

QUARTERLY PUBLICATION OF THE EUROPEAN ASSOCIATION OF ZOOS AND AQUARIA

ZOOQUARIA

WINTER 2010/11

ISSUE 72



Apes take shape

EAZA'S NEW APE CAMPAIGN IS NOW UP AND RUNNING

Meeting of minds

A REVIEW IN PICTURES OF EAZA'S ANNUAL CONFERENCE

Parrot planning

SPECIAL FOCUS ON MACAW BREEDING PROGRAMMES



American Dream

HANNOVER ZOO'S EXTRAORDINARY NEW YUKON EXHIBIT

Running wild

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BOURNEMOUTH DAILY ECHO

EAZA Ape Campaign – all systems go!



All across Europe staff at EAZA zoos are busily preparing to bring the EAZA Ape Campaign to life for their visitors, writes Eoghan O'Sullivan, Campaign Coordinator. The campaign was formally launched in Verona and since then around 80 zoos have already signed up, with three-quarters of those pledging to raise funds, whether €3,333, €6,666 or, in quite a few cases, €9,999, towards our target of €1 million for an EAZA Ape Conservation Fund. If you're wondering why we've focused on these strange totals, perhaps you should visit the campaign website to learn about The 3333 Challenge! (www.apcampaign.org)

If your zoo hasn't yet signed up, please do so as soon as possible. The campaign Infopack has been circulated to all members along with this issue of *Zooquaria*, containing a whole range of materials that will make it easy for you to arrange displays, activities and events to raise both awareness and funds. Signing up is simple: just complete the form on the website and submit a letter of institutional support. When you sign up you will receive the password to access the campaign resources straight away on the website.

If you have questions about any aspect of the campaign, please contact us on info@apcampaign.org.



Zooquaria

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From the Director's Chair

Another EAZA annual conference has come and gone and we would like to express our sincere thanks to Cesare Avesani Zaborra and all his staff for making us so welcome. Verona proved to be a beautiful location and was greatly appreciated by all. It was overwhelmingly perceived to be a good conference but we still have improvements to make. The article accompanying your photos of the zoo visit (page 12) sums up some of the key issues.

Our keynote speaker Dr Jeff Bonner of St Louis Zoo gave a thought-provoking opening speech, the text of which is available on the EAZA website. If you were unable to attend in Verona then please do take the time to read the speech in full. Also in Verona, Council unanimously agreed the new EAZA Conservation Education Strategy 2010-2012. This document is available in the Member Area of the website. As with all the strategic documents please do take the time to review it and consider how your own education work is complementing this overarching strategy, and also consider how your institution can help implement specific actions in the strategy.

The EAZA Ape Campaign was officially launched at the conference and at the time of going to press an impressive €285,000 had already been pledged by EAZA members. While this is encouraging if we are to reach our target of €1 million we need to redouble our efforts. The target is entirely achievable if we take the 3333 formula – we just need 300 institutions to pledge to reach this sum of €3333, a sum that should be achievable by all EAZA members. And remember that individuals can now also take the 3333 challenge, whether it's €33, €333 or the full €3,333. Can you engage your local schools and see if a class can work together to raise funds, or a local business? Across the whole of Europe this should be entirely possible and would be a fantastic achievement for the EAZA community.

At the Verona conference we were honoured to be able to present two Lifetime Achievement Awards to two stalwarts of the EAZA and global zoo community, Professor Gordon McGregor Reid and Dr Jo Gipps. We wish Gordon and Jo the best for their future activities – neither looks likely to entirely retire!

At the AGM in 2009 in Copenhagen you agreed to a 10% increase on the fees to enable EAZA to engage professionals in communications and lobbying in Brussels to achieve our number one strategic aim of improving our profile and thereafter influence at the EU. On October 1st EAZA signed a one year contract with Grayling in order to pursue this and you can read more about this exciting development in the news pages.

As many of you already know we said a sad farewell to Sietske Veenman, Assistant Manager for Membership and Communications, in November. Sietske had been at the EAZA Executive Office for nearly five years and is heading off to visit conservation projects worldwide and broaden her experience. She has been a fantastic colleague to all and will be greatly missed. Luckily in November we were also able to welcome a new colleague to pick up the reins from Sietske. Anouchka Jacquier, from Switzerland, had previously worked as an intern in the office over the summer, giving us the opportunity to get to know her and be assured that she will be a great addition to the team. In addition we were able to appoint a new EAZA Training Officer thanks to the generous donation from Fondation Segré (see *Zooquaria* 71). Myfanwy Griffith comes to EAZA with substantial experience in education and training having worked in further and adult education in the UK - and having a Dutch mother means her move to Amsterdam is also something of a homecoming for her. She also has previous experience of working with EAZA member zoos such as Chester and Flamingoland. We look forward to welcoming Myfanwy to the office in January and really getting the EAZA Academy up and running.

To end I would like to draw attention to a scientific paper that was published a few weeks ago by Hoffman et al in the journal *Science*. This highly collaborative piece (including our colleague Kristin Leus as one of the many authors) is the most comprehensive study of its kind to date. It identified in detail the current status of threat to the planet's species and found that one fifth of all vertebrate species are at risk. While this statistic is inherently gloomy Hoffman and colleagues also noted that this figure would be far worse, including declines of an additional 20%, were it not for conservation efforts already in place. This demonstrates that conservation action does work. But it also points to a clear need for governments to work together to further support and finance such initiatives to a far greater extent than is currently observed. It also noted that these species declines are at their most ferocious in Southeast Asia and it is therefore timely that the EAZA conservation campaign in 2011-2012, a joint EAZA and Species Survival Commission effort, as agreed by Council, will focus on this region.

Dr Lesley Dickie
Executive Director, EAZA

NOTICEBOARD



JO (LEFT) AND GORDON (RIGHT) WITH SIMON TONGE AND LESLEY DICKIE.

FRANCESCO FABRIS

TWO LIFETIMES OF ACHIEVEMENT

TWO OF THE SENIOR FIGURES in the European – and indeed global – zoo and aquarium community received Lifetime Achievement Awards at the EAZA Annual Conference in Verona, writes EAZA Chairman, Simon Tonge.

Dr Jo Gipps has retired as the Director of Bristol Zoo. Prior to joining Bristol in 2001 he had been the Director at London Zoo, steering it through difficult times in the 1990s. A former member of the Councils of both EAZA and WAZA, Jo will best be remembered for his tenure as Chair of EAZA's Conservation Committee when he initiated the conservation projects database that has now been taken up by WAZA as well. It is the prime record of field conservation activity by zoos worldwide. Jo was also a driving force behind the production of the World Zoo and Aquarium Conservation Strategy in 2005, the document against which all zoos now judge themselves.

Professor Gordon McGregor Reid has

stepped down from his position as Director General of the North of England Zoological Society, though he will continue to have an involvement with fish conservation and systematics, his academic field of interest. Gordon is the most recent Past President of WAZA and was also very recently a highly acclaimed President of the Linnean Society.

In addition to these prestigious international roles he also found time to chair the Freshwater Fish Specialist Group of the IUCN; found the EAZA Aquarium committee; chair EAZA's Research committee (and lead the production of its first research strategy); chair WAZA's Marketing committee; and he was one of the founders of the global Amphibian Ark. During his tenure as Director General Chester Zoo also became the leading UK zoo, in terms of visitor numbers at least!

The extraordinary achievements of these two friends and colleagues will be very much missed by the association.



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L.T. SHEARS



Dragon's den

Thanks to specially installed cameras, transmitting 24 hours a day at Prague Zoo, visitors have been able to see for themselves how the world's largest lizard eggs hatch. The project oversaw 20 eggs in all.

NOTICEBOARD

EZE CONFERENCE 2011: THE NEW STRATEGY

THE EUROPEAN ZOO EDUCATORS Conference will take place from 10 to 12 March 2011, hosted by Oceanogràfic in Valencia, Spain. This three-day event will start off with a day of presentations followed by workshops focusing on visitor studies, EAZA campaigns, sustainability and social education. The fee includes a visit to Oceanogràfic and a farewell dinner at the end of the conference. For more information on the programme and registration please visit www.eaza.net.

In addition to providing a forum for educators to meet and share ideas, the aim of the conference will be to take on the actions relating to the newly approved Conservation Education Strategy. This strategy, which is available from the Member Area of the EAZA website, was developed following the EZE Conference in Cologne in 2009 and will assist EAZA members to become more effective in their educational work. Zoos and aquariums are known to attract a far wider and more evenly distributed social spectrum than any other cultural institution, including museums or science centres. Knowing that EAZA institutions greet approximately 130-140 million visitors a year the potential role of EAZA in

delivering conservation education to European citizens is immense. The strategy provides a look at the future of education in EAZA members and will hopefully stimulate discussion of where we are going. The Action Plan accompanying the strategy provides member institutions with a guide to the key areas where EAZA as a whole should improve its education performance. In the longer term this strategy will assist in countering those external critics who claim that education in zoos and aquariums does not impact positively on species conservation.

The Conservation Education Strategy will assist the EAZA Education and Exhibit Design Committee in structuring their work in the coming years. However, as with all EAZA strategic plans it cannot be achieved by one committee alone, but rather needs the commitment of the whole community. We therefore urge all educators to attend the EZE Conference in 2011 and help bring this strategy to life.

NOTE: Following the EZE Conference a separate seminar on visitor studies (evaluating and enhancing educational impact) will be organised on 13 March. For more information please visit www.eaza.net.



DANIEL WONG

HUNTING FOR CONSERVATION AWARENESS

'IN THE END, we will conserve only what we love, we will love only what we understand, and we will understand only what we are taught'. The quotation above, by Baba Dioum, comes from a speech made in 1968 to the International Union for Conservation of Nature. This quotation however, is today part of our everyday lives at the zoo. Working at a zoo dedicated to conservation means that one major goal is to inform and teach our visitors about conservation.

In Parken Zoo, Sweden, we have found a unique way to get our visitors' attention. Generally, zoo visitors like action and active animals. We offer our visitors an opportunity to see animals in action and they get a personal experience of the animal and, hence, are more open to information about why this extraordinary animal is now in danger of extinction. This information will then, hopefully, lead to a better general understanding for conservation and



sustainability as well as motivation to donate money to conservation.

Our animals are hunting for conservation awareness. Hunting behaviour is a natural behaviour that is difficult to fulfil when the law does not allow feeding with live prey. This requires creative and innovative thinking. Different animals show different hunting techniques in the wild and so, they have

different needs in the zoo. For example, Pallas' cats hunt small size prey like rodents and birds in the wild primarily by ambush or stalking. In the zoo we give them the opportunity to hunt when a keeper actively 'plays' with them from outside the enclosure, using a fishing rod with a dead mouse or chick attached. The larger cats require more rustic methods; the fast running cheetahs have a hunting track similar to the ones used in greyhound racing while the tree-climbing expert Amur leopard is encouraged to hunt a piece of meat across the enclosure and up at tree by man-power from outside of the enclosure.

This arrangement has no losers. Animals get an opportunity to express natural behaviours; visitors get an unforgettable experience; and conservation awareness is improved.

Dr Jennie Westander, Head of Research, Parken Zoo, Sweden



RED FOR DANGER

THE FIRST RED PANDA PHVA (Population and Habitat Viability Assessment) workshop was held in Kathmandu at the beginning of September, thanks to the support of a number of EAZA red panda holders and WWF Germany, writes *Angela Glatston, Rotterdam Zoo*. It was attended by 60 experts from seven countries and focused on the situation of red pandas in Nepal. Although Nepal is at the western extreme of the red panda range and, as such, perhaps never held a large red panda population, the situation which emerged from this PHVA gives serious cause for concern.

The meeting determined that, in Nepal, there is a confirmed red panda population of around 300 animals which are divided into six discrete population complexes. There could be as many as 1,000 individuals if red pandas occupy all the areas of potential habitat identified in the meeting, although most of this potential habitat is not in protected areas.

As far as we know these population complexes are isolated from each other and are further subdivided into a total of 11 sub-populations, some smaller than 20 individuals, with little or no contact between them. The areas used by the sub-populations are fragmented due to agricultural practice which results in swathes of deforested areas.

The red pandas living in these complexes are confronted by a number of threats including habitat loss and degradation, poaching and weak law enforcement as well as infrastructure developments such as roads, hydroelectric schemes etc.

Vortex models used in the workshop show that the smallest sub-populations are likely to become extinct in the foreseeable future due to stochastic processes. Although slightly larger populations, 50 pandas, could potentially survive, they cannot tolerate any external pressures. This means that even low levels of poaching, one female every two years, would still mean extinction in a short period. Finally, even the largest sub-populations, 150 pandas, cannot survive this level of poaching if it is combined with low level habitat loss (1% pa). It must be remembered that these vortex models did not include a genetic component; genetic viability would require even larger population units.

The situation is not all doom and gloom; the meeting came up with a number of actions which can be taken to improve the situation of the red panda in Nepal and it is hoped that these will also gain support from EAZA institutions. Furthermore two more PHVAs are planned to cover the rest of the red pandas range.

NAVIGATING THE WATERS OF THE EU

grayling

IN THE 2009-2012 EAZA STRATEGY, writes *Lesley Dickie, Executive Director*, it was identified that the number one strategic aim of the association is to increase EAZA influence within the EU. It's a short sentence, but it describes a very large task for the small number of staff employed at the EEO. While we have been making good progress in communicating with the EU and EC, ably supported by the Legislation and Veterinary committees, it was apparent that more hands were needed on deck and that in particular a presence in Brussels would be beneficial. To gain even more benefit more professional expertise was required. Following the approval of the AGM in 2009 to raise the membership fee to accommodate hiring professional advice in this area, EAZA signed a contract with Grayling on 1 October.

Grayling is the second largest independent global public relations, public affairs, investor relations and events consultancy in the world. They have 70 offices in 40 locations in Western and Eastern Europe, Eurasia, the US, the Middle East and Asia Pacific with a strong network of preferred partners in other parts of the world.

So what will Grayling do for EAZA? They will help us with many aspects of furthering our strategic aim; they will act as a form of surveillance service or political intelligence in

making sure we are aware of upcoming legislation that could have an effect on the smooth operating of modern zoos and aquariums; in addition they will let us know about conservation or environmental legislation that EAZA could positively influence (such as the recent food labelling legislation EAZA acted upon with MEP Nessa Childers); they will help us identify who our key contacts should be (at the parliament, the commission and among EU media); they will make sure that our messages are communicated in the best way; and they will also help us better understand the mechanisms of the EU/EC so we can be as effective as possible.

There are many competing interest groups at the EU, some of which are indifferent to the positive role of zoos and aquariums in European society and some of which are positively hostile to our aims. From recent experience some of the more hostile organisations use unscrupulous means to further their own aims, something which we must counteract. EAZA wishes to engage with the EU in a straightforward, progressive, helpful and positive manner and we believe Grayling will be able to help us do so in the best possible way. Further updates on our activities will be communicated over the next year.



Treating the turtles

A GERMAN AQUARIUM HAS BECOME EXPERT IN THE HUSBANDRY OF SEA TURTLES

Dr Nicole Kube, Aquarium Curator, German Oceanographic Museum

Since 1970 there have been more than 30 sea turtles housed at Stralsund's German Oceanographic Museum, representing between them three different species. Over the years, the animals have arrived in a number of ways: some were confiscated by customs, others exchanged with other zoos and aquariums, and a few were gifts from the fishery ministry of Cuba in former German Democratic Republic times.

The turtles are the museum's main attractions and figureheads. Five individuals across three species are currently living in the big new turtle tank of 350,000 litres, built in 2004: two loggerheads (*Caretta caretta*, 1.1), two green turtles (*Chelonia mydas*; 0.2) and one hawksbill (*Eretmochelys imbricata*, 0.1). Here they live together with different fish species and two blacktip reef sharks. Visitors can watch the animals on two different levels, as the tank also has a land-based section, including sand beach, lagoon and artificial plants.

The window must be cleaned by divers once a month, which is an exciting experience for both visitors and divers, because the turtles are real characters! The female loggerhead (45 years, 100kg) is the boss among the turtles and the one the divers are most afraid of. She has a massive head and

The German Oceanographic Museum* is located in Stralsund, a small town on the Baltic Sea, close to the Polish border. It is housed in the medieval monastery St. Katharinen, which was completed in 1317. Since its foundation in 1951 the Museum has been famous for its combination of gothic architecture, marine exhibits and aquariums. Today four sites belong to the museum-foundation: Meeresmuseum, Ozeaneum, Natureum and Nautineum, attracting about 1.2 million visitors per year.

beak and loves anything yellow, so she might bite into their fins and wet suit, which can be painful. To avoid this, the keepers have made a toy for her – a stick with a yellow ball at the end. She loves to bite into the ball, and the keeper can use it to keep her at a safe distance. The green turtles (27 and 25 years, 120kg and 89kg) on the other hand are very tame and enjoy it when the diver brushes their backs. One in particular needs to be petted all the time and is sad when she is ignored.

The turtles are fed three times a week. Each turtle has her own feeding place and we need five keepers to avoid fights breaking out. The turtles get a mixture of squid, fish and dietary supplements according to their weight

and nutritional state. The green turtles and the hawksbill (22 years, 69kg) also feed on green salad – although the loggerheads don't like salad at all! Our husbandry experience also tells us that you can't put them together with any bottom-living animal; they need places to scratch their back themselves (very important for their health) and each turtle has its favourite place to sleep.

When we included the loggerhead male (41 years, 65kg) in 2006 for 10 days, we saw mating behaviour. Since then our female loggerhead has developed eggs every year and she has also been out at the beach and digging – a ramp a little over a metre suffices for her. Unfortunately we have never found any eggs in the sand, probably due to wrong temperature profiles in the beach. After more than two years we successfully united the male permanently with the four females, which was not easy, but the relationship has been working now for almost two years.

We have gained significant experience and knowledge about turtle husbandry and medical treatment over the years. Dieter Goebel, a specialised veterinarian in marine turtles, has been in charge of the museum's veterinary surveys. Once a year we do a routine turtle check up – a special day for the whole aquarium team: the turtles are caught by divers, wrapped by keepers and moved by crane runway to the surgery room next door, where the runway comes to an end on top of a liftable surgery table. The standard veterinary procedure is: bacterial samples of different parts of the body, size and weight determination, sonography, removal of old plates of the carapax, which the turtles couldn't get rid of themselves and embrocations to protect the carapax.

In 2009 we also received two sick turtles, one from a partner aquarium and one animal confiscated by authorities. We managed to bring them both back to full health, with one now back in his home aquarium and the other in a partner aquarium on the west coast of Germany.

For further details on our turtles or to enquire about collaboration, don't hesitate to get in contact with me at nicole.kube@meeresmuseum.de.

*Note: the German Oceanographic Museum is not an EAZA member.

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ANIMALS ARE A ZOO'S MAIN CAPITAL. BUT HOW DO WE HANDLE THIS CAPITAL? AND WHAT IS THE TRUE VALUE OF OUR ANIMALS? FOR SOME OF THE ANSWERS WE MUST LOOK TO THE TREE-TOPS

Achim Johann, Director of NaturZoo Rheine, Germany

What makes a zoo a zoo? The answer is as simple as it is obvious: the animals! We keep them for recreation, education, conservation and research. This is what we say and what we aim to achieve when we keep animals in a zoo. Or, to put it the other way around: if we want to fulfil these roles then we need animals.

Running a zoo costs money; money that comes from retail, catering and events, donations and sponsors, and perhaps subsidies. But the most important source of income for most zoos is the entrance fee. Therefore it's important to ask why do people visit a zoo? People come primarily to see living animals, to encounter them, to learn about them. Or at least they should do so: if they come primarily for dining, for concerts or other events, then we are doing something wrong.

In recent years zoos have invested

tremendously in the presentation and husbandry of the most charismatic flagship species. Millions of euro and huge budgets for running costs, including staff, are provided for keeping elephants, great apes, big cats, big bears, and... themes. In zoos nowadays we find savannahs, highlands, marshes, oceans, coasts, rainforests and deserts. We no longer have enclosures but 'lands' and 'habitats'; instead of houses we have 'kingdoms' and 'worlds'. And within these worlds of concrete, plastic, glass, wire, water, soil and plants, live animals.

It may be that exotic names like Sambesi, Kiwara, Rio Negro, Rimba and Boulder Beach lend themselves more easily to marketing messages and capture the zeitgeist better than antelopes, zebra, river dolphins, tigers and penguins. But when people call for information do they ask if your zoo has

a 'Makasi Simba' or a 'Polar Bay'? No, they want to know if they will see lions or polar bears.

Without doubt eco-displays have a role to play in zoos. They are self-contained, they fulfil an educational role, and they provide special, maybe unique experiences. But both the eco-displays and the imaginatively named lookalikes are animated by the live animals. The perfectly designed scenes and exotic names are meaningless without the animals.

Animal management in eco-displays and in mixed species enclosures is a huge challenge. However, whereas the 'flagship species' normally get the attention they need and deserve, the conveying ships, the accessories, are standing somewhat in the shadow. Imagine a tropical greenhouse in a zoo without lively little birds flitting around, without the sound of birdsong,

without the stunning colours of plumage. What is this display then worth? At least: less! Much less, I would say.

Birds contribute so much to the atmosphere in a zoo. Although visitors would rarely mention a bird species – except penguins – as a top attraction, they would miss them so much if they were not there. Birds are an essential part of our eco-displays, landscapes, tropical houses and indoor rainforests. Do we care enough to supply ourselves with these essentials, to work towards self-sustaining populations to make our expensively created habitats, our top attractions, viable?

While the import of gorillas from the wild stopped in the 1970s, it is only relatively recently that filling our aviaries with wild-caught birds has become much more difficult. The import ban as a consequence of avian flu left us alone with what we had and what we achieved so far in aviculture propagation. Since then bird curators and the EAZA Population Management Advisory Group (EPMAG) have tried hard to lobby for birds. Nevertheless I feel that the call for cooperation, coordination and concerted action hasn't been heard by decision-makers everywhere.

Maybe you think that the loss of gorillas for zoos is a more dramatic one than the loss of weaver-birds or pittas? But imagine again your 'Asian Jungle' without chirping white-eyes and the colourful pittas shooing through the scrub. And an aviary full with a flock of fluttering and noisy weaver-birds will very likely attract as much attention as silently grazing zebras in the adjacent savannah.

If you want to exhibit birds in your zoo, they must get the same attention as any mammal species, regardless of whether they have a high conservation priority or are primarily contributing to an 'atmosphere'. To increase the capital, ie the birds, we must invest in the future. Off-exhibit space is essential for breeding to support or even restock



populations in exhibits. Breeding birds is labour-intensive: you must calculate extra staff and assure the quality of the staff. You don't get the chicks for free.

But you can get monkeys for nothing!

Our RCPs (Regional Collection Plans) serve as a shortlist when you compose your animal collections. The TAGs are very thorough in compiling the RCPs, considering sustainability and prospects for zoo-kept species based on the requests of the zoos, conservation and educational values, husbandry issues and population management theories.

RCPs get sometimes criticised as being too restrictive and reducing the diversity of animal collections. The contrary is the goal. The Prosimian TAG's RCP lists no fewer than 21 recommended species managed in EEPs or ESBs. If a zoo were to keep all these recommended taxa this zoo would exhibit the largest collection of prosimians in a zoo worldwide and also ever kept at one place.

You can get what you want. But you should define what you want and why you want it. TAGs and RCPs – from zoos and for zoos – are at your service. The Prosimian TAG recommends the greater bamboo lemur (*Prolemur simus*). This lovely – but not really glamorous – lemur is listed as Critically Endangered on the IUCN Red List with fewer than 350 animals left in the wild in Madagascar and 10 pairs in European zoos. There is an EEP doing tremendous work towards increasing the *ex situ* population and creating effective links to *in situ* conservation

actions. Of course, this species is listed in our RCP because of its top conservation priority. *Ex situ* breeding is even recommended by the IUCN Madagascar Action Plan.

A different example from the RCP is the ring-tailed lemur (*Lemur catta*), a perfect charismatic flagship species, with some 1,300 in EAZA zoos and another 700 in non-EAZA zoos in Europe. Although there are around 600,000 of them in the wild, the problem of habitat loss means an IUCN Red List status of Near Threatened.

If we have so many of these ring-tails why do they need such careful management? It's true that the EAZA community has reached the carrying capacity for these animals, with many more 'available' than 'wanted' on the AW-list. But if individual zoos decide now in an uncoordinated way to stop breeding or to swap towards single sex groups the population development might reverse, leading to an insufficient number of animals to meet demand within a few years.

Managing such a programme – currently an ESB – is a lot of work. But it is essential work for our community. You can get ring-tailed lemurs – an attractive species, a money-maker and fund-raiser - for nothing, as a donation, on loan or free of charge from a zoo. But you should, you must, invest in the background work of population management. Provide time and budgets for staff to work actively for breeding programmes, as studbook keepers, in TAGs, as advisors. Each TAG is looking for volunteers to take over some of the numerous tasks in order to propagate our animal collections for the benefit of the zoo community.

Our animals are our capital and we are the bankers. In times of economic difficulty, of huge competition in the leisure business, of visitor numbers as the crucial benchmarks, we should not forget the core of our ambitions, of our profession, and of our business - namely the animals.

Bravo, Bravo

EAZA'S ANNUAL CONFERENCE IN PICTURES

Eoghan O'Sullivan, Communications and Membership Manager, EAZA



MAIN IMAGE: LIONS AT DUSK BY RUI BERNARDINO
INSET, LEFT TO RIGHT: IGUANAS BY NORIN CHAI; VERVET MONKEYS BY MIRANDA STEVENSON; PARCO NATURA VIVA DIRECTOR, CESARE AVESANI ZABORRA, WITH HIS DAUGHTER, BY ACHIM JOHANN; BACTRIAN CAMEL BY NORIN CHAI.
OPPOSITE: YELLOW MONGOOSE BY SIMON TONGE

Bravissimo!

With a global economic crisis and a difficult season for many EAZA members we expected a significant fall in the number of people attending this year's Annual Conference. We were very pleased, therefore, to have a final total of 608 registered delegates in Verona, which was just 25 fewer than in Copenhagen last year. We were even more pleased that the event ran smoothly with lots of positive feedback about both the practical arrangements and the meetings. For this we must express our thanks and appreciation to the whole team at Parco Natura Viva, and in particular to Director Cesare Avesani Zaborra (pictured above left with his daughter) and Marketing Director Maria Ordinario. Furthermore the professional and responsive support

from the staff at COGEST M&C was greatly appreciated by those of us preparing for the conference in the EAZA Executive Office. Bravo to all of our Italian colleagues!

The photographs on these pages were taken by various delegates on our Thursday afternoon visit to Parco Natura Viva. Following a tour of the safari section of the park by bus, delegates were free to wander through the extensive grounds and view some of the exciting developments Cesare has overseen in recent years. The driving part of the zoo is being gradually reduced, with the new *Sentieri Africani* walkway offering wonderful views of hippos and rhinos sharing an enclosure, with cheetahs visible in the background. The zoo's lemurs also have a new home

in the Malagasy village that highlights Parco Natura Viva's work in Madagascar managing the Maromizha research station. Following their wander around the zoo, delegates gradually made their way back to the restaurant where food, drinks, music and dancing were in copious supply for the rest of the evening.

Of course it wasn't all fun and games (although both the Icebreaker and Farewell Dinner also saw delegates in good spirits and enjoying the local hospitality). The conference programme was busier than ever, with seven parallel meetings and workshops taking place most of the time. The EEO and the TAG chairs made a particular effort to address concerns raised last year about time-keeping and the structure



of meetings. The results of our post-conference survey make clear that these efforts were appreciated and noticed. Many delegates still expressed a wish for more time to be spent discussing key husbandry and conservation issues and less time on reading of lists that could be exchanged electronically. Nonetheless, there was certainly a workmanlike atmosphere throughout the conference and a feeling that real progress was made in many areas. Thanks to the meeting chairs for their support.

Dr Jeffrey Bonner's opening keynote address provoked plenty of discussion; not everyone agreed with what he had to say, but his talk brought the opening session of the conference to life in the way a keynote address should. (You can find the complete text of the talk in the Conference Proceedings library on the website.) The plenary address by Luigi Boitani was highly rated, as were the sessions dedicated to Research and Education. Improvements are always possible: we will try to ensure all speakers have enough time next year, and the outgoing and incoming campaign

working groups will, as ever, have a challenge to present their work in an engaging way.

The exhibition is an important part of the Annual Conference, both for the welcome income it brings in for the association and to help members learn about new products and potential suppliers. In recent years we've tried to integrate the exhibition more closely into the event in general. We had fourteen exhibitors this year, mostly drawn from our Corporate Members. Unfortunately the layout of the exhibition area was not as good as it could have been, resulting in some booths having less 'traffic'. This is something we will also try to address next year.

It isn't easy to find suitable locations to host a conference of this kind for more than 600 delegates. The congress centre in Verona was ideal in most ways, with plenty of good meeting rooms and top quality audiovisual provision.

Many delegates were unhappy about being 'underground' for the four days of the conference, but this, unfortunately, was beyond our control. Happily, next year's event in Montpellier, and the subsequent ones in Innsbruck and Edinburgh, will be in conference centres located above ground – and they will all be accessible by foot.

It's a well-worn cliché that you can't please all the people all the time. This year I believe we managed to please most of the people most of the time, and that's not a bad place to be. There's always room for improvement. One of the best aspects of the EAZA Annual Conference is that it takes us to a new city each year, but this also means new organisational challenges. Therefore we again say *grazie mille* to our hosts for ably meeting the challenges this year. And thanks to all 608 delegates for generously and enthusiastically supporting the conference.

Et maintenant, à Montpellier!



DELEGATES NETWORKING
AT THE ENTRANCE TO PARCO
NATURA VIVA BY CONSTANZE
MELICHAREK; DINOSAUR
MODEL BY RUI BERNARDINO.



CLOCKWISE FROM TOP LEFT: ENTRANCE TO SENTIERI AFRICANI BY RUI BERNARDINO; BLACK STORK BY NADIMIR MASLOV; DINOSAUR-SPOTTING BY CONSTANZE MELICHAREK; SLENDER-TAILED MEERKAT BY FLORENCE PERROUX; PHOTOGRAPHING THE PHOTOGRAPHERS, ABOVE AND BELOW BY ADRIE VAN ZANTEN; CATERINA SPIEZIO, PNV RESEARCH DEPARTMENT, BY ACHIM JOHANN; HIPPOS BY MIRANDA STEVENSON.





Military precision

THE MEXICAN MILITARY MACAW HAS SHOWN STEADY GROWTH OVER THE LAST 15 YEARS. NOW IS THE TIME TO INCREASE THE LONG-TERM POTENTIAL OF THIS POPULATION BY FOCUSING ON THEIR GENETIC MANAGEMENT

Peter Galbusera, conservation biologist, and Steven Vansteenkiste, bird curator, Royal Zoological Society of Antwerp

The military macaw (*Ara militaris*), is Vulnerable because levels of habitat loss and capture for the bird trade (CITES Appendix I) indicate that there is a continuing rapid population decline. Currently about 10,000 birds live in a fragmented range from Mexico to Bolivia.

In March 1987, 49 military macaws were confiscated after being illegally shipped into the Netherlands from Mexico. They were placed under the custody of Rotterdam Zoo, from where they were dispersed across other European zoos, (eg 12 to Antwerp Zoo). Unfortunately, 29 of these (presumably) wild-caught birds have since died, or are unavailable for various other reasons. Currently, the genetic basis consists of 19 founders (including three from Puebla) and four potential founders. The goal of this captive population (managed as an ESB since 1995) is keeping a backup

population which will retain 90% of the genetic diversity over the next 100 years.

After an initial period of about 10 years of relative stability, the population started its climb toward the current size of about 140 birds. Since 1996 numbers of captive births overtook imports and we've thus seen an overall increase in numbers. An ever increasing number of zoos (currently 37) are holding this beautiful species. Furthermore, there is a Mexican captive population, probably of similar size.

A quick population assessment earlier this year by EPMAG (EAZA Population Management Advisory Group) confirmed that the European population is big enough to be out of the immediate danger zone in which random demographic events threaten small populations. Contrary to the demographical health of the

population, the genetic health now needs to be focused upon. Although none of the offspring is inbred and 95% of the genetic diversity is currently retained, the future looks less bright. Simulations in PMx show that only about 80% of the genetic diversity will be retained over 100 years, even if the population is allowed to grow to 200 individuals. However, the goal (90% genetic diversity) can be reached if we can add one founder every five years. Hence, underrepresented founders (including the four potential founders which haven't bred yet!) should be given every opportunity to breed. This might imply the re-pairing of birds because the current partner is overrepresented in the population (high mean kinship). Furthermore, given that space is limited, breeding needs to be restricted to underrepresented individuals only.

To further increase the genetic basis of the population, the genetic analyses of presumed subspecies (and their hybrids) might make it possible to safely include additional founders with Mexican roots. These might already be present in captivity in Europe and elsewhere.

The assessment also indicated the lack of known pedigree for about 12% of the population. This is mainly due to three individuals arriving from Puebla, Mexico, which were 'introduced' into the population in 1999. It is a fairly safe assumption that these birds are unrelated to those confiscated in 1987. By treating these birds as being wild-caught in an analytical studbook, we can increase the level of known pedigree up to 99%. It is worth mentioning here that these 'Puebla birds' breed earlier in the year compared to the rest of the ESB population. This is possibly linked to the temperatures at Zlin Lesna where these founders are housed indoors. Alternatively, this could be due to genetic differences between founder lines or subspecies, as time of breeding is correlated with latitude. This will be further investigated with genetic markers.

Finally, in order to facilitate the genetic research, we are looking for reference material of birds with known origin in Venezuela, Columbia, Ecuador, Peru or Bolivia. If you think you can help with this search, please contact peter.galbusera@kmda.org.



Yukon Bay: the great adventure

HANNOVER ZOO HAS OPENED ITS SEVENTH THEME WORLD

Klaus-Michael Machens, Director of Hannover Adventure Zoo, Germany

On 22 May 2010 Hannover Adventure Zoo opened its Canadian adventure landscape Yukon Bay – to complete its concept of the ‘zoo of the future’. The 22,000m² of Yukon Bay provide a new home for over 100 animals of 15 species, including polar bears, prairie dogs, snowy owls, wood bison, northern fur seals and grey seals.

Costing around €35 million, the project took 30 months to build: all in all, 1,200 tonnes of steel in the harbour basin and ship, 13,000m²

of cliffs modelled by hand, 18,000 trees and shrubs, 200 tonnes of stone, timber houses and the salt water wave pool in the harbour basin have been used to create an authentic Canadian landscape in the middle of Hannover.

Yukon Bay meets both cutting-edge zoological standards and the needs of visitors for entertainment, relaxation and exceptional animal encounters. Play and educational facilities for children, food and drink, shops and toilets are blended into the overall Canadian concept so that visitors can





easily get the impression of the true Yukon.

WOLVES, BISON AND CARIBOU

An old mine gallery leads to the Yukon Bay adventure world. The gallery emerges into a taiga landscape where caribou and bison graze, watched by a wolf pack from their gully. The path leads on past the wolves through a caved-in gold mine where only a pane of glass separates visitors and animals.

On the way to the little town are old excavations with new residents: prairie dogs have moved into the diggings and are burrowing their holes and tunnels in the loose earth.

Down at the harbour basin the freighter Yukon Queen lies slightly askew. In the world's northernmost penguin zoo, the enclosure for 36

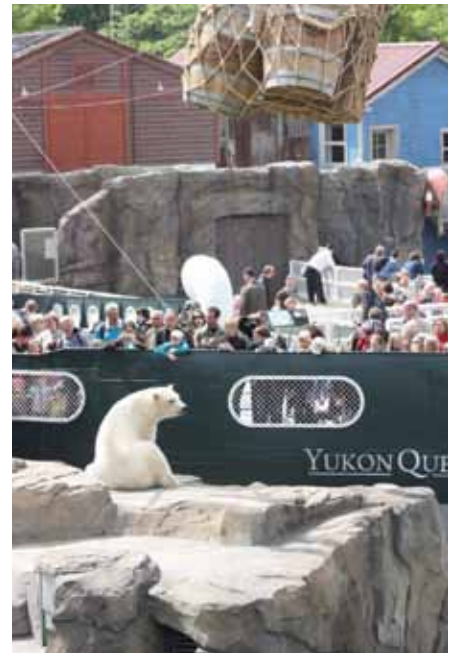
black-footed penguins is on deck and in the freight hold of the ship which has run aground. Because Canada is not penguins' natural habitat, the zoo created an ingenious tale to explain their presence. The story has it that when the ship ran aground in the harbour, its captain literally dropped anchor in Yukon Bay - and left his last shipment there too: the penguins.



In the harbour, northern fur seals and grey seals play in the waves and bask on the rocks near the fishermen's houses, waiting to perform in the daily seal show in the picturesque harbour. Down in the bay, polar bears come so close to the town that you can almost feel their fur. The bear enclosure offers rocks for them to rest and scratch themselves on, loose sandy beaches to dig in, high trees and cliff overhangs for shade – and the sea with real waves to exercise and play in.

UNDERWATER PANORAMA

One of Yukon Bay's greatest attractions is the underwater world. Panoramic windows in the ship's hull open up views of the world of the seagoing animals. In the shimmering green-blue water, polar bears dive just behind the glass, while penguins take to underwater flight. Fur seals and sea lions glide past, pausing to look people in the eye, as curious as the visitors themselves. The ship acts as an enclosure and visitor platform at the same time, but in terms of planning, it presented a major challenge. Around 950 tonnes of steel were used in the authentic reconstruction of an old cargo ship, which is tilted in two directions. Because of the water pressure and the waves, panes of glass up to 10cm thick were used for the windows. A sprinkler system cleans saltwater from the glass to keep



visitors' views unobscured.

While planning the enclosure, the architects worked closely with the zoo's team of experts. To engage the animals, complex terrain models with different natural soil finishes, vantage points and places for them to retreat were included. A diverse range of flora, water to look like a stream, a pond or bay, waves in the saltwater basin, heated surfaces and food stashed in hidden places, appeal to animals and visitors alike.

INVEST IN PEOPLE AND ANIMALS

From 1994 to the completion of Yukon Bay, total investment will amount to over €111 million. Loans of €50.4 million have been taken out by the Zoo, and by 2009 €21.9 million had already been paid off. Income from admission tickets, souvenir shops, catering and services is a crucial source for refinancing these investments. It is also much-needed, because the annual subsidies from the Hannover Region are not enough to

cover the financing costs.

Moreover, the Zoo plays a significant role in the region's economy. During the summer season (March to the end of October), the Zoo has up to 450 employees. Zoo Hannover Service GmbH, founded in 1997 as a wholly owned subsidiary of Zoo Hannover GmbH, is responsible for catering, events and merchandise, with themed shops, cafés and restaurants integrated in the theme worlds.



First projects picked for the Ape Campaign

THE SELECTION PROCESS IS COMPLETE, AND FOUR KEY PROJECTS HAVE NOW BEEN IDENTIFIED TO HEADLINE EAZA'S CURRENT VITAL CAMPAIGN

Vicky Melfi, EAZA Ape Campaign committee member, Paignton Zoo, UK

The EAZA Ape Campaign focuses on five apes (chimpanzees, bonobos, orangutans, gorillas and gibbons) and three threats to their future survival (habitat loss, hunting and trade, ape health). By pre-selecting projects to receive funding from the campaign we intended to provide case studies giving tangible and specific examples of the types of mitigation activity that can be undertaken to address these specific threats. To this end, invitations for applications to be one of these case studies (or pre-selected projects) were circulated via the EAZA network.

Professor Simon Bearder, founder of the Primate Conservation MSc at Oxford Brookes University, joined Tom de Jongh and I, as chairs of the relevant EAZA TAGs, in reviewing the applications. Criteria-based scores and comments were presented to the campaign committee for final discussion and selection. Our selection criteria were modelled on various other schemes, including those used

in previous campaigns, and borrowed heavily from CBSG field project prioritisation guidelines.

We aimed to select case studies which would:

- make a significant contribution to saving apes
- consider local people and the environment at large
- provide a means of measuring their efficacy
- represent good value for money.

It was also important for the purposes of the campaign that the projects covered the different apes and campaign issues. This process resulted in the selection of four projects, all of which represent amazing ape conservation work.

AWELY GREEN CAPS

Saving bonobos in the Democratic Republic of Congo

Bonobo populations have crashed in the last three decades, principally as a result of hunting. Bushmeat feeds local

families, but is also sold at provincial markets and sometimes even further afield. Hunting is a threat to many species, but the impact on ape species with their protracted life history strategies, ie delayed maturation and long inter-birth intervals, is devastating. This project aims to conserve a population of bonobos living in the dense forest of Ikela and Lofale, in Congo; unfortunately these animals live in 'unprotected' forest, and so the likely occurrence of hunting is high.

The Awely Green Caps is a local initiative. Coordinators (the Green Caps) work closely with hunters, bushmeat sellers and local authorities, and visit the vulnerable remote villages. They work with these communities, providing education and also alternative livelihood strategies. Previously, this project has concentrated on improving the animal agricultural system and supported micro-economic developments, to provide a better alternative to bushmeat hunting. With money from the EAZA Ape Campaign this vital work can continue: a vet from a European zoo will visit the area to provide much needed knowledge to enhance animal agriculture and to train a local agronomist about livestock husbandry. The local agronomist will in turn train other local Green Caps and local farmers. Necessary equipment will also be purchased to enable a vaccination clinic to be set up to improve livestock productivity. These activities will hopefully reduce the reliance local people have on bushmeat.



GREEN CAPS AT BUSHMEAT MARKET



DONALD MBOHLI

DJA BIOSPHERE RESERVE Helping gorillas and chimpanzees in Cameroon

The Dja is the river which envelops this biodiversity-rich area in Cameroon. The two apes which live here are the western lowland gorilla and the central chimpanzee. These apes are vulnerable because of habitat loss and hunting; to this the project has taken an extremely holistic approach.

This project is still in its infancy, but there are plans to ensure a variety of projects are undertaken, including scientific research, hunting management, development of alternative incomes and conservation education.

With support from the EAZA Ape Campaign this project aims to reduce the impact of bushmeat hunting, which is a substantial problem in this area for the apes and other species. Bushmeat intake census surveys and tracking will be one of the activities funded, alongside the other anti-poaching measures.

FFI Cao Vit Gibbon Conservation Project in Vietnam and China

Thought extinct until they were rediscovered in 2002, Cao Vit gibbons (*Nomascus nasutus*) are Critically Endangered. They only number 110 individuals, found in 17 groups during a 2007 census. As such, Cao Vit gibbons represent the second most endangered ape after the Hainan gibbon (*Nomascus hainanus*), which numbers fewer than 20 individuals.

The primary threat to Cao Vit gibbons is habitat loss, which has resulted from and is continually compounded by collection of wood for fuel, grazing of livestock, logging for local use and agriculture. This project has worked with local communities to reduce their impact on the environment, and thus the gibbons. Community patrols, education and the removal of goats (which cause a lot of damage through over-grazing) have all been previously implemented. Money raised during the EAZA Ape Campaign will be used to conserve

these gibbons and their habitat in three key ways:

- i) strengthening international transboundary cooperation, which is essential for this species which ranges between two countries which are differently active in conservation;
- ii) supporting community initiatives which harmonise with gibbons and the environment, through the creation of local farmer and stakeholder groups and providing small grants;
- iii) increasing our knowledge about these elusive animals, including much-needed census studies. Ecological surveys will also be initiated, to gain a greater understanding of how climate change may impact the future of this species. During the winter Cao Vit gibbons eat from a few tree species, which do not appear to be faring well in the changing climate.

KOCP Orangutan Conservation Project in Sabah, Malaysia

This region is home to about 11,000 north eastern Bornean orangutans



(*Pongo pygmaeus morio*) which, compared to the Cao-Vit gibbons, certainly seems very healthy; but unfortunately this species is still not safe. Recent surveys undertaken by HUTAN (a partner of this project) established that 65% of this population is living in unprotected habitat, which is exploited for logging and intensive agriculture. Habitat loss has fragmented this population reducing its long-term viability and increasing the risk of inbreeding and extirpation. More recently, there have also been increased conflicts between humans and the orangutans.

The Kinabatangan Orangutan Conservation Programme is probably the most established of the projects selected by the EAZA Ape Campaign, and as such the activities which have previously taken place are numerous. A broad but community-based approach has been adopted to better understand the people's needs and try to come up with compatible activities which will safeguard orangutans and also enable the livelihood of the people.

To this end, the project has had a significant impact on improving the wealth of communities and the survival of orangutans, through

ABOVE: FIELD WORK AT KINABANTANGAN BELOW: ALTERNATIVE FUEL-EFFICIENT COOKING STOVE, FFI



ecotourism, sensitive agriculture, environmental education and good quality scientific studies. With money raised through the Ape Campaign, this project hopes to further conserve

orangutans by reconnecting population fragments and protecting more land, through land purchase, reforestation, and corridor creation between national parks and other areas.



FIND OUT MORE

For further information on these projects, or indeed any aspect of the Ape Campaign, please visit www.apecampaign.org, or email info@apcampaign.org. The artwork for an information panel based on these projects is available on the Campaign Infopack DVD.

Flying high

A BULGARIAN PROJECT, SUPPORTED BY A RANGE OF EUROPEAN ZOOS, COULD LEAD TO THE RENEWAL OF VULTURE POPULATIONS IN THE BALKANS

Iñigo Sánchez, Eurasian griffon vulture ESB studbook keeper, Jerez Zoo, Spain

The date of 27 October 2010 was a red-letter day in the annals of vulture conservation, when a total of 26 griffon vultures imported from Spain were released from four adaptation aviaries in designated vulture reintroduction areas in Bulgaria.

The story began several years ago when Jerez Zoo sent a young griffon vulture to a Bulgarian conservation group called Green Balkans. The group asked the zoo for further vultures in the following years, but we were advised by the Vulture Conservation Foundation (VCF) that they were working on a regional plan for various vultures in the Balkans, with the long-term aim of reintroduction. We duly held back until two years ago, when the VCF were ready for more vultures and we sent them a chick that had been born here.

It was clear that the VCF was building up to something special, and I could see that their work could provide an excellent destination for vultures born in EAZA zoos, so I, as European studbook keeper, recommended them to other zoos. The initial problem, however, was that there were fewer chicks being born under the ESB in EAZA zoos than were needed for the reintroduction project. I made the suggestion that injured vultures that had been brought into rehabilitation centres be

rerouted to some of the EAZA zoos so that their healthy young could then become part of the reintroduction programme. Consequently, this year alone, at least half a dozen chicks have been made available for reintroduction.

The project is actually a first stage in an even bigger plan. If the griffon vulture release is successful, it will prepare the way for bearded and black vulture reintroduction down the line, with the long-term plan of establishing sustainable populations of all three vulture species on the Balkan Peninsula.

The programme will run side by side with an education plan, aimed at creating positive attitudes to vultures through the promotion of ecotourism and nature-friendly agriculture. On a European scale, the project will allow for long-term expert exchange of know-how and information on vulture species among experts across the continent, increasing capacity for early identification of species-threatening diseases or habitat change.

And after many years of decline for vulture species across Europe and Asia, this is a goal most definitely worth working towards.





Twists and turns

WHEN LEIPZIG ZOO CAME TO REVIEW ITS COLLECTION OF VENOMOUS REPTILES, IT SOON DISCOVERED THAT THE IMPLEMENTATION OF AN INSTITUTIONAL COLLECTION PLAN CAN BE JUST AS TRICKY TO HANDLE AS THE ANIMALS THEMSELVES

L. SHYAMAL WYNAAD

Fabian Schmidt, Dipl-Biol, curator at Leipzig Zoo, Germany

Leipzig Zoo has a long history of keeping and breeding reptiles. Within the very first years of opening, way back in 1878, large reptiles such as giant snakes and crocodylians were kept and even bred: records show, for example, that in 1893 a Tiger python (*Python molurus*) naturally incubated her eggs, and in 1913 the aquarium was extended with a specially designated greenhouse for reptiles. The tradition of keeping crocodylians and snakes continued, including puff adders (*Bitis arietans*, first breeding in 1925), Mexican west coast rattlesnakes (*Crotalus basiliscus*, 1934) and urutus (*Bothrops alternatus*, 1971). Then, in 2006, a change of curator meant we could introduced new ideas in our section for venomous reptiles.

In developing an Institutional Collection Plan, besides the requirements for conservation, research and education, the Regional Collection Plan needs to be considered, as well as the display value of species. Furthermore, practical aspects such as national legislation (eg enclosure size), availability of species and of antisera (as well as seeking opportunities to decrease costs) must play a vital role. It is also essential to meet the requirements of occupational health



and safety regulations as well as ensure the appropriate education and qualification of the professional keepers working with these animals.

In 2006 the venomous snake department consisted of five tanks, of which four measured 1.6 – 1.8 m² and the other 3.5 m². The species housed at the time included 1.1 Russell's vipers (*Daboia russelii*), 1.1 copperheads (*Agkistrodon contortrix*), 1.0 Uracoan rattlesnakes (*Crotalus vegrandis*), 2.0 cascabel rattlesnakes (*Crotalus durissus*) and – in the largest tank – 2.0 red spitting cobras (*Naja pallida*). We also stored five different antisera, and additionally kept a female mangrove snake (*Boiga dendrophila*), a rear-fang snake, in a mangrove tank.

FIRST DECISIONS

As colubrids are – with the exception of rear-fang snakes – a non-venomous snake family, the mangrove snake has an educational value and, due to its flamboyant black-yellow pattern, is a very attractive species. It was decided to continue keeping the species, so a male was acquired immediately and in the same year we had the first breeding success. Interestingly, only a few weeks after this decision, the species was added as top priority colubrid species to the RCP by the Reptile TAG. This shows how Institutional Collection Plans can act exemplarily for the RCP.

We also decided that for such a relatively small collection two species of the genus *Crotalus* were unnecessary. Therefore the Uracoan rattlesnake was replaced by 1.1 East African gaboon vipers (*Bitis g. gabonica*), marked as 'monitor' in the RCP. This species had been on display in Leipzig once before, and we had discovered that the public had missed it. (It is interesting to see how it is possible as zoo to influence the species knowledge of visitors: at Frankfurt Zoo, for example, which has not kept a large *Bitis* species for decades, visitors usually ask for rattlesnakes, cobras and mambas but rarely for a large *Bitis* species. In Leipzig Zoo, however, which has not kept a mamba species for many years, visitors usually ask for rattlesnakes, cobras and a large *Bitis* species, but rarely for mambas).



We now had one species of rear-fang snakes, one species of the family of Elapidae, and two species of each the subfamily of Crotalinae and Viperinae. One of the goals was to show the biodiversity of venomous reptile species, so we targeted a venomous saurian species of the genus *Heloderma*, for which there is an EEP. The only enclosure that was large enough for *Heloderma* was occupied by *Naja pallida*, our only elapid species, which we needed to keep as it is mandatory to show a cobra species. However, the remaining tanks were too small for *Naja pallida*, so we decided for a smaller cobra species, either the coral cobra (*Aspidelaps* spp.) or the ringhals cobra (*Hemachatus haemachatus*). We went for the ringhals cobra, mainly because the lifestyle is not as secretive as in *Aspidelaps* and because we had the antiserum (SAIMR) already in stock – and because they became available! As one of our two male *Naja pallida* was very old, having hatched in 1979, we decided to hold onto the species until the death of this old favourite, and redecorate the enclosure for *Heloderma* as long-term plan only.

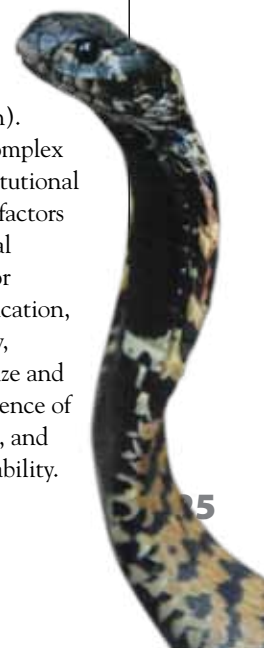
IT GETS COMPLICATED

However, the decision to start with a small cobra species had further consequences: we had to stop displaying one of the species currently occupying the four smaller tanks. We decided we could lose the Russell's viper, mainly because the gaboon viper is already a very prominent representative of the subfamily Viperinae and because it became increasingly difficult to renew the antiserum for the Russell's. It was a

fortunate coincidence that a specialised reptile zoo in Scheidegg, Germany, was looking for a big female, so we decided to send our remaining female Russell's viper to this zoo in exchange for another snake species. Unfortunately the reptile zoo could not exchange with our desired *Hemachatus*, but we were offered young Mexican lance-headed rattlesnakes (*Crotalus polystictus*) instead. We agreed to this exchange, because we planned anyway to replace our cascabel rattlesnakes in the long term because, they were subspecies hybrids and grew too large for our enclosure. Hence we were looking for a smaller *Crotalus*-species anyway, and *polystictus* was also on our wish list because of its reasonable size, attractive colouring, the reports of the decreasing population in Mexico and because it is rarely kept and therefore little known. Luckily also a serious private reptile keeper took over our cascabel rattlesnakes.

Due to a delayed arrival of the *Hemachatus* and because the young *Crotalus polystictus* need to be raised behind the scenes, we temporarily had to occupy two enclosures in the venomous reptile section with non-venomous species. However this does not change our long-term plans to show visitors an attractive, carefully selected and well planned venomous reptile collection. Once we have replaced our red spitting cobras with *Heloderma*, we will show our visitors the following species: *Heloderma* sp., East African gaboon viper, copperhead, ringhals cobra, Mexican lance-headed rattlesnake and mangrove snake. For these species we were able to reduce our number (and costs!) of antisera from five to two (SAIMR and Antivipmyn).

This all goes to show how complex the implementation of an Institutional Collection Plan can be. Many factors have to be considered: Regional Collection Plan, importance for conservation, research and education, biodiverse taxonomic overview, display value, local tradition, size and suitability of enclosures, experience of keepers, availability of antisera, and last but not least: species availability. fschmidt@zoo-leipzig.de



Running wild

HUNGARY'S PRZEWALSKI'S HORSE POPULATION IS THE IDEAL TRAINING GROUND FOR THE LONG-TERM REINTRODUCTION OF THIS RARE EQUID TO THE WILD

Waltraut Zimmermann, Przewalski's horse EEP coordinator, Cologne Zoo, Germany; Kristin Brabender, biologist, National Park Hortobágy, Hungary

It was back in November 1995 that the Hungarian project leader István Sándor wrote to the EAZA Executive Office asking for 'a small breeding group of Przewalski's horses' (*Equus ferus przewalskii*). The letter was forwarded to the EEP coordinator (WZ) by Koen Brower. During the first encounter and on-site inspection István spoke about his dream and vision of bringing back large grazers to the original steppe region, where the extinct tarpan and aurochs had once roamed free, many years ago.

It was now time to reintroduce the wild horse to its former habitat: and three years previously the first Przewalski's horses had set foot on Mongolian ground. However, the great distance from Europe and the harsh climate in the long winters did not make it easy for biologists to study the horses in the wild. And most of the then existing semi-reserves in Europe were too small (6-500ha) or had too sparse a vegetation to allow more than one harem group in it.

The Pentezug area, however – belonging to the core zone of the Hortobágy National Park in Hungary – seemed to be an ideal experimental field for monitoring Przewalski's horses under natural conditions. To get straight to the point: the DNA-typing of all individuals allowed special insight in the dynamics of a growing population (eg avoiding inbreeding). Over the years biological data were collected consistently by students from various countries, and by the Hungarian staff.

One special challenge was the financing and construction of 26km of fencing around the area. As Pentezug is bordered by a small river and channel on 3 sides, the game link fence (1.5m in height) was hidden in dense riparian vegetation. In the north, 10km (3 strings, 1.4m) of Gallagher electrical fence was not particularly eye-catching. The dimensions of the fences were such

that the Pentezug area was not isolated from the surrounding puszta and native animals, such as roe deer, boar, hare, etc. The high costs were borne by private founders. The aims of the project were:

1. Long-term preservation of the steppe consisting of different plant communities.

2. Preservation of diversity of fauna as well as of especially endangered animal species (eg great bustard).
3. Creation of a population of Przewalski's horses with a natural age structure and balanced sex ratio to gain knowledge about ecology, social organisation and population biology under nearly natural conditions.

Within one year, three harem groups with 1.3 horses each were transported to Pentezug. The horses that were chosen originated from various European countries with different pedigrees to maximise the gene-pool of the Pentezug 'founder' group, but also to demonstrate that it was a European project. In the following years another 5.5 horses were released. Today the population numbers 160 horses (78.82). From the very beginning these horses have been observed and monitored continuously by several students and researchers.

In this way astonishing knowledge about their social behaviour, social organisation and group dynamics has been gained. A special focus was set on stability of harem groups, stallion behaviour and avoidance of inbreeding.

In the first years of the project, when the sex ratio was far from normal and only a few adult stallions were present, the harem groups remained stable for a long time, often for several years. With more and more stallions being born and reaching ages in which they start to fight for their own mares the harem groups are less and less stable. Within one year the harem stallion of a group of mares can change several times. Sometimes young stallions steal one or more mares



from an existing harem group and form a new group with them. Serious fights between harem and bachelor stallions are frequent and often result in injuries that can even lead to death.

Almost all former harem stallions that return to the bachelor group after having lost their mares show signs of their turbulent life as a fighting stallion. Nevertheless, most of them enjoy a long and peaceful period of retirement among the other members of the bachelor group spending their time feeding, resting and enjoying short periods of play with one of the younger and inexperienced stallions.

The young stallions usually join the bachelor group at the age of about two years. It mainly depends on the harem stallion of their natal group at which age



CLOCKWISE FROM ABOVE: MOTHER AND FOAL; A YOUNG STALLION MAKES HIS THE FIRST ATTEMPT TO GATHER MARES, KRISTIN BRABENDER; SIGNS OF A TURBULENT LIFE AS A FIGHTING STALLION, WALTRAUT ZIMMERMANN; HAREM STALLION EXPELLING YOUNG STALLION FROM THE GROUP; A FAMILY GROUP



they have to leave. If the harem stallion accepts the young stallion in his group, some of them only join the bachelor group at the age of three or even four years. The bachelor group fulfils two main functions for its members: it offers the safety and protection of a group against enemies and it serves as a sort of 'trainee camp' for the young stallions that can practise the typical stallion behaviour in the company of their contemporaries. The first period of their membership in the bachelor group is dominated by play fights in which they practise important behavioural traits and train their muscles. At the age of about three years they start to show further typical behaviour patterns such as marking behaviour. When they reach the age of four they are strong and

ready to compete for their own harem. Before they approach the mares they usually choose some of the younger bachelor stallions which they treat as if they were mares. They behave as if they were leading a harem group, protecting it against competitors, directing it to certain directions and keeping the group together. This last period of preparation can last from a few days to several months. When the stallion is successful in leading his 'pseudo-harem' he makes his first attempts to gather mares. This can mean a fight against an older harem stallion for his group or trying to attract one of the young mares that are leaving their natal group and are searching for a new breeding group.

The thorough preparation for life as a harem stallion is still no guarantee

of acceptance by the mares. Often the young stallions need more than one attempt until they can keep the mares for the long run. Older mares tend to prefer more experienced stallions and often leave the young stallions after only a few days to join another group. The dynamic situation in recent years of the project with its constant changes in the composition of the harem groups means that none of the stallions is genetically over-represented in the population. *Further details about the area and the setting up of the Przewalski's horse and domesticated version of the aurochs populations can be found in Equus (Praha 2009) and in the annual reports, published in Zeitschrift des Kölner Zoo (1998 – 2010 in German; pdf-files and English translation available with the author WZ).*

In to Africa

AFRICA'S REGIONAL ZOO
ASSOCIATION COMES OF AGE



Dave Morgan, Executive Director, PAAZAB

The African Association of Zoos and Aquaria (PAAZAB) was formed in 1989 at the National Zoological Gardens of South Africa. PAAZAB was at the time, and remains so now, the only regional zoo association representing the continent of African within the international community of zoos and aquariums. Today it represents a total of 70 Institutional, Affiliate and Associate members in 12 African countries.

As an African Association, engagement with African Zoos is obviously a priority objective. In its early years PAAZAB quickly identified the fact that the majority of operational zoos in West and Central Africa are, in the main, isolated from the international zoo community. As a consequence such zoos have little exposure to trends in and tenets of, modern zoo practice. A potential solution to this is to encourage such zoos to develop partnerships with western zoos. As a means of promoting such partnerships between zoos in Africa and those in Europe and America, PAAZAB has developed a membership sponsorship structure that facilitates the initiation of such partnerships. Thus far the nature of this form of engagement has proven to be quite successful. Noteworthy examples have been Leipzig Zoo's sponsorship of Addis Ababa Lion Zoo in Ethiopia; the Zoological Society of London's sponsorship of Kumasi Zoo in Ghana, Twycross Zoo's support for the Uganda Wildlife Education Centre in Uganda and Bristol Zoo's partnership with the Mvog Betsi Zoo in Cameroon.

These relationships have been characterised by effective cross-pollination of cultural mores, skills transfer and resource and capacity building. The relationship/sponsorship need not simply be one to one. Several zoos might consider a partnership to cover the costs of an African zoo's membership. Indeed, the relationship need not necessarily be zoo to zoo. David Field and Lesley Dickie – names known to all in the EAZA Community – in their private capacities currently sponsor Parc Zoologique de Ivoloïna, Madagascar. Perhaps our most ambitious partnership to date has been with the North Carolina Zoo of the USA. This partnership has allowed the Association through its members to provide ongoing technical support and training to Giza Zoo in Cairo, Egypt.

In pursuit of its conservation mandate, the Association maintains a series of highly active standing committees operated by representatives of its institutional members: ED4PAAZAB focuses specifically upon the education activities of the membership and provides structure and guidance to educational programmes. This committee recently liaised with the Animal

Keepers Association of Africa (AKAA) and held a very successful joint symposium on the interface between zoo keepers and zoo educational programmes; the Veterinary committee coordinates matters of veterinary interest and for the second consecutive year organised the second African Zoo Veterinary Medicine conference in September this year. The Committee for Conservation Research has just completed an in-depth survey of the research activities of the membership which has led in turn to the publication of an article on African zoo research activities in the International Zoo Yearbook. The African Preservation Programme (APP) is our regional species management programme – our analogue to the EEP. The APP presently oversees 22 regional studbooks and one regional management programme (for the wattled crane).

There are many challenges implicit in the running of a regional zoo association in the developing world. The greatest is the diversity of perceptions, ethics and standards regarding zoo operation within the membership. In order to address this multiplicity, PAAZAB's Council took an unprecedented step at the 21st AGM of PAAZAB in April this year and voted in the final implementation of a compulsory operational standard for all institutional members. Following this decision all current non-accredited and future institutional members are now required to be compliant with this Standard, which is derived from the British Secretary of State's Code of Modern Zoo Practice. We like to think that our Operational Standard is of an international level. Being a compulsory standard, we now need to audit our institutional members against it. To this end a cadre of 10 Standard Auditors were trained at a special two day training course hosted by the National Zoological Gardens of South Africa, Pretoria, South Africa in August 2010. The trainees were drawn from the senior management staff of accredited PAAZAB institutional members. Over the next few years we will be auditing some 40 institutional members in at least 10 African countries.

In our 21-year history we have travelled far. The implementation of the Operational Standard is very much a paradigm-shift in thinking within the Association, One that we believe will be highly beneficial to the industry in Africa. Many of our successes however have come through partnerships with our sister regional associations – EAZA and AZA in particular – and I would like to acknowledge and thank the respective memberships of these associations for their ongoing support. *Baie dankie.*

Being a ZIMS test-pilot

THE NEW INFORMATION MANAGEMENT SYSTEM TAKES OFF

Britta Scholz, Givskud Zoo, Denmark



At Givskud Zoo we have had the privilege of participating in ZIMS (Zoological Information Management System) as Early Adopters. As an IT-geek, I have tried to bring 30 years of computing experience and 15 years of registrar work at Givskud Zoo into the development of ZIMS. My colleague, our veterinarian Kim Rasmussen, is the nice counterweight in this process. Not being a highly computer-minded soul, his practical skills and long experience, ideal for testing real-life use, makes us a quite balanced (and broadly experienced) user group.

We were happy to work with ZIMS from the very first day. The application reflects user-based accessibility, although of course, like all software, this complex application is not perfect... yet! But in our mind, the things that have to be corrected are mostly of cosmetic character. For example, when I work with a bunch of animal data, my 'breadcrumb' (line of links) eventually fills about 15 lines and, as Kim says, 'you have a complete bread factory'. Although ZIMS does not yet provide full capability for all our tasks, we've found easy workarounds for most of them, and ISIS is continuing to make enhancements to the product that will address many of our needs.

Not all our animals could migrate from ARKS4 to ZIMS automatically, although about 95% did perfectly. However, for the remaining animals we have been able to solve this problem for about 35% of the non-migrated specimens already. We're positive that we can handle the rest, too. The fact that we need to wait for non-ZIMS users to report in for our pending transactions to vanish is actually the most annoying thing – but this is only due to a lack of patience from both Kim and me.

We have come up with some

propositions, based on our own progress. For a start, ZIMS requires each user to have a dedicated email address. In Denmark the law protects people's personal rights and therefore the use of a non-company email service like Gmail is filled with obstacles. We have also decided to provide all ZIMS users employed at our institution with a Givskud Zoo email address, as these addresses are legally bound to their employment and may be restricted by Givskud Zoo as a company. For institutions that are taking care of their historical data, it means you will need to have an email address for relevant former staff members that have not been part of your institution for several years. At Givskud Zoo this was a minor problem, since we were founded in 1969 and most people tend to stay here for a lifetime. I only needed one email address for someone who had been working until 1990 and was responsible for transactions. Other institutions that have data for more than 100 years will undoubtedly need to find a more pragmatic solution, if we in ISIS as a community want them to provide those historical data for research in ZIMS.

Since ZIMS offers a large buffet of choices, there ought to be a general playground for testing setups. Whatever system you want to fit into ZIMS, you need to try the various combinations that are possible, before going real-time. As an Early Adopter we tried several setups in the various test versions. After four different designs we ended up with the best setup for us. The person who designs the system setup for your institution ought to be someone whose qualifications combine structural thought and planning with an in-



LEFT: BRITTA SCHOLZ AND KIM RASMUSSEN AT A ZIMS EARLY ADOPTER TRAINING SESSION; RIGHT: A WELL-EARNED BREAK FOR ELISABETH HUNT, ISIS DIRECTOR OF TRAINING AND TECHNICAL SUPPORT.

depth knowledge of the institution. The migration to ZIMS presents a golden opportunity to update and modernise organisational structures within the zoo itself – we think it's worth making that effort.

Finally we would like to thank the ISIS staff both in Minneapolis and in Delhi for their fantastic cooperation during the last six years. It has been a pleasure working with you. We anticipate a lot more work in the future in getting ZIMS to perfection, but we are certain we have now been provided with the right tool for animal management registration well into the 21st century.

ZIMS is

- an application for animal management
- the successor application for ARKS4
- also providing usability for aquariums (not available in ARKS4)
- working online – that means it's always updated
- built by ISIS, with almost 40 years of animal database knowledge

ZIMS

by ISIS

A brave new online world – one year later

ONE YEAR IN, THE PAGES OF THE NEW EAZA WEBSITE HAVE BEEN VIEWED OVER HALF A MILLION TIMES! IF YOU'RE NOT YET TAKING PART IN THIS DIGITAL ADVENTURE, THEN HERE'S YOUR CHANCE

Eoghan O'Sullivan, Communications and Membership Manager, EAZA

About two weeks before our Annual Conference 2009 in Copenhagen we launched the new EAZA website, introducing a fresh new look and a more user-friendly structure. Two months later the Member Area was launched, providing dedicated spaces where documents and information can be exchanged. Here are a few key figures for the year ending October 2010:

- 154,000 visits with 68,000 unique visitors
- 560,000 pageviews
- 65,000 Member Area pageviews
- Around 700 registered users
- The top ten originating countries for site visits over the year were UK, Netherlands, France, Germany, USA, Spain, Czech Republic, Sweden, Italy and Poland.
- The five most visited pages on the site, other than the home page, were the vacancies list, the EAZA Activities home page, the complete list of EAZA member institutions, the About EAZA page, and the Latest News page.
- The top five most visited TAG workspaces were Felid, Reptile, Antelope and Giraffe, Callitrichid and Prosimian.

The website is our shop window for the wider world, and therefore the public area includes lots of information about the association: our main areas of activity, regular news updates, *Zooquaria* magazine, key policy documents, and links to the websites of every EAZA member, including our Corporate Members. Also in the public area you can find the most recent EAZA Yearbook and the Transmissible Diseases Handbook. But the website is also EAZA's intranet, our internal website. The Microsoft SharePoint platform on which it is built allows us to limit access to particular pages and sections – and even to content within pages – to certain groups of users.

The Member Area of the site is accessible only to employees of EAZA member institutions. There you can access the Member Directory, order leg bands, download the EAZA logo, and find exclusive offers from our Corporate Members. (The Available and Wanted list is hosted separately at



www.eaza.nl and access is restricted to directors and their nominees under the 'old' system.) You can also find workspaces for all of the TAGs, committees and working groups. These workspaces include document libraries, announcements boards and useful links, and we're pleased that some TAG chairs have been making use of the opportunity to update their own workspace regularly. And if you've ever struggled to find key people at the Annual Conference, you'll appreciate the fact that more and more workspaces include photos of the chair and vice-chairs. You can also find contact details for all EEP coordinators and studbook keepers.

Having around 700 registered users represents an average of just over two per EAZA member. However, many members have more than two users while many have not registered at all. As the website is our main communication tool, it is important for all of our members to register and

visit the site regularly. (The only way to access the proceedings of our recent Verona conference is to register for the website.)

Our members put a huge amount of work into creating Regional Collection Plans, studbooks, Husbandry Guidelines, strategies, etc. But this work is for nothing unless the wider membership can easily find and make use of these documents. The libraries in the Member Area are full of useful documents that can be downloaded at the click of a mouse. And if you can't find the document you're looking for, you can contact the group chair directly and ask for it to be made available. The website – including the Member Area – should be a living, dynamic resource. It has come a long way in the last year and will continue to develop in future. If you're not visiting it regularly already it's time you added it to your favourites. And if it's not meeting your expectations, let us know!



GET INVOLVED

Access to the Member Area of the site is open to employees of member institutions and we encourage you to take the time to register. For instructions on how to register visit www.eaza.net and click on Member Area. You will first be asked to register for the ISIS Community Portal and we can then add your account to the EAZA Members group on the website. If you already have an ISIS Community Portal account please send your username to info@eaza.net to request access to the EAZA site – remember to let us know what your institutional affiliation is.

Meetings of minds

AN UPDATE ON RECENT CONFERENCES IN COLOGNE WITH CBSG AND WAZA

Lesley Dickie, Executive Director, EAZA



With the CBSG meeting hosted in Cologne this year it was an opportunity for a number of EAZA staff to participate and contribute to the, as usual, stimulating working groups. It was also an opportunity for us once again to put into practice what we had learned from our CBSG facilitation training earlier in the year. Danny de Man and William van Lint accompanied me to the CBSG meeting and were enthusiastic to meet with international colleagues, to discuss areas of common interest and expand our own knowledge of current conservation issues. In particular we were there to take part in two specific working groups about the future of *ex situ* conservation (and in particular whether the IUCN *ex situ* technical guidelines need updating) and the concept of 'intensively managed populations' (IMPs). It is increasingly being recognised that little of the 'wild' is untouched by some kind of human influence and/or management. Where there is limited influence this can be called 'extensively managed' and where this management is required at a greater level 'intensively managed'. The EEO along with Kristin Leus (wearing her CBSG Europe 'hat') will continue inputting into this issue and will attend the four day CBSG-organised IMP meeting in San Diego in December. With all associations that have carried out analysis of coordinated breeding finding worrying 'red flags' we will need to put even more effort into ensuring that our conservation breeding programmes work to the optimum.

There was also an opportunity at a CBSG plenary session to show international colleagues the EAZA conservation film and it was extremely



FORMER EAZA CHAIRMAN BERT DE BOER (RIGHT) RECEIVES THE HEINI HEDIGER AWARD FROM DIRECTOR OF WAZA GERALD DICK, (CENTRE) AND THE PRESIDENT OF WAZA MARK PENNING

well received, not least as it featured well known CBSG supporters such as Pati Medici. Amongst all the work there was also time for the more social aspects to the meeting and at the CBSG farewell the Ulysses S Seal Award was presented to a very worthy recipient, Professor Gordon McGregor Reid.

The ISIS board, on which I sit as an EAZA representative, met on the Saturday between the CBSG and WAZA meetings. ZIMS is making good progress (see page 29) but it is the duty of all members of the accredited zoos and aquariums community to support the development of this powerful tool. So far just over half of all ISIS members have paid the ZIMS fee, a slower rate than previously expected. This may eventually slow down the development of the further modules and while some members have paid substantially more than their fee to support development, every other institution must now get behind this effort for the benefit of all.

The WAZA meeting was split into two sections; an open congress which featured a number of presentations as well as closed committee meetings

and thereafter a closed 'members only' section. Many interesting workshops took place, including re-examining the World Zoo and Aquarium Conservation Strategy at the five-year mark. It was always envisaged as a 10-year document but it seems remarkable now that the words 'climate change' don't feature anywhere in this important document. It was decided that a more up-to-date introduction, instead of re-writing the entire document, could well deal with this issue.

At the final closing dinner the Heini Hediger Award was awarded to someone from our own European community, Dr Bert de Boer. We all know what a stalwart Bert has been in progressing zoos (the first World Zoo Conservation Strategy was entirely drafted by him) and it was a great privilege for all to be there to see Bert receive this award and recognition from the global zoo community. All in all it was a busy but fruitful series of meetings. Theo Pagel and all the Cologne Zoo staff did a tremendous job in hosting and it was a pleasure to attend.



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