single water system using raw seawater pumped from the bay. The water is treated using a protein 'superskimmer' developed and installed by IAT Ltd. The wader exhibit is a freshwater estuary with a muddy substrate. Thanks to Living Coasts' filtration system, when the water is returned to the Bay it is cleaner than when it came out.

Living Coasts was formally opened by HRH The Princess Royal on 9 September 2003. The aim is to attract 300,000 visitors in the first year of operation. More than fifty new jobs have been created by the project.

Gentoo penguins



Photo: Living Coasts

The Wild West in Emmen

by Wijbren Landman, Emmen Zoo, the Netherlands

A magnificent 'Wild West' has been created in the America section of Zoo Emmen. The 7,000 m² landscape blends perfectly with the existing enclosure of the Kodiak bears and consists of a forested area with rock formations, surrounded by marshlands with swamp cypresses. The Wild West is inhabited by Canadian moose, American bison and a host of waterbirds, including sandhill cranes, a flock of lesser Canada geese, a number of American wood ducks and some trumpeter swans.

To make room for this gigantic new animal exhibit, many of the far smaller and often older enclosures in Emmen had to be dismantled. Their inhabitants – the racoons, white-nosed coati, greater flamingos, porcupines, European owls, beach and meadow birds, South American pampas animals and squirrel monkeys – have found new homes at various other zoos. Underground stables were first constructed on the cleared terrain, and then the beautiful North American landscape was created. The new enclosure is now inhabited by 2.1 American bison and 2.1 Canadian moose received from Canada. The difference in character of the two species quickly became apparent: the bison only had eyes for one another, grazing together side-by-side and barely noticing the moose. The moose, on the other hand, kept their distance from the bison and from each other and, to the surprise of many visitors, often waded up to their stomachs into the water.



Photos: Rob Doerland/ IZP

This is the first time that a zoo has kept bison and moose in the same enclosure as far as we know. Thanks to the large amounts of space at their disposal, the animals tolerate each other. Even in the wild, they do not bother one another. But the situation remains thrilling, since the combination has never been tested at other zoos. Adult moose bulls, in particular, are infamous troublemakers. By now allowing the relatively young animals to grow up together, the greatest chance of success is ensured.

Unique mixture of species in CERZA's South America

by Thierry Jardin, Jean-Marie Carenton and Cécile Querleu, Centre d'Etudes et de Recherches Zoologiques Augeron (CERZA), Lisieux, France

*CERZA already had a South American exhibit with tapirs, capybaras, alpacas, rheas and fallow deer. A second South American enclosure has been opened to the public in April 2003. This unique enclosure presents a mix of species never seen together before: 2.0 maned wolf (*Chrysocyon brachyurus*) with 0.2 South American tapir (*Tapirus terrestris*), 3.2 capuchin monkey (*Cebus apella*) and 1.1 capybara (*Hydrochaeris hydrochaeris*).*

The 3200 m² enclosure is carefully designed to fulfil the needs of each species inhabiting the enclosure. One part of the enclosure has trees and a larger part has grass. Branches and ropes are attached to fixed tree trunks in the grass area, creating a network which allows the capuchins to move in elevation from their house to the trees. This 'second floor' provides them with safety from the maned wolves. The

grass has been allowed to grow freely, to simulate the maned wolves' natural environment as much as possible.

A pool was constructed for the tapirs and capybaras. Tapirs have a shaded zone within the trees that they seem to appreciate very much.

The tapirs, capybaras and capuchins share a house, with a separate area for each species. The maned wolves are housed in another building, located at the other end of the enclosure. A cage built beside the wolves' house allows us to separate individual wolves. The facility to isolate the wolves made it possible for the other species to explore

The Night at Amersfoort Zoo

by Erik van Vliet, Amersfoort Zoo, the Netherlands

A walk-through approach to exhibit really makes the difference in the visitor's experience when one does not see any animals at first sight. The natural landscape stretches out on both sides of the trail and one does not know where to look first. Then suddenly something moves in the foliage. If the visitor's natural instincts are intact, he or she silently, patiently, waits to see what might appear.

With this in mind, we decided to build a nocturnal walk-through rainforest exhibit in a 600 m² existing building at Amersfoort Zoo. This seemed relatively easy: it is dark at night after all, and the visitor's sight only reaches the walls, which we covered with tree trunks. Between these trunks and the visitor many other tree trunks are positioned to create a credible forest feeling. Humidity, noises and the splashing of the river complete the required atmosphere.

The total space is only 11 m wide but because of the darkness, the winding trails and river board walks visitors experience the exhibit as a lot bigger. One can encounter greater galago's, brush-tailed porcupines and Malagasy giant jumping rats in the African section. Australia features short-nosed rat-kangaroos and brush-tailed possums, and the South American section houses douroucoulis and golden-rumped agoutis. Only the two marsupial species were regularly and easily seen the first weeks after the rainforest exhibit opened on 26 June 2003; these animals showed no fear of visitors whatsoever. It took a bit longer for the two primate species to adapt. Meanwhile we developed a guided experience to assist visitors in exploring the exhibit. One of two systems is applied, depending on the expected attendance volume. On quiet days visitors wait in the pre-show area, which reflects the ambiance of an African village with a yard with yellow mongooses. A night safari is then offered to groups of about 15 members of the public at least every 15 minutes. On normal visitation days guests venture into The Night individually.



Photos: Amersfoort Zoo

A guide is available for questions, and to get the guests in the right mood. Guides are keepers, members of our volunteer story telling team, or have an entertainment background. They all know where the animals can be expected to be found. In both systems the guides, equipped with a sense for story telling and drama, generate unforgettable experiences. Whole families kneel down on the floor of the Australian rainforest, every nerve strained to be ready for the magic moment; to see if the rat kangaroo does or does not jump out of the bush onto the path. In most cases the rat kangaroo does.

their new enclosure when they were first introduced to the exhibit while seeing the wolves – but not actually 'meeting' them. The house for the tapirs, capybaras and capuchins also has extra cages useful to isolate animals. The different species were introduced to each other one by one over a period of three months: tapirs and maned wolves first, capuchins later and capybaras last. Each species was allowed time to explore the area and become familiar with entering and exiting its inside enclosure. A behavioural study showed that each species now uses the zones designed for it and that the

species distribute themselves spatially in the enclosure, proving that the enclosure is suitable for them. However, new facilities might be added later, for example a second pool, so that tapirs and capybaras have each one.

Experience

During the first period the maned wolves tried to catch the capuchins when these appeared on the ground. Fortunately, the capuchins were able to escape. In fact, the capuchins escaped from their enclosure after two months! We will try once again in 2004 to mix them with the other species.

Some problems also occurred with the combination of capybaras and tapirs, as the capybaras did not tolerate the tapirs. We did not expect this aggressiveness to happen, since we have kept capybaras and tapirs together before in another enclosure without any problems. We decided to remove the capybaras from this enclosure. We will try again next year with new and younger capybaras.

Photo: CERZA



An update from the world of okapis

by Kristin Leus, Assistant EEP Coordinator for Okapi, Royal Zoological Society of Antwerp, Belgium

The okapi population is managed at world level, with the EEP Coordinator (Bruno Van Puijtenbroeck, Antwerp Zoo) and SSP Coordinator (Ann Petric, Brookfield Zoo) working closely together to exchange management and husbandry experiences and formulate breeding recommendations that not only benefit the regional populations but also the world population as a whole. Both coordinators have support from population biologists: Sarah Long of the AZA Population Management Centre, Bob Lacy, chairman of CBSG and myself.



Head keeper, Patrick Immens, with okapi calf at Antwerp Zoo

6 in Japan) and 15 in Epulu. In-depth genetic and demographic analyses were carried out for the world population and its subpopulations. Most obvious and worrying was the difference in growth rate between the EEP and SSP populations. The SSP has reached an average annual growth rate of about 9% since the mid 1980's, while the EEP population only reached an annual growth rate of about 2% during the same period. One problem diagnosed during the previous joint EEP/SSP meeting in 1996, namely that a number of EEP females that should be breeding were not doing so, has been largely rectified, resulting in an improved annual growth rate of 4% since the late 1990's. The other two EEP problems

identified in 1996 however remain: a high proportion of spontaneous abortions or stillbirths and a proportionately high death rate of adult animals.

Under current conditions neither the EEP nor the SSP population can alone maintain 90% genetic diversity for the next hundred years, however, the two populations together can do so. A minimum of about 250 animals in total is needed to achieve this, but having approximately 200 animals in each subpopulation would provide a demographic safety margin. The coordinators are identifying individuals to be exchanged between the regions, as has been done at several times in the past, to best manage the world population. The eight wild caught

okapis at the Epulu station are also of great value to the world captive population: their offspring represent potential new founders or extra material from underrepresented founders.

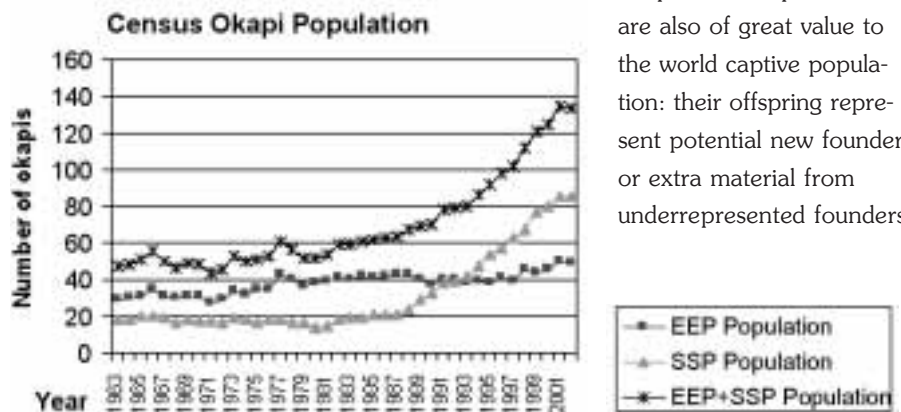
Okapis are now held in 36 facilities worldwide: 13 in Europe, 20 in North America, 2 in Japan and in the Epulu headquarters of the Okapi Wildlife Reserve in the Ituri Forest of the Democratic Republic of Congo.

A joint EEP/SSP meeting

The Okapi EEP and SSP try to meet at regular intervals. The most recent gathering, attended by 67 participants, was held on 30 June to 2 July 2003 at Cologne Zoo. Because okapis, giraffe and antelope share a number of similar problems and challenges and belong to the same TAG, one day constituted a joint meeting with the EAZA Antelope and Giraffe TAG. The Okapi EEP Coordinators thank Gunther Nogge, Waltraut Zimmermann and the whole staff of Cologne Zoo for graciously and efficiently hosting this meeting.

Status of the captive population

At the time of the Cologne meeting there were 152 okapis living in captivity: 53 in the EEP, 84 in the SSP (including



Collection Planning

How they will contribute to the captive population is likewise decided at world level, in consultation with Gilman International Conservation (GIC).

What's up and what's on?

It is not enough to identify problems, they also need to get solved. Much of the joint meeting focused on particular fields of concern for the okapi such as: nutrition, glucosurea, physiological monitoring of stress, weight gain of growing animals, hoof and joint problems, veterinary issues related to miscarriages, anaesthesia and tranquillisation, assisted reproduction and genome banking etc. Time was also spent discussing practical husbandry and management issues, such as proposals for adaptations to the current husbandry manual, consequences of existing veterinary regulations for cross border transfers of okapis and lessons learned from the latest hand-rearing cases. Both the EEP and SSP are lucky in having access to a group of scientific advisors and researchers who carry out basic and applied research to help us solve particular problems observed. Many of these research projects are being carried out at both sides of the ocean with good cooperation between the teams. Some issues, such as nutrition and particularly hoof and joint problems, are also of concern to the giraffe and antelope world and discussing these problems with the EAZA Giraffe and Antelope TAG proved to be very worthwhile. This will also result in future cooperative work involving these taxa. Detailed proceedings from the meeting, reflecting the hard work of the research teams and the curators and veterinarians of the institutions involved, are in production and will be published on CD-ROM. Most importantly, a list of 43 concrete actions points and responsibilities was generated in order to tackle problems

Moi, Kakura Musebele, j'ai grandi à Epulu des mon jeune age comme tout paysan. Je suis engagé au GIC/RFO comme Gardien du Zoo depuis 1997. Pendant la période de guerre, j'ai été responsabilier de nourrir la femelle gestant 'FAIDA'.

I, Kakura Musebe, have grown up in Epulu. I have been employed as a zoo keeper by the Gilman International Conservation/Okapi Wildlife Reserve since 1997. During the war I was given the responsibility to feed the female okapi 'FAIDA'.

Au matin du 24 avril, j'ai été étonner de voir à coter de FAIDA un tout petit Okapi tremblant. Ma joie a été si grandes avec cette mise bas en cette période.

On the morning of 24 April I was astounded to find next to FAIDA a tiny little trembling okapi. I was overjoyed with this birth during this period.

La nouvelle s'est répandu en peu de temps dans tout le village et toute la population s'est associée a notre joie. Certains commençait déjà a lui proposer le nom de 'RUF'.

In no time the news spread through the whole village and the whole population shared our joy. Some among them already started to suggest the name 'RUF' for the calf.

Du cote des militaires installés à Epulu, ils étaient très étonnés et surprise également et nous ont encourager a bien protéger nos animaux et de travailler sans relâche.

The soldiers based at Epulu were also astounded and very surprised and encouraged us to look after our animals well and to keep up the work.

Un de nous qui était en conge à Beni a témoigner que cette nouvelle est même passée sur les ondes de la Radio de Beni. Même l'extérieur du pays a été informé de cette naissance.

One of us who was on holiday in Beni could testify that the news was even mentioned on the Beni Radio. The news of the birth even went abroad.

Compte tenu de détonation des bombes pendant la guerre, nous croyons moins a une mise bas sans complication. En bref, ma joie et celle de tous les agents en général est de voir cette naissance et notre espoir est la continuité de notre travail au GIC/RFO.

Taking into account the explosion of mortars during the war, we no longer dared to hope for a birth without complications. In short, myself and all the staff were overjoyed to see this birth and it is our hope that our work at GIC/OWR can continue.

Fait à Epulu le 11 Septembre 2003
Written in Epulu on 11 September 2003

Kakura Musebele
Gardien du Zoo Zoo keeper

identified. That should keep us busy until the next joint meeting!

News from the home front

On 1 September 2002, the Epulu station had to be evacuated and the village of Epulu became a battle field between various army fractions. Both soldiers and civilians lost their lives, and houses, dispensaries and schools were looted. Heavy poaching and mining took place in and around the Okapi Wildlife Reserve. Amazingly, the staff of the Okapi project managed to save computers, printers and the communication system, and continued to feed and care for the okapis every day. Due to the staff's dedication, all okapis came through alive and well and the clearest proof of this was the birth of

a healthy male on 24 April 2003!

One of the keepers at Epulu, Kakura Musebele, proudly tells the story of this calf in his own words (see box). Those of you who have tried to keep an okapi calf healthy in the safety of a western zoo will agree with us that this was an astounding achievement!

The Epulu station and the Okapi project are currently up and running again. The support from zoos with okapis and from the Frankfurt Zoological Society remains crucial to the survival of the project, the okapis and the reserve. It also represents a considerable moral booster for the local staff – it is good for them to know they are not alone! Let's try and keep this up I'd say!

STOP PRESS! Rosie Ruf and the staff of the Epulu station are proud and happy to announce the birth of a second okapi calf, born on 18 November 2003. Mother and baby are doing well.



The one and only nocturnal monkey: *Aotus*

by Olivia Walter, ESB Studbook Keeper, Federation of Zoological gardens of Great Britain and Ireland and Caroline Brown, Bristol Zoo Gardens, United Kingdom

Douroucoulis are the only nocturnal true monkeys. Many nocturnal primates are prosimians, e.g. lorises and bushbabies. Ranging widely from Panama down to Paraguay, from Peru to east-central Brazil, douroucoulis were a favourite in the flourishing trend for nocturnal houses in zoos in the late 1970's and early 1980's. These monkeys live in family groups that are constantly chatting or sleeping in a pile.

Living in all but very disturbed forests from sea level to 2,100 metres, douroucoulis are well adapted to their arboreal lifestyle. In the wild they sleep in hollow trees but are 'easily awakened' by the vibration of passing footsteps, where upon their curiosity is aroused and several small heads may then be observed peering from their sleeping quarters (Hill, 1964), a habit that is frequently seen in diurnal captive environments.

History

Historically douroucoulis in captivity had a very short life span; in 1911 London Zoo had one that lived for three years and nine months – a record for this species in those days. Successful breeding did not occur before the 1930's. As a consequence douroucoulis had a reputation for being difficult to keep in captivity. Fortunately things have improved enormously in the last thirty years.

There has always been a trade in douroucoulis, which gained height in the end of the 1960's and early 1970's. Columbia alone exported

4,500 specimens in 1970 and 1971. The United States imported 20,869 specimens over four years from Colombia and Bolivia which, given it was estimated that two-thirds died prior to exportation, indicates that a substantial number of animals were caught for these exports. Predominant end-destinations for the surviving animals were medical laboratories. By the end of the 1970's Columbia, Brazil, Venezuela and Peru all had legislation in place to either restrict or prohibit capture and trade of douroucoulis for commercial gain.

Taxonomy and status

This is reflected in the ancestors of today's ESB population. No animals were imported after the early 1980's and founders were either wild-caught or came from medical research centres.

There are currently 28 collections holding 84 *Aotus lemurinus griseimembra* and 20 *Aotus azarae boliviensis*. The taxonomy of this genus is continuously under debate. Depending on which reference is taken, *Aotus* can consist of one species with seven to nine subspecies, or eleven species with five subspecies. Taxonomy, or population origin is most accurately deduced through karyotyping.

Initially specimens came in as *Aotus trivigatus* but after problems with breeding them, research coordinated by Bert de Boer (then at Rotterdam Zoo) indicated that there were two main karyotypes - *Aotus lemurinus griseimembra* (K2; 2n = 52/53/54) and *Aotus azarae boliviensis* (K5; 2n = 49(m)/50(f)). *Aotus lemurinus griseimembra* is listed as Vulnerable C2a(i) on the Red List and is included in an ESB. Although *A. a. boliviensis* is

not listed on the Red List, it has also been given ESB status.

Husbandry considerations

To dispel all myths about this interesting and unusual monkey being difficult to keep, and can only be kept in nocturnal conditions, Caroline Brown (Bristol Zoo) and I initiated a survey to discover the current husbandry techniques. Results so far indicate that only a few collections keep this genus diurnally, but do so very successfully. In dark lighting these incredibly pretty animals can easily come across as drab little monkeys. Reports from collections that give their douroucoulis access to outdoor enclosures indicate that the douroucoulis benefit enormously. Height and cover appear to be the most important factors when designing enclosures. Current heights range from three to seven metres and most holders noted that douroucoulis need more height than most other species of their size.

Mixed species exhibits seem to work well with douroucoulis. Most commonly douroucoulis have been mixed with South American species such as two-toed sloths (*Choloepus* sp.), agoutis (*Dasyprocta* sp.), paca (*Agouti paca*), hairy armadillos (*Chaetophractus* sp.), degu (*Octodon degus*), guinea pig (*Cavia porcellus*), prehensile-tailed porcupines (*Coendou prehensilis*), lesser mouse lemurs (*Microcebus murinus*), potoroos (*Potorous tridactylus*), Malagasy giant jumping rats (*Hypogeomys antimena*) and various callitrichids. The douroucoulis is a unique and interesting species that can make a rewarding display under long term management.

Collection Planning



Photo: Parc Zoologique de Lille

A behavioural study by Parc Zoologique de Lille

by Caroline Dekytspotter, Université des Sciences et Technologies de Lille, Aude Desmoulins and Franck Haelewyn, Parc Zoologique de Lille, France.

This research has shown douroucoulis are very active when their environment is adapted to their needs. Lille keeps the douroucoulis on a nocturnal cycle, and therefore did their research on activity budgets at their maximal activity level.

Our study has shown that they eat fruit better when the fruits are uncut or cut in half and scattered in the cage (e.g. skewered on a branch, or hidden). Offering cut fruits on a plate was not very effective.

Hanging up coconuts, and baskets at different heights are nice enrichment ideas. These enrichment tools are easy to make, inexpensive and have been tested. Mealworms or raisins were placed in garlands of paper cups hung between branches. The garlands were mostly appreciated and were often used first. The activity levels of the monkeys were raised, therefore the results can be considered as positive. Of course, in order for these enrichment methods to give results, they must not be used daily, one should alternate between enrichment activities. In general, installation by a keeper takes ten minutes.

In conclusion, providing simple enrichment activities in a douroucoulis environment that are alternated on a regular basis lead to a higher activity level, creating better public interest and welfare.

EEP committee The following new TAGs, EEPs, ESBs and new (co-)chairs, EEP (co-)coordinators, European studbook keepers were approved:

NEW PROGRAMMES

RADIATED TORTOISE ESB

(*Geochelone radiata*)

Mr. Renaud Fulconis, Amneville Zoo, France

HANUMAN LANGUR ESB

(*Semnopithecus entellus*)

Ms. Katja Ebersbach, Hannover Zoo, Germany

GIANT OTTER EEP

(*Pteronura brasiliensis*)

Dr. Frank Brandstätter, Dortmund Zoo, Germany

NORTH CHINESE LEOPARD EEP

(*Panthera pardus japonensis*)

Dr. Michael Flügger, Hamburg Zoo, Germany

DWARF FOREST BUFFALO ESB

(*Cyncerus caffer nanus*)

Mr. Dave Brunger, Chester Zoo, United Kingdom

NEW STUDBOOK KEEPERS

SILVERY MARMOSET ESB

(*Callithrix argentata argentata*) and (*C. a. melanura*)

Ms. Tracey Moore, Shaldon, United Kingdom

EUROPEAN BROWN BEAR ESB

(*Ursus arctos*)

Mr. Peter van der Eijk, Rhenen Zoo, The Netherlands

NEW COORDINATORS

BEADED LIZARD EEP

(*Heloderma suspectum*)

Mr. Klaus Draeby, Terrariet Vissenbjerg, Denmark (Institutional support provided by Randers Regnskov)

GILA MONSTER EEP

(*Heloderma horridum*)

Mr. Klaus Draeby, Terrariet Vissenbjerg, Denmark (Institutional support provided by Randers Regnskov)

CONGO PEAFOWL EEP

(*Afropavo congensis*)

Mr. Steven Vansteenkiste, Antwerp Zoo, Belgium

RED PANDA EEP

(*Ailurus fulgens*)

Mr. Martin van Wees, Rotterdam Zoo, The Netherlands

PERSIAN LEOPARD EEP

(*Panthera pardus saxicolor*)

Dr. Martina Raffel, Munster Zoo, Germany

PERSIAN ONAGER EEP

(*Equus hemionus onager*)

Mr. Stephan Hering-Hagenbeck, Hamburg Zoo, Germany

CHANGE OF INSTITUTION

MADAGASCAR TREE BOA ESB

(*Sanzinia madagascariensis*)

Mr. Kevin Buley, Chester Zoo (formerly Jersey Zoo)

Cat News – The Newsletter of the IUCN/SSC Cat Specialist Group

The Cat Specialist Group is one of more than 120 similar specialist groups of scientists, wildlife managers and conservationists involved with various wild animals and plants, constituting the Species Survival Commission (SSC) of IUCN. The Cat Specialist group's approximately 200 members from over 40 countries unite a wealth of expertise and experience in cat conservation.

CAT NEWS, a biannual publication, includes a wide-ranging collection of scientific papers, articles, and news items on wild cats around the world. Each issue currently has 40 to 50 pages and a cover photograph of one of the 36 species of wild cats. 'Friends of the Cat Group' has been established to enable parties interested in furthering the conservation of wild cats to contribute to a fund to pay for production of CAT NEWS.

Subscription fee to join: Institutional subscription € 70; personal subscription € 35. Orders to be sent to IUCN/SSC Cat Specialist Group, c/o KORA, Thunstrasse 31, CH - 3074 Muri b. Bern, Switzerland. Additional donations are welcome.





Involving the user community in the development of ZIMS

by Frands Carlsen, Copenhagen Zoo, Denmark and Duncan Bolton, Bristol Zoo, United Kingdom

The ZIMS RFP (Request For Proposals) for developing ZIMS was released to potential software developers in September 2003. A team of 19 zoo and aquarium professionals reviewed proposals submitted by nine companies. This was a large task, involving examination of 1,500 pages of documentation. Five vendors have been selected to give presentations in Washington DC. Two of the five will be chosen for the negotiation phase of selection. The contract will be awarded in January 2004 and software development will begin in February.

Funding update

Approximately €3 million in pledges (committed over five years) has now been raised from around a hundred zoos and aquaria. Over €750,000 of the total has been pledged by European institutions. The goal was to raise €3 - 4 million from the zoological community in the 'family' campaign. More money still needs to be raised but now that the 'family' campaign has successfully met a large part of the initial goal, the next phase of the funding campaign has begun: approaching foundations and companies.

Volunteers wanted

Involving the user community is very important to the success of the ZIMS project. IADISC is responsible for getting stakeholders and SMEs (Subject Matter Experts) involved in the ZIMS design process and data standards development. A series of workshops that will include both the ZIMS team and the selected vendor have been proposed for 2004. These include 2 - 4 Joint Application Design (JAD) sessions for both the core and veterinary ZIMS modules. These workshops will each require 10 - 12 Subject Matter Experts. In addition, more focussed data standards workshops (8 - 10 each for both core and veterinary modules) will be held. These workshops may be of shorter duration and may be tacked on to other meetings being held. Thus, a large number of volunteers (SMEs) will soon be needed for these upcoming ZIMS design workshops.

A list of EAZA SMEs is now being developed and we encourage all colleagues in the EAZA region who would like to contribute to the development of ZIMS to make sure that they are included on the list. Please contact the authors for inclusion and/or more information.

Are you a record keeper in your zoo, but not yet subscribed to the e-mail group of the EAZA Animal Record Keepers Group (EARKG)? Send an e-mail to: EAZA_Animal_Records_Keepers-subscribe@yahoogroups.com to make sure you are kept up-to-date on important developments, and can exchange information and experiences about your work with colleagues around the region!

Data clean up and migration

For ZIMS to truly be the tool we have been asking for, an efficient data migration from CMS/ARKS is vital. This can only be achieved if we have high quality data before the transfer, which requires cleaning up of existing data. The ISIS global transaction link rate is now at 65%, an improvement from the 48% when web-based data quality tools were first made available to collections (see also EAZA News 44/2003, p.14 - 15). The transaction link rate for European ISIS members was stable for some months but luckily has recently increased again. ISIS has recently tasked Ross Snipp, working in Europe to actively promote and assist in the data clean up process in EAZA collections. EADISC and the EAZA Animal Record Keepers Group (EARKG) will also help spearhead data clean up in the EAZA region.

Input from EAZA

IADISC has been established to ensure that we, the users in zoos throughout the world, have the tools we need to efficiently and effectively manage our animal collections. ZIMS will be a major part of that tool box and now is the time that we must all work to ensure that we get what we need. The regional version of IADISC, EADISC, is chaired by the authors of this report and we invite those of you with an interest in helping the process to join us. We value all of your opinions and help, working both with and for you to ensure that our needs will be met in ZIMS. Please remember that now is the time to have your say; once the product is already developed it will be much more difficult to change!

Background and up-to-date information can be found on the ISIS website (www.isis.org), the ZIMS website (www.zims.org), the IADISC website (www.iadisc.org) and the EADISC page in the member area of the EAZA website (www.eaza.net). Please stay up to date: check these websites regularly.

Contact the EADISC chairs on the following addresses:
Frands Carlsen, Copenhagen Zoo, Denmark: fc@zoo.dk or Tel +45 72200200. Duncan Bolton, Bristol Zoo, UK: dbolton@bristolzoo.org.uk or Tel. +44 1179747300

Publications

Publications of interest, received by the EAZA Executive Office
Publications should be ordered through the editors. Further questions can be addressed to danny.de.man@nvdzoos.nl

Tanya Arzhanova, 2003. European studbook for the Pallas' cat (<i>Otocolobus manul</i>); no. 4, 2002. Moscow Zoo. Data current through at least 31 December 2002.	Bengt Holst and Frands Carlsen, 2003. Muskox (<i>Ovibos moschatus</i>) European studbook; volume I. Copenhagen Zoo. Data current through 31 December 2001.
Eric Bairrao Ruivo, 2003. European studbook for the spiny hill turtle (<i>Heosemys spinosa</i>); second edition. Lisbon Zoological Garden. Data current through 31 December 2002.	Achim Johann, 2003. International studbook for the gelada baboon (<i>Theropithecus gelada</i>); seventh edition. NaturZoo Rheine. Data current through 31 December 2002
Clemens Becker, 2003. European studbook for orang utan (<i>Pongo pygmaeus</i>); no 15, 2002. Zoo Karlsruhe. Data current through 31 December 2002.	Lubov Kurilovich, 2003. European studbook for Steller's sea eagle (<i>Haliaeetus pelagicus</i>); no. 6. Moscow Zoo. Data current through 31 December 2002.
Christiane Boehm, Christopher Bowden and Mike Jordan, 2003. Proceedings of the International Advisory Group for the Northern Bald Ibis – <i>Geronticus eremita</i> – (IAGNBI) meeting Alpenzoo Innsbruck - Tirol, July 2003. Royal Society for the Protection of Birds, UK. ISBN: 1-901930-44-0	Claudia Mettke-Hofmann and Udo Gansloßer (eds.), 2002. Bird research and breeding. Filander Verlag, Fürth. ISBN: 3-930831-39-2
Frands Carlsen, 2003. West African chimpanzee (<i>Pan troglodytes verus</i>) European studbook; volume I. Copenhagen Zoo. Data current through 31 December 2002.	Alla Nikitina, 2003. European studbook for the Ussuri black bear (<i>Ursus thibetanus ussuricus</i>); volume 1 (3). Kyiv Zoo. Data current through 31 December 2002.
Lydia Frazier Bosley, 2003. International studbook for bongo antelope (<i>Tragelaphus eurycerus isaaci</i>); year 2002 edition. Forth Worth Zoo, USA. Data current through at least 31 December 2002.	Klaus Pohle, 2003. International studbook for the Asiatic wild ass (<i>Equus hemionius kulan</i> and <i>E. h. onager</i>); no. 35. Tierpark Berlin-Friedrichfelde. Data current through 31 December 2002.
David Gill and Caroline Jellicoe, 2003. European studbook for Western grey kangaroo (<i>Macropus fuliginosus</i>). South Lakes Wild Animal Park, Dalton in Furness. Data current through 31 December 2002.	Kirsten Pullen, 2003. European studbook for the white-faced saki monkey (<i>Pithecia pithecia</i>); seventh edition. Paignton Zoo Environmental Park. Data current through 31 December 2002.
David Gill and Caroline Jellicoe, 2003. European studbook for brush-tailed rock wallaby (<i>Petrogale penicillata</i>). South Lakes Wild Animal Park, Dalton in Furness. Data current through 31 December 2002.	Klaus Rudloff, 2003. International studbook of the Persian fallow deer (<i>Dama mesopotamica</i>); no. 13. Tierpark Berlin-Friedrichsfelde. Data current through 31 December 2002.
David Gill and Caroline Jellicoe, 2003. European studbook for white-handed gibbon (<i>Hylobates lar</i>). South Lakes Wild Animal Park, Dalton in Furness. Data current through 31 December 2002.	Sandrine Silhol, 2003. European studbook for the Buffon's macaw (<i>Ara ambigua ambigua</i> and <i>A. ambigua guayaquilensis</i>); no. 5. Parc Zoologique des Sables d'Olonne. Data current through 31 December 2002.
David Gill and Caroline Jellicoe, 2003. European studbook for Geoffroy's cat (<i>Oncifelis geoffroyi</i>). South Lakes Wild Animal Park, Dalton in Furness. Data current through 31 December 2002.	Ryszard Topola, 2003. European studbook for the black stork (<i>Ciconia nigra</i>); no. 7. Lodz Zoo. Data current through 31 December 2001.
Gabriele Hlavacek, 2003. International studbook for the greater one-horned rhinoceros (<i>Rhinoceros unicornis</i>). Zoo Basel. Data current through 31 December 2002.	Ryszard Topola, 2003. European studbook for the blue crane (<i>Anthropoides paradisea</i>); no. 3. Lodz Zoo Data current through 31 December 2001.
Bernard Holdijk, 2003. EEP studbook for the cotton-top tamarin (<i>Saguinus oedipus</i>); 2001 edition. Dierenpark Wissel, Epe. Data current through 31 December 2001.	Jitka Vokurkova, 2003. European studbook for West Caucasian tur (<i>Capra ibex caucasica</i>); no. 7, 2002. Olomouc Zoo. Data current through 31 December 2002.
Bengt Holst and Frands Carlsen, 2003. Golden parakeet/ conure (<i>Guarouba -Aratinga- guarouba</i>) European studbook; volume III. Copenhagen Zoo. Data current through 31 December 2001.	Roger Wilkinson, 2003. Blue-eyed cockatoo (<i>Cacatua ophthalmica</i>) European studbook; sixth ESB edition. North of England Zoological Society, Chester. Data current through 31 December 2002.
	Achim Winkler, Ulrike Rademacher and Waltraut Zimmermann, 2003. EAZA Equid TAG Regional Collection Plan 2003. Zoo Duisburg.



Directory Updates

PERSONALIA

Mr. Torbjörn Wallin replaced Mr. Mikael Ahlerup as director at **Orsa Grönklitt**, Sweden, on 22 September 2003.

Dr. Kai Perret is the new director of **Zoologischer Garten Magdeburg**, Germany, since 1 October 2003. He replaces Dipl. Biol. Michael Schröpel.

Mr. Franz Wustmans is the new EAZA contactperson for **NiederRheinPark Plantaria**, Germany, as of October 2003, thereby replacing Mr. Han Assink.

Mr. Orhan Çoksürer is the new director of **Bursa Zoo**, Turkey, as of 16 October 2003. He replaces Dr. Sadettin Sönmez.

Mr. Darren Webster replaced Mr. Iain Valentine as EAZA contactperson for **Blackpool Zoo**, United Kingdom, as of October 2003. Mr. Iain Valentine took up the position of Head of Animals and Conservation at Edinburgh Zoo, United Kingdom.

Mr. Mark Edgerley left his position at **Marwell Zoological Park**, United Kingdom, in October 2003. As long as no replacement has been found, Ms. Lynne Stafford will be the Acting Director.

ADDRESSES AND TELEPHONE/FAX NUMBERS

The new contact details for **Tierpark Ueckermunde**, Germany, are:
Tel: + 49 39771 5494 0
Fax: + 49 39771 5494 11

Books

In EAZA News reviews are published of books that have relevance to zoo staff and other people with a professional interest in zoos. On the EAZA website (www.eaza.net) more information can be found on the books that have been reviewed as well as on the publishers.

The lynx

- YE. N. Matyushkin and M. A. Vaisfeld (2003)

The monograph 'The Lynx' is the unique work of a large group of specialists who have been studying lynx throughout the territory of the former USSR including the Baltic countries, and Mongolia. The book presents the latest data on the current status of the species throughout this range, on its ecology and conservation aspects. The text is in Russian with chapter summaries in English. All captions to the many figures and tables are also translated into English. The book has an extended list of references. Pages: 523. ISBN: 5-02-002789-8 (hb). Price: € 70.00. To be ordered from: IUCN/SSC Cat Specialist Group, c/o KORA, Thunstrasse 31, CH - 3074 Muri b. Bern, Switzerland

My Family Album, Thirty years of primate photography

- F. de Waal (2003)

Dutch primatologist Frans de Waal combines an insightful text culled from thirty years of field work with 122 arresting photographs. He offers personal explanations of the impressive diversity of behaviour among primate species and shows clearly that they have personality, emotion, intelligence and sophisticated relationships. Pages: 174. ISBN: 0-520-23615-7 (hb). Price: UK£19.95. To be ordered from: University Presses of California, Columbia, and Princeton, Ltd., 1 Oldlands Way, Bognor Regis, West Sussex PO22 9SA, United Kingdom

International Zoo Yearbook, Volume 38

- F. A. Finken and P. J. S. Olney (2003)

The central theme of this volume of the International Zoo Yearbook is 'Zoo challenges: past, present and future'. The 15 articles in section one address the changing role of zoos, concentrating on the fundamental responsibilities and problems facing modern zoological institutions. This section closes with an overview of the characteristics of a world-class zoo.



Section two comprises ten articles on diverse subjects and section three contains the list of Zoos and Aquariums of the World (updated to July 2002), a list of national and regional associations and a list of international studbooks, with data for 1998, 1999 and 2000. This book should be present in the library of each EAZA member zoo.

Pages: 406. ISSN: 0074-9664 (hb). Price: € 116.00. To be ordered from: The Zoological Society of London, Dept IZY, Regent's Park, London NW1 4 RY, United Kingdom

Ecology and conservation of small antelope, proceedings of an international symposium on duiker and dwarf antelope in Africa

- A. Plowman (ed.) (2003)

The family Bovidae contains several subfamilies and tribes of small and very small species of antelope. This volume, for the first time, brings together the result from studies on duikers and other small antelopes regarding ecology, conservation, feeding, systematics, captive breeding, and translocations from all parts of Africa. A concluding chapter tries to outline future research priorities and conservation needs. Pages: 262. ISBN: 3-930831-52-X (pb). Price: UK£35.50. To be ordered from: Filander Verlag, Bremer Strasse 21a, 90765 Fürth, Germany

Zoo Animal Nutrition, Tables and Guidelines

- W. L. Jansen and J. Nijboer (2003)

This pocket size booklet contains a wealth of information on zoo nutrition, with tables on energy requirements, recommended nutrient levels and foodstuff analysis. The booklet is particularly useful for those involved in design and evaluation of zoo diets. It can also be used in course work or similar educational activities. Rapid developments in zoo nutrition will make regular new editions necessary.

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The supply of high quality food has become a major topic since the recent food crises in Europe. Local and European rules and regulations on zoo foods are currently being reviewed.

The new legislation does not only affect us as suppliers, but are also extremely important to our customers: European Zoos, Bird Parks, Aquariums and Falconers.

For this reason we decided to unite our interests into one organisation, The European Zoo Food Group (EZFG).

Together we aim to set up programmes on the following topics:

- promotion and improvement of R&D on food products.
- quality assurance for the production and supply of zoo food, combination of logistic resources to reduce transportation costs, risk reduction,
- improving our position towards European Commissions,
- how to operate in Europe with open veterinarian borders.

The companies who started the organisation in 2001 are:

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MICHAEL HASSEL GmbH	- Germany
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This page highlights new features and additions on the EAZA website: www.eaza.net

Yellow Pages

An advertising area named the 'Yellow Pages' has been included in the EAZA website member area. This section provides a list of available, zoo-related companies, from construction companies to food suppliers. All EAZA member institutions are hereby invited to help complete this overview by informing us of companies that provide high quality products and good service and should thus be added to the Yellow Pages.

Companies that are recommended by EAZA member institutions will get a free advertisement. These companies can choose to expand their advertisement and pay a small amount for the inclusion of their logo, contact person(s) and/or a photo presentation. The companies will benefit from this unique opportunity to present their products directly to their main target group: 'zoos' and 'aquaria'.



If we all contribute, we will soon have a valuable reference list of high quality companies, and the opportunity to shop around. The Yellow Pages were launched in January 2004 when EAZA posted the first advertisement online. Soon other advertisements will be added. Hopefully you will send us some good recommendations!

News for members

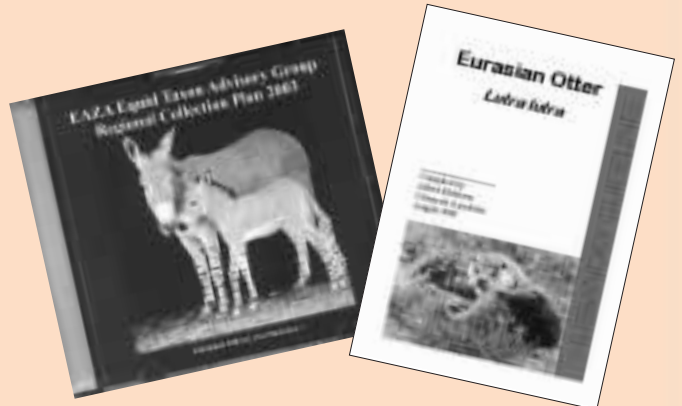
The EAZA website is a valuable medium to spread news and announce newly available products to EAZA members. To increase ways to communicate news with our membership, a news section 'News for members' was launched in the member area. This news section includes clear, short news flashes that are exclusively for EAZA members. If relevant, a link will be added to lead you to more information about the subject. 'News for members' can be reached from the first page when accessing the member area.

Logos

A request for logos was published on the back of EAZA News 44. In the mean time the EAZA Executive Office has started to include logos in the membership overview on the EAZA website. If you have not sent us your institution's logo yet, please do so now.

It is good to know that...

- ... more than fifty representatives of EAZA member institutions visit the EAZA website member area on a daily basis.
- ... currently 166 EAZA member institutions contribute actively to the Available and Wanted List Online.
- ... many Committees and TAGs have already submitted the minutes of the meetings they conducted at the 20th EAZA Annual Conference in Leipzig for online posting (these minutes can be found in the Committees and TAGs sections in the member area).
- ... the EAZA Committees' annual activity reports for 2001/2002 and 2002/2003 have been posted on the EAZA website member area.



- ... 25 Husbandry Guidelines are currently available through the EAZA website member area (latest additions: Madagascar tree boa, Owls, Ruffs and Redshanks, and Eurasian otter Husbandry Guidelines).
- ... 13 Regional Collection Plans are currently available through the EAZA website member area (latest additions: Amphibian and Reptile TAG, Marsupial and Monotreme TAG and Equid TAG).
- ... the EAZA Population Management Advisory Group launched its online section in the Committees section of the member area.

For more information, please contact jenny.van.leeuwen@nvdzoos.nl