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ZOOQUARIA

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APE SPECIAL

Talking the talk
INTERPRETATIONS OF GIBBON COMMUNICATION

Crossing the continents
JOINT EAZA/ALPZA SUCCESS WITH HUMBOLDT PENGUINS

Mixing it up
PROS AND CONS OF MIXED SPECIES EXHIBITS

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THE EAZA APE CAMPAIGN IS NOT DUE TO BE OFFICIALLY LAUNCHED UNTIL THE END OF SEPTEMBER, YET IT HAS ALREADY WON AN OPENING VICTORY, THANKS TO THE ASSISTANCE OF EAZA MEMBERS IN AN IMPORTANT LOBBYING TASK.

In mid-June the European Parliament debated a new directive on the 'Provision of food information to consumers' (COD/2008/0028), also known as the Sommer Report. EAZA members were asked to lobby their local MEPs in support of an amendment to the text that would require the clear labelling of the presence of palm oil in products. The conversion of tropical forest to palm oil plantations, particularly in Southeast Asia, is placing increasing pressure on orangutan and gibbon populations that rely on these habitats to survive and thrive. While EAZA and its members are engaged in significant work on both *in situ* and *ex situ* species conservation, the regulatory change that would follow the implementation of the food labelling directive, including the palm oil amendment, would have a major impact on efforts to protect important habitats.

The amendment was proposed by Irish MEP Nessa Childers, who worked closely with EAZA on this initiative. 'I campaigned for this legislation because I strongly believe that consumers are entitled to complete information on the make-up of the food products they choose to consume,' Ms. Childers said. 'Equally, European consumers should be reasonably entitled to make a judgment as to what type of vegetable oil they consume based on a number of criteria, including the impact on the environment and habitats from which the oil has been sourced.'

In June what is known as the 'first reading' of the document took place in the European Parliament, which represents all citizens of the European Union. Having cleared this important hurdle, the directive, which is a very long document, now moves forward to the Council of the European Union, which represents the individual member states. It is possible that the Council will propose further changes to the document in which case it would need to return to the Parliament again for a second reading, probably sometime next year. Once agreement is reached between Parliament and Council, companies would have three years in which to comply with the new regulations.

This is therefore just the first step and there is still some way to go. Nonetheless we have made an important breakthrough. One of EAZA's main overall strategic priorities is to make the association's voice heard more clearly within the EU institutions. These actions related to palm oil represent just one element of EAZA's engagement at that level. In the past EAZA played an important role in putting the issue of bushmeat on the agenda in Europe, and the EAZA European Carnivore Campaign is currently engaged in a signature action that aims to target the illegal use of poison to control wildlife.

For more information on EAZA's new Ape Campaign, see page 10.

Zooquaria

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From the Director's Chair

In recent months we've had some notable successes in highlighting the work of EAZA zoos and aquariums in conservation, using our collective lobbying power for good effect at the EU, and bringing EAZA members together in different forums. It's been a busy period! The association has also taken some tough decisions to ensure that it functions for all members and not just the few. The new Sanctions document has been a long time in the making, but its approval by Council in May enables EAZA to take a more flexible and pragmatic approach to dealing with infringements of our codes and procedures. Previously the only sanction available was termination of membership by Council; now, with a system of warnings and the possibility of exclusion, the appropriate sanction can be applied by EAZA's governing bodies.

The third EAZA Directors' Day was held at ZooParc de Beauval in May, with delegates asked to discuss 'Is commercialism jeopardising the zoo ideal?' A set of interesting and engaging presentations helped to ensure it was an excellent event, with plenty of lively discussion. I wish to thank Francoise Delord and her staff at Beauval who hosted us in their beautiful hotel next to the zoo. It was also an opportunity to visit the zoo and see the many new developments that have been undertaken in the past few years, leading to extensive facilities for species such as Indian rhino and Malayan tapir.

The next Directors' Day and Spring Council will be held in early April, hosted by the Tisch Family Zoo in Jerusalem; more details will be available shortly. Delegates at Directors' Day were also given a sneak preview of the EAZA conservation film, produced for International Year of Biodiversity to highlight the work of our members in species conservation. To date this has been viewed more than 3,800 times on the web and it will also be shown at the CBD COP in Nagoya later this year. You can find the video on our YouTube channel (www.youtube.com/eazavideo), where we're also gathering videos from EAZA members about their work in conservation, education, research or other key mission areas. By collating this material on YouTube we can promote the work of the responsible zoo and aquarium community.

Another significant event for International Year of Biodiversity was the EAZA Conservation Forum, generously and ably hosted by the Papiliorama Foundation in Switzerland. Frank Rietkerk, chairman of the Forum, reports on the event in more detail on page 30 of this issue.

It has been a long-held aim of EAZA to be able to provide more extensive training and continuous professional development opportunities for all our member institutions, be they large or small. We have had many ideas about how the 'EAZA Academy' could develop but to date we have lacked both staff capacity and additional funds to make this happen. We are therefore delighted to announce that, due to a generous donation of €100,000 over two years from the Fondation Segré, EAZA is now in a position to employ a full time Training Officer. You can read more about this on the opposite page.

This September sees the EAZA European Carnivore Campaign coming to an end, making way for the launch of the EAZA Ape Campaign. To celebrate the new campaign, this edition of *Zooquaria* includes an extra large serving of ape-related content. Although the Ape Campaign has been in the planning phase until now, an early opportunity to take action on behalf of apes presented itself through the debate by the European Parliament of the Sommer Report, a key piece of legislation concerning food labelling in the EU. We contacted the MEP Nessa Childers who, with EAZA's assistance, drafted an amendment that would make the clear labelling of all vegetable oils, including palm oil and soya, mandatory. Palm oil is a ubiquitous ingredient in food products, but it is also is associated with the destruction of large areas of pristine forest cover, prime orangutan and gibbon habitat. We are pleased to report that our amendment was accepted, with the lobbying efforts of EAZA members playing a key part (see page 3). There's still a long way to go, as the legislation now moves on to the EU's Council for approval, but we have clearly demonstrated the lobbying potential within our association. And this also sets the EAZA Ape Campaign off on the right foot.

Finally, it seems only a short time since we all met in Copenhagen and yet Verona is almost upon us. This will be our first Annual Conference in Italy and our hosts, Parco Natura Viva, led by Director Cesare Avesani Zaborra, are looking forward to extending a warm welcome to all delegates. While Cesare and his team have a great responsibility for the success of the meeting, in reality every single participant has a role to play in making this a productive and exciting event. Your participation at the plenaries, TAG meetings, workshops and other sessions is central to a successful conference.

I look forward to seeing you in Verona in September.

Dr Lesley Dickie
Executive Director, EAZA

NOTICEBOARD

LOBBYING BREAKTHROUGH ON SHEEP AND GOAT ID

'INCREASING INFLUENCE WITHIN THE EU' is identified as the highest priority strategic aim in the EAZA Strategy and Action Plan 2009-2012, approved by the EAZA Council in May 2009. The Executive Committee, Legislation Committee and Veterinary Committee are working on the sub-objectives deriving from this strategic aim. In relation to veterinary legislation and lobbying activities EAZA now has a seat on the Animal Health Advisory Committee of the European Commission. A position statement on the EU Animal Health Strategy 2008-2013 was issued last year. Active lobbying takes place through various stakeholder consultations relating to the development of the EU Animal Health Law (and in particular the Balai Directive that will fall under this law in the future), as well as the EU Animal Welfare Strategy and importation of wild species from third countries. These processes take considerable time at EU level and it remains to be seen what the outcomes will be.

A first success, however, has already been chalked up as, with help of Kai-Uwe Sprenger from the EC, EAZA has been successful in lobbying for a derogation from the legislation for identification of sheep and goat species (Council Regulation (EC) No 21/2004).

The derogation means that 'the competent authorities of the Member States [are allowed] to exempt ovine and caprine animals that are kept in and moved between zoos which are approved in accordance with Article 13(2) of Directive 92/65/EEC from the obligation to use visible or electronic identifiers, in so far as the animals in question are already individually identifiable and traceable on the basis of the provisions of that Directive. However, in case the animals are moved to any holding other than an approved zoo they need to be identified in accordance with Article 4(1) of Regulation (EC) No 21/2004.'

In more simple terminology: Member States no longer have the obligation to require approved zoos to identify caprines by means of a double system of ear-tags in both ears and an electronic identifier. But perhaps more importantly, this stresses that animal health requirements for exotic animals kept in zoos are provided for in the Balai Directive, and therefore that our animals should not be included in legislation that is meant for farm animals. We can continue focusing our veterinary lobbying efforts in one direction.

EAZA ACADEMY READY FOR LIFT-OFF!

IN AUGUST THIS YEAR, the Executive Office posted a notice seeking applicants for the role of EAZA Training Officer and we hope the successful candidate will take up the post in the coming months. The appointment of this position is made possible by a generous donation, of €100,000 over two years, from the Fondation Segré.

Based in Switzerland, the Fondation Segré funds a number of initiatives in education and conservation and is hoping this donation to EAZA will help to improve the professional standards of zoos and aquariums throughout Europe.

EAZA's new Training Officer will be tasked with the development of the EAZA Academy, which up to now has existed mostly as a set of ideas, without the necessary resources to implement them. The Breeding Programme Management Courses, which are integral to the future success of our breeding programmes, have been the only training courses offered by EAZA up to now. In addition to taking over the running of these courses, the Training Officer will work on developing a series of continuous professional development training courses for the whole EAZA membership. The EAZA Academy will aim to build capacity and increase professional standards across a variety of subject areas including animal management and new techniques in husbandry, animal reproduction, biological and social sciences research, and conservation planning. Consultation with EAZA members will be essential to identifying the areas that should be prioritised.

EAZA wants to assist its members to achieve the best possible results, whether in developing improved education programmes for the public, ensuring that good animal welfare standards are maintained or the planning and implementation of conservation actions. Getting the best from their staff will not only enhance the individual institutions, but will benefit the whole of the EAZA community. A comprehensive framework of courses offered to provide training for EAZA member institution staff, in all departments of the modern zoo, would provide a consistency of approach and a confidence of standards. The courses offered are likely to take a variety of forms, from standalone courses developed 'in house', to collaborations with other institutions offering zoo-related courses, or even to non-zoo-related courses that would nonetheless be seen as useful and that could be sourced externally. As is currently the case with the Breeding Programme Management Courses, the EAZA Academy will aim to be self-funding, while keeping the costs for course participants to a minimum.

EAZA'S CORPORATE MEMBERS
and where to find them

AB Aqua Medic GmbH	(www.aqua-medic.de)
Base Structures Ltd.	(www.basestructures.com)
Brogaarden	(www.brogaarden.eu)
Doublecheck Oy	(www.doublezoo.com)
EKIPA	(www.ekipa.nl)
Fachjan Project Plants	(www.fachjan.nl)
fiNETra	(www.finetra.co.uk)
FKgroup	(www.fkgroup.eu)
HMJ Design	(www.hmj-design.dk)
Instituto Bioclon	(www.bioclon.com.mx)
Jardine Lloyd Thompson Leisure	(www.jltgroup.com)
Kiezebrink International	(www.kiezebrink.eu)
KMIT Solutions Europe Ltd.	(www.kmitsolutions.com)
Lazenby Design Associates	(www.lazenbydesign.com)
Mapcards.net	(www.mapcards.net)
Mazuri Zoo Foods	(www.mazuri.eu)
Mimex Brands & Labels	(www.mimex.nl)
Pangea Rocks	(www.pangea.dk)
Rasbach Architekten	(www.rasbacharchitekten.de)
Ravensden Plc	(www.ravensden.co.uk)
ScenArea	(www.scenarea.dk)
St. Laurent	(www.st-laurent.fr)
Zoo-lutions	(www.zoo-lutions.com)
ZOOPROFIS	(www.zooprofis.de)
ZooTrend	(www.zootrend.com)

BUILDING A STRONGER AND MORE EFFECTIVE ASSOCIATION

SIMON TONGE, CHAIRMAN, EAZA

The recent exclusion of an EAZA member from full participation in EAZA following years of violation of the rules and codes of the EEP programmes was, while not a completely unique event in our recent history, nevertheless a rare and notable action by this association's Executive Committee and Council. In one sense this action was different from previous times when action had to be taken against members who did not meet their obligations.

On those previous occasions the only action available to Council was to terminate the membership of the member in question. This time around Council agreed to grant to the Executive Committee and the Membership and Ethics Committee the power to impose less severe sanctions, in order to avoid Council being obliged to use its ultimate power to terminate a membership. Some have tried to argue that Council did not have the right to create or delegate those powers, but I believe that as Council clearly has the right to terminate membership then it was also the correct body to put in place a system to warn or exclude members for serious breaches of our rules.

In discussing the matter some have questioned why EAZA goes to the trouble of enforcing rules at all, accusing the association of becoming 'dictatorial' and 'radicals' and of going beyond the spirit in which it was founded 20 years ago. In thinking about the answer to that accusation my attention was drawn to an editorial written by one of my predecessors in EAZA News 34 (2001). Our current Secretary, Miklos Persanyi, was the Chairman then and he made a farsighted and clear argument about why the association needs rules, and sanctions that have teeth. In his final paragraph he said:

'The position of EAZA's executives is clear: if we want to be a serious organisation rather than an old boys' chat-club or a commercial animal exchange, we should set rules, we should ask our members to abide by these rules and we should not accept non-compliance of these rules. If non-compliance with a programme has consequences for the programme then the sanctions taken against the offender should be in line with the seriousness of the consequences to the programme. Which sanctions should be taken?'

Your current Executive Committee stands by his words today. In fact it is even more important now because the work of Kristin Leus and her colleagues has shown that many of our breeding programmes are in danger of failing in the short to medium term if we do not get our act together immediately. At a time when the threats to the world's biodiversity have never been greater or more intractable we simply cannot allow that to happen.

Perhaps the most surprising, and worrying thing about Miklos' article is the amount of time, nearly 10 years, between when it was written (2001) and when we actually got around to doing something about it (May 2010) and answering his final question. I suspect that it reflects an innate caution and respect that exists within an association with so many languages and cultures at its heart. Perhaps we all really believed that the great ideals upon which EAZA was founded would be enough to help us through the difficult time. Perhaps some of our members still believe that, but I think that enough of them are scarred by the realities of recent experience to understand that the time had come for us to draw a line in the sand and say 'No, our breeding programmes are simply too important to us to leave them to the whims and impulses of individuals; we must set standards, stick with them and enforce action against non-compliance'. Our common belief in our mission is still the greatest asset we have and if, in enforcing its rules, some may think me a 'radical' then so be it. I know that there are an awful lot more of you radicals out there!

Letters

Want to write to *Zooquaria*? Please send your letters to Eoghan O'Sullivan at eoghan.osullivan@eaza.net

Dear Zooquaria

I read with interest the white tiger debate between Sarah Christie and Eric Bairrão Ruivo in the last issue of *Zooquaria*; we had a similar live debate at the 2009 BIAZA conference that was both entertaining and informative. I must side with Sarah in this, although I thought Eric argued his case very eloquently and made an important point that Sarah did not fully address in either of her two rebuttals, namely the apparent difficulty that some zoos have had in acquiring tigers that are of pure origin.

Amongst the reasons given by surveyed zoos for keeping generic tigers was the lack of availability of pure animals. Eric argues that some EAZA members have had problems sourcing known origin tigers in past years. He suggests, particularly for privately funded zoos, that if programme tigers are not readily available then sourcing striped cats from wherever is the expedient approach for the viability of the institution.

I would argue there is a degree of forward planning involved that would include contacting the tiger species coordinators well in advance to inform them of the future need for cats – new tiger enclosures do not materialise overnight, nor the need for replacement tigers in existing facilities. Eric does not give a precise timescale for when sourcing of pure tigers started to become a problem. If it was prior to the end of 2007, when the hybrid origin of Amur male 3260 became apparent, then I think there is a real question to be answered. If the lack of available tigers is quite a recent problem, ie since the letter of January 2008 that went to all holders explaining the 3260 problem, I think it is completely justifiable for the EEP to err on the side of caution, and institutions wishing to receive new cats should be sympathetic to the situation. In the letter it was clearly stated that there would be no moratorium on breeding from other tigers within that EEP as it was 'of over-riding importance that cubs are produced to meet exhibit needs over the next year'.

Looking at the debate in a more international context, the ZAA in Australasia is suggesting that members wishing to maintain white tigers should also devote space to programme tigers and should not market their white tigers as being a threatened taxon in need of conservation. The AZA in North America takes an even more robust approach. Generic/white tigers are now managed under the auspices of the tiger SSP and member institutions should not acquire, transfer or breed generic tigers without approval from the tiger SSP's steering committee. In addition, any animals that are moved to non-member institutions are to be sterilised. The problem is space and the three American tiger programmes need an additional 230 spaces to allow them to reach their target populations. Their generic tiger population stands at about 140 and the conversion of this space to tigers of known origin would have a significantly positive impact on their breeding programmes.

Perhaps the solution for our region is a hybrid of the Australasian and American policies. When one looks at the recent dramatic downturn in the wild Amur tiger population and the ongoing pressures on the Sumatran tiger, we cannot allow the presence of tigers of hybrid origin to negatively impact upon our EEPs.

Douglas M Richardson, Animal Collection Manager, Highland Wildlife Park, Kingussie, RZSS

EIGHT CHEETAH CUBS FOR BORÅS DJURPARK

In the heart of the Swedish winter the female cheetah Luanga, one of the stars of Borås Djurpark, gave birth to eight cubs, six males and two females. It was the second litter for the six-year-old, who was born in Munster. All the cubs are in good health and have developed very well. This increase in cheetahs has doubled the zoo's population of the big cat, and was reported as far away as the Washington Post.

As far as Borås Djurpark knows, there has been no previous cheetah litter in Europe to bear eight cubs, all of which survived, so this may well be a record.

Borås Djurpark's main *in situ* support is to Cheetah Conservation Fund (CCF) Namibia.

NEWQUAY ZOO BREEDS WORLD'S RAREST THREE LITTLE PIGS

The Visayan Warty Pig EEP is looking for new holders. If you are interested in keeping these unique pigs in your collection please contact EEP coordinator Angela Glatston (a.glatston@rotterdamzoo.nl).

Three very unusual and extremely rare pigs have recently been born at Newquay Zoo, as a breeding pair of Visayan warty pigs have just produced three adorable piglets. The Visayan warty pig gets its name from the three sets of fleshy 'warts' found on the boar's face. It is thought that these toughened markings are used as protection from the tusks of competing males during mating season. The male Visayan warty pigs also bear a stiff, spikey 'hair-do' giving them an endearing character.

These critically endangered animals are endemic to the central Philippines making them extremely rare. Habitat loss, food shortages and hunting have led to the Visayan warty pig being extinct in four of the six regions it was once found in.

Newquay Zoo participates in the European breeding programme for these animals, and upon the birth Zoo Director Stewart Muir commented: 'The arrival of these little piglets is just delightful. They are especially cute, but their endangered status and possible extinction in some regions of their native home means that this litter is all the more precious.'

The zoo population of warty pigs worldwide is still quite small and the new piglets will contribute to the survival of the species. The piglets will stay with Newquay Zoo probably until next year before finding new homes recommended by the breeding programme.

EUROPEAN CARNIVORES BORN IN GAIAPARK KERKRADE ZOO

NORBERT BÜRGERS

HANS JANSSEN, TOOS LAMBREGTS

GaiaPark Kerkrade Zoo houses five carnivore species that have a central role in EAZA's European Carnivore Campaign: Eurasian otter, European mink, wolverine, northern lynx and Iberian wolf. This year, the last three species gave birth to one, two and three young respectively.

On 17 February, the female wolverine (2003, Helsinki) gave birth to two snow-white young. The wolverines arrived in GaiaPark in 2005 and in 2008 they reproduced for the first time, but the young died within one day. The same happened in 2009. This year however, the young grew very well. Unfortunately, after 8 days, one of them died. The other developed very fast and after three weeks a black eye mask appeared on his white face.

Within a month the female took her young to the outer enclosure. After two months, the young was weighed (2.6kg) and it turned out to be a male. In the beginning the female was quite cautious around him, but the keepers kept them together all time. Meanwhile, the young wolverine is as big as his parents and can often be seen playing in the enclosure. This birth is very important for the wolverine EEP.

On May 20th, two northern lynx were born – both males. This is now the fourth year that the parents (male born in Helsinki, 2004; female 2003, Ahtari) have given birth in GaiaPark, where they arrived in 2005. After two months the cubs were weighed and chipped. Both were male and they weighed around 1.5kg. Shortly afterwards, the female took them from the nesting den to the outside enclosure. The cubs have become very playful with each other and visitors love to watch them. Interestingly, after two to three months, one of the cubs turned lighter every week. Three years ago the same parents had an almost white young as well.

Last but not least, three Iberian wolves were born on 12 June. It was the first time that the female (Lisieux, 2006) had given birth; the male (2001, Cabarceno) had previously reproduced in another zoo. After two weeks the pups weighed around 1.5kg and within a month they had reached 2kg. All three are female. When they were three weeks old, the female took her pups outside, in response to which the male became very nervous and aggressive. The male and female were therfore separated for some days. The pups began to eat regurgitated meat after some five weeks.

WILHELMA ADDS NEW HOWLER MONKEY TO TROOP

In March this year little Chepe entered the world. He's by no means the first howler monkey offspring of mother Yara and father Miles at Stuttgart's Wilhelma Zoo, but he's currently attracting great attention due to his youthful colouring. Currently blond of fur, it will take two to three years before he takes on the darker pigmentation of his father.

The various stages of colour in the zoo's howler monkey family make identification easy for visitors. As fully grown males are black, while females remain blonde with dark heads, the family tree is easy to see. It's a good family, too, currently comprising parents Yara (born 1999) and Miles (1996), their sons Rodrigo (2006) and Santiago (2007), daughters Dominga (2008) and Montega (2009), and of course the new addition Chepe.

Howler monkeys are vegetarians, feeding on particular types of leaves that provide them with a bulky, low-calorie diet. They feed throughout the day in large quantities, and require extensive siestas to digest the foliage, a fact that gives the monkeys a reputation for laziness. A key adaptation for treetop life is their prehensile tail, which they can use like a third hand - particularly useful for Yara who has her own hands full with her brood. Miles has not taken a great interest in Chepe yet, paying more attention to his older sons, and keeping an eye on their sexual maturation. Once they reach the age where he would naturally expel them from his territory, Wilhelma will work with the EEP to relocate them to another zoo.

HERMANN VOLLMER

Swinging into action

PREPARATIONS FOR THE EAZA APE CAMPAIGN ARE NOW IN FULL SWING, WORKING TOWARDS THE LAUNCH IN VERONA THIS MONTH.

Bryan Carroll, Deputy Director, Bristol Zoo

Why apes? This is a question quite a few people ask, especially as last year was declared Year of the Gorilla by the UN and WAZA. The most important and pressing reason is, simply, that as a group they are so threatened, and as a result we decided to have a campaign covering both the great apes and the gibbons. They are all either Endangered or Critically Endangered, and with the possible exception of the mountain gorilla, all ape populations have declined over recent years, and continue to do so. The most endangered is the Hainan gibbon, with fewer than 25 animals surviving; the most endangered great ape is the Cross River gorilla with fewer than 400 surviving. Some apes are, therefore, on the very brink of extinction; but all species face inexorable pressures on habitats and populations. As they all have relatively slow reproductive rates, they are extremely vulnerable to those pressures. Many too are keystone species in the forest ecosystems they inhabit, so there is a mutual dependency between apes and their forests.

To me, the second reason for focusing on apes is that they are so prominent in the collections of many zoos, and much loved by our visitors. They are undoubtedly charismatic and as such are ambassadors for their habitat and for broader conservation issues, such as the threats from hunting, loss of forest for timber, or loss of peatlands for conversion to oil palm plantation. They are the classic flagship species. Save the apes and we will also save their forests.

Lastly, as our closest evolutionary relatives, apes share many characteristics with us, particularly the great apes. The complex social groups of the great apes and strong bonds between individuals reflect those of human societies. Their apparent capacity for co-operation, play and enjoyment and, at the other end of the emotional spectrum, for grief, strikes a chord with so many of our visitors. This brings about empathy which means that visitors will welcome and support our efforts to save them.

What do we want to achieve?

This campaign has two main aims: firstly we want to raise awareness of the conservation problems facing all the apes. This is being approached from two directions; the species themselves, and the issues threatening them. We need to raise awareness of the species covered by the campaign, the numbers remaining and the particular problems faced by chimpanzees, orangutans, and so on. On the other hand, the main issues we have identified are hunting and trade, habitat loss and the increasing threat from disease. Hunting and trade, for instance, affect many species and there are common lessons to be learned on how to address this, whether in Southeast Asia or in Central Africa. Our educators and communicators can approach awareness-raising from either direction to create powerful stories that bring these pressing conservation issues to life for our visitors. Secondly, as many previous campaigns have done so successfully in the past, we want to raise funds to establish a lasting EAZA Ape Conservation Fund. Our target for the campaign is very ambitious – one million euro! This is challenging, of course, but we believe that we can achieve it.

How will the campaign group support participating institutions?

The campaign planning group is putting together information and resources that will be available to all participating zoos. In addition to the campaign website (www.apecampaign.org), all EAZA members will be sent an infopack on CD-ROM, containing information on the species and the issues, together with a comprehensive database of other sources of more in-depth information. Both the infopack and the website will also present information on projects pre-selected for funding, and advice on potential campaign merchandise and other fundraising opportunities. There is also an extensive library of images for use in creating awareness-raising displays.

How will your zoo benefit?

All this should enable participating institutions to put together compelling educational displays, keeper talks, outreach events and special fundraising events, to ensure a really successful campaign that is also great for your zoo. If your visitors leave feeling good because they have seen something different this year, if they have learnt something, or feel good about themselves because they have been able to contribute to the campaign, they will also feel good about the zoo and recommend a visit to others. What better marketing opportunity?

Will we meet our aims?

The apes need us, as without our efforts their decline towards extinction will undoubtedly continue.
In EAZA we have a large, diverse and creative community, and we have shown in the past that we are capable of great things by working together for a common aim. This campaign, aimed at our some of our most charismatic species yet also our some of our most threatened species, will surely bring us together to achieve great things again.

Planning for the apes

TAXONOMICAL DEVELOPMENTS HAVE MADE REGIONAL COLLECTION PLANNING FOR THE APES MORE COMPLICATED THAN MIGHT FIRST APPEAR

Tom de Jongh (Arnhem) and Vicky Melfi (Paignton), Chairs respectively of the Great Ape TAG and Gibbon TAG

Great Ape TAG

The mission statement that the Great Ape TAG accepted during the Annual Conference in Copenhagen reflects the TAG's philosophy, on which the choices in the RCP are based. It reads as follows:

The mission of the Great Ape TAG is to maintain self sustaining populations of all the taxa of great ape to sub specific level where possible, and to encourage and promote their conservation in the wild.

The role of zoo populations is primarily to act as ambassadors for educational purposes on the plight of apes in the wild, to further support for their conservation in the wild, and as a research resource, the findings of which should be applied to improving their husbandry, welfare and in situ *conservation. Zoo populations of great apes may also be vital for future reinforcement of wild populations and, therefore, should be managed to preserve maximum genetic diversity.*

Deciding which taxa to manage to EEP, ESB or monitoring level, or which to label as 'not recommended', does not seem difficult at first glance. There is a limited number; all are endangered; as man's closest relatives all are of high educational value; all are charismatic and there is enough space in EAZA zoos for those taxa that are present in EAZA in viable population sizes.

Still, there are some complications that make the TAG's choices less easy than they appear at first glance. These are all related to taxonomical developments that resulted from the increased potential of DNA research and its interpretations.

After having gone through a difficult process of splitting the orangutan population into the two island forms (Sumatran and Bornean), we now realise that the Bornean species actually consists of several subspecies. This makes our population of Borneans a subspecific hybrid one. At this point it does not seem likely that one or more pure subspecies populations can be split off. The Sumatran species, for which subspecies have not been identified, is thus considered of higher conservation status, which may affect future choices.

In the population of western lowland gorillas, we cannot exclude the possibility that one or more founders from the Cross River subspecies have contributed.

Controversy still remains about the taxonomical status and number of different subspecies of chimpanzee. As a consequence there is only an EEP for the western subspecies so far. A strategy was developed to manage this EEP population within a much larger generic ESB population of generic chimpanzees.

Apart from the Bonobo EEP, all EEP population sizes exceed those needed for reaching the agreed genetic aims. Demand from EAZA members, the current situation, and the expected development of the populations were all taken into account in setting the target population sizes. It should also be kept in mind that in such long living species, population developments are slow.

Demand from EAZA member institutions for great apes is developing. There is a tendency for zoos that build new and costly exhibits for great apes to expect what they believe to be the highest profile species. Zoos that traditionally kept a varied collection of great apes tend to reduce the number of species and stop keeping what they believe to be the lowest profile species. These tendencies do not always match the actual developments in the populations.

Dilemmas and challenges

With the aims of the population management set (percentage gene diversity to be retained over a certain time span, target population size), EEPs have a basis for their management. Practice of course does not always follow the ideals, sometimes resulting in dilemmas, often involving animal welfare issues. These dilemmas are often similar for all the great ape species and are therefore discussed in the TAG. Some examples of the dilemmas faced follow.

Historically many great apes in captivity have been hand-reared. The reasons for this were quite clear in many cases. Mothers did not provide adequate care for these babies, so their young lives were saved by removing them from their mothers and taking over their care. It is understandable that the physical wellbeing of the young apes was the primary concern, and what better model

GORILLA, ORANG UTAN © BURGER'S ZOO, BONOBO: FRANK R./APENHEUL

GABRIELLA'S GIBBON

Species – scientific name:	Nomascus gabriellae
Programme:	EEP
Coordinator/studbook keeper:	Pierre Moisson, MULHOUSE
Year of establishment:	1991
IUCN status (IUCN 2010):	Endangered
Population:	41.38.12
Population trend (EEP/ESB) 04-09:	increasing
Biggest current challenge(s):	Finding new holders.

IMAGE: JULIE LANGFORD

NORTHERN WHITE-CHEEKED GIBBON

Species – scientific name:	*Nomascus leucogenys*
Programme:	EEP
Coordinator/studbook keeper:	Pierre Moisson, MULHOUSE
Year of establishment:	1991
IUCN status (IUCN 2010):	Critically Endangered
Population:	46.21.8
Population trend (EEP/ESB) 04-09:	increasing
Biggest current challenge(s):	Finding new holders, in particular to address the male-biased population problem.

IMAGE: JEAN KERN

SOUTHERN WHITE-CHEEKED GIBBON

Species – scientific name:	*Nomascus siki*
Programme:	EEP
Coordinator/studbook keeper:	Pierre Moisson, MULHOUSE
Year of establishment:	1991
IUCN status (IUCN 2010):	Endangered
Population:	7.2.2
Population trend (EEP/ESB) 04-09:	stable
Biggest current challenge(s):	Making a decision if and how to continue with the programme.

IMAGE: PIERRE MOISSON

AGILE GIBBON

Species – scientific name:	*Hylobates agilis*
Programme:	EEP
Coordinator/studbook keeper:	Melanie Gage, BRISTOL
Year of establishment:	2010
IUCN status (IUCN 2010):	Endangered
Population:	10.8.1
Population trend (EEP/ESB) 04-09:	stable
Biggest current challenge(s):	Increasing the current population and finding new holders.

IMAGE: PETER BUDD

LAR GIBBON

Species – scientific name:	*Hylobates lar*
Programme:	EEP
Coordinator/studbook keeper:	Chris Kibbey, BURFORD
Year of establishment:	1999
IUCN status (IUCN 2010):	Endangered
Population:	122.122.22
Population trend (EEP/ESB) 04-09:	stable
Biggest current challenge(s):	Identifying subspecies and phase out subspecific hybrids and generic animals.

IMAGE: RAY WILTSHIRE

JAVAN GIBBON

Species – scientific name:	*Hylobates moloch*
Programme:	EEP
Coordinator/studbook keeper:	Matt Ford, BEKESBOURNE
Year of establishment:	1991
IUCN status (IUCN 2010):	Endangered
Population:	16.18.0
Population trend (EEP/ESB) 04-09:	increasing
Biggest current challenge(s):	Finding new holders and setting up fruitful global cooperation

IMAGE: AFRANK99

PILEATED GIBBON

Species – scientific name:	*Hylobates pileatus*
Programme:	EEP
Coordinator/studbook keeper:	Robert Zingg, ZURICH
Year of establishment:	1996
IUCN status (IUCN 2010):	Endangered
Population:	27.21.0
Population trend (EEP/ESB) 04-09:	increasing
Biggest current challenge(s):	Finding new holders, in particular to address the male-biased population problem.

IMAGE: SUNEKO

was available than human babies? So these apes were generally reared in a human environment, at home in the families of keepers, curators or directors, wearing human baby clothes, drinking human baby milk and receiving the love and affection from their human family members.
It took quite some time to learn that this is not an ideal preparation for adult life in a social group of great apes. So what to do then? Leave the baby with the mother until it dies from lack of care, or is killed by other group members? Euthanize the baby, even though it is still in excellent health? In order to help zoos to make the best choices the TAG created guidelines that allow for the best course of action to be found in each specific case. Although called 'Hand rearing guidelines for Great Apes' this document, that can be found in the Member Area of the EAZA website, also describes what steps to take to avoid unnecessary hand rearing.

Great apes are generally kept in family groups. So the founding generations count more females than males. The sex ratio at birth is quite different though, fifty-fifty at best or even male biased. This means that not all males can be placed in family groups when they grow up. This is a real problem for most programmes. There are several possible solutions for this problem, although some of them have their downsides too. One way of solving the

Gibbon TAG

Gibbons probably represent the most endangered primate taxa, with 15 out of the 16 recognised species listed as Endangered or Critically Endangered on the IUCN Red List of Endangered Species. They include the sadly titled 'rarest ape of them all', the Hanian gibbon (*Nomascus hainanus*), of which there are likely to be fewer than 20 individuals alive who are restricted to a small Chinese forest fragment, which itself is under threat. Tragically, other gibbon species are competing for this title and in the current list of 25 Most Endangered Primates (2008-2010) the western hoolock (*Hoolock hoolock*) and the eastern black crested gibbon (*Nomascus nasturus*) are both listed. There can be no doubt that gibbon species need saving and it is the hope of the EAZA Gibbon TAG that activities including *ex situ* captive management, raising awareness and links with *in situ* conservation will help conserve them and prevent extinction.
Eight gibbon species are currently managed in EAZA programmes (see species profiles) representing all but the Hoolock genus. All of these gibbon species are of considerable conservation value, for example, the northern white-cheeked gibbon (*Nomascus leucogenys*) probably numbers only a couple of hundred in the wild. And surprisingly, given that it is almost ubiquitous in zoos, there are reports that a sub-species of lar gibbon (*Hylobates lar yunnensis*) is probably extinct in its native range of China. So how do we intend to manage this group of primates?

In terms of managing gibbon species in zoos the major hurdle impeding our success for at least half of the programmes is that we hold extremely small population sizes; consisting of fewer than 50 individuals. When population sizes fall this low they are vulnerable to 'random' effects which make them difficult to manage demographically and

sex ratio problems could possibly be to castrate young males at a very early age. Hopefully these castrates can stay in their maternal group during their lives without big problems, or create fewer problems when growing up in a bachelor group.

Strangely enough quite a number of zoos seem eager to castrate their chimp males, while most zoos hesitate to castrate their young gorilla males when they are asked to do so by the EEP coordinator. In both cases it is important to cooperate with the coordinators. A concern of course is which males to choose for castration. Genetically valuable individuals should not be picked. But genetic value can change over time.

Another concern is that with the castrated males an unnatural element is introduced in the social structure. To what extent will this affect the behaviour in the groups? Will the welfare of a castrated male benefit, because he can stay in a social group and is freed from the drive to strive for dominance? Or will his welfare suffer because his behaviour does not fit in the natural social structure and his physics and hormonal drive do not combine well with his innate behaviour?

There is simply not enough experience yet for all species to conclude that this is indeed a good option. We need to expand our experience and evaluate the results.

genetically. For example, by unlucky coincidence the annual offspring could all be the same sex, and this could happen over repeated years resulting in a sex biased population, i.e. too many males. Indeed some of our programmes are biased towards males, which appears to be due to a skewed birth sex ratio rather than greater survival of males compared to females. Other factors, aside from the deleterious impact of being a small population, may contribute to this and are being studied; but surprisingly we know very little about gibbon biology or the impact of captive conditions on them. Male biased populations are problematic as they reduce the effective breeding potential of the population, as there are spaces being used by males and not breeding pairs. Housing these males is also tricky as it is undesirable to keep gibbons alone, but excessive aggression needs to be avoided. Ironically there are many unsexed gibbons in zoos – that needs to be addressed – but even if unknown individuals were found to be females, some populations would still have a male sex bias. So how do we jump these hurdles?

Two familiar phrases come to mind: i) We need more space and ii) More research is needed! We are all familiar with the space restrictions in zoos and adding eight gibbon species to the list of animals which need more space is probably not going to get us very far; though if you don't have gibbons yet or enough....then do get in touch! What can be done is to the use the space we have more wisely. Reducing the larger lar and siamang populations will still enable them to reach desirable genetic goals, while hopefully freeing up much needed space for other gibbon species. Research – we truly know very little about this taxa, especially why so few of them breed in captivity.

SIAMANG

Species – scientific name:	*Symphalangus syndactylus*
Programme:	ESB
Coordinator/studbook keeper:	Bridget Fry, TWYCROSS
Year of establishment:	2001
IUCN status (IUCN 2010):	Endangered
Population:	79.57.12
Population trend (EEP/ESB) 04-09:	decreasing
Biggest current challenge(s):	Identifying subspecies and phase out subspecific hybrids and generic animals.

IMAGE: CONSTANZE MELICHAREK

SUMATRAN ORANGUTAN

Species – scientific name:	*Pongo abelii*
Programme:	EEP
Coordinator/studbook keeper:	Clemens Becker, KARLSRUHE
Year of establishment:	1990
IUCN status (IUCN 2010):	Critically Endangered
Population:	55.93.0
Population trend (EEP/ESB) 04-09:	stable
Biggest current challenge(s):	Addressing problems related to housing (temporarily) surplus males.

IMAGE: ISTVAN VIDAKOVITS

BORNEAN ORANGUTAN

Species – scientific name:	*Pongo pygmaeus*
Programme:	EEP
Coordinator/studbook keeper:	Clemens Becker, KARLSRUHE
Year of establishment:	1990
IUCN status (IUCN 2010):	Endangered
Population:	64.90.0
Population trend (EEP/ESB) 04-09:	stable
Biggest current challenge(s):	Addressing problems related to housing (temporarily) surplus males, combined with subspecies questions now that three are described. IMAGE: ISTVAN VIDAKOVITS

BONOBO

Species – scientific name:	*Pan paniscus*
Programme:	EEP
Coordinator/studbook keeper:	Zjef Pereboom, ANTWERPEN
Year of establishment:	1991
IUCN status (IUCN 2010):	Endangered
Population:	37.53.0
Population trend (EEP/ESB) 04-09:	stable/increasing
Biggest current challenge(s):	Finalising the transfers in the master-plan and stablising new groups. Focus on fission-fusion housing system.

IMAGE: TOMASZ RUSEK

COMMON CHIMPANZEE

Species – scientific name:	*Pan troglodytes*
Programme:	ESB
Coordinator/studbook keeper:	Frands Carlsen, COPENHAGEN
Year of establishment:	2007
IUCN status (IUCN 2010):	Endangered
Population:	251.404.3
Population trend (EEP/ESB) 04-09:	stable
Biggest current challenge(s):	see Western Chimpanzee, below

IMAGE: TOMASZ RUSEK

WESTERN CHIMPANZEE

Species – scientific name:	*Pan troglodytes verus*
Programme:	EEP
Coordinator/studbook keeper:	Frands Carlsen, COPENHAGEN
Year of establishment:	2002
IUCN status (IUCN 2010):	Endangered
Population:	61.95.0
Population trend (EEP/ESB) 04-09:	increasing
Biggest current challenge(s):	Moving towards species of known subspecies, particlulary P.t. verus which is complicated by the lack of reliable testing for non-verus sspp, a complicated social group structure, and chimps from various orgins kept together. New holder are needed. IMAGE: BURGER'S ZOO

WESTERN LOWLAND GORILLA

Species – scientific name:	*Gorilla gorilla gorilla*
Programme:	EEP
Coordinator/studbook keeper:	Frank Rietkerk, APELDOORN
Year of establishment:	1991
IUCN status (IUCN 2010):	Critically Endangered
Population:	186.245.0
Population trend (EEP/ESB) 04-09:	increasing
Biggest current challenge(s):	Housing (temporarily) surplus males.

IMAGE: ISTVAN VIDAKOVITS

In the mix

Kirsten Pullen, Zoo Research Officer, Whitley Wildlife Conservation Trust

THE INCREASING TREND FOR MIXED SPECIES EXHIBITS WITHIN ZOOS CAN ALLOW US TO PROVIDE EXCITING AND INTERESTING ENCLOSURES, WHILST MAXIMISING USE OF AVAILABLE SPACE – PARTICULARLY WHEN IT COMES TO THE APES

Whilst it is quite common these days to see a mixed species exhibit of callitrichids or a free flying bird aviary, some of the more dramatic mixed species exhibits recently created involve the apes. From a spectator's point of view there can be little that has a greater impact than seeing a group of gorillas foraging across an island with a group of colobus monkeys, or indeed watching a cheeky gibbon tease an orangutan by pulling his hair. But is establishing mixed exhibits with the apes a successful way of contributing towards the needs of the breeding programmes and the animals themselves?

Many of the negatives of mixed species exhibits including apes remain the same for all species; how stressful is the social environment of the individuals? What's the risk of transmission of disease? How practical is it to manage individuals in a mixed species exhibit? Can you effectively ensure the correct diet for each animal? While we don't currently have practical answers to all of those questions (and won't until we objectively review what has been achieved so far), we can put some into perspective. The risk of transmission of disease within a mixed species exhibit is higher, but how much higher quantitatively than a zoo with a series of open islands and free living birds ranging from area to area. I have heard of one possible case of a major disease being transmitted from a monkey to a gorilla several years ago, but the epidemiology was never traced and I suspect there was more to the story than was told. There is the possibility of one animal gaining the major portion of the daily food, but this is a situation that we think about all the time in group living animals. The key question is what are the social benefits and disadvantages to a mixed species exhibit with apes?

The impact of these exhibits on the visitors to our collections should not be overlooked. Mixed species exhibits can be inspiring, encouraging our visitors to think beyond an individual species to how that species may co-exist with other sympatric species in the wild. What better way to catch the public attention and put across our conservation message?

However, due care and addition should be paid to the impact on the animals involved. During a recent workshop in the US we were shown footage of the introduction of a small group of colobus monkeys to a newly established group of gorillas. Initial introductions were between the female colobus and female gorillas; and the results were surprising. It didn't take long for the female colobus to work together and drive the female gorillas around the paddock area. At this point the question of enclosure design begins to become paramount. Although there was little danger of the colobus monkeys causing serious damage to the

gorillas, the levels of stress within the group were certainly raised (as with any introduction) and strategic use of landscaping features and planted areas can assist with run-rounds and visual barriers. There is also the question of how long to continue with an introduction when potentially stressful situations are observed. Suffice to say that within this particular gorilla group it was not long before the chase by the colobus had become a game, with the female gorillas purposefully slowing down if getting too far ahead and encouraging further interaction.

Certainly this is a different outcome from the situation of a pair of mandrills being introduced to two bachelor gorillas, where the stress of an introduction to gorillas destabilised the introduction of the male and female mandrill. This leads us also to the point of needing established bonds within your group of introduced animals. The stress of an introduction to a mate, whilst undertaking a mixed species introduction may prevent the establishment of strong bonds within the groups.

Many have suggested that mixed species exhibits provide opportunities for greater social interactions and can be 'enriching' for the animals involved. Whilst we don't have research data on whether mixed exhibits can be classed as enriching for the apes, anecdotal evidence does suggest an enriching effect. Watching individuals from two different species groom together gives the feeling of benefit on both sides, and certainly seeing a female gorilla investigating a baby mangabey with the mother mangabey calmly looking on doesn't give the impression of a stressful group situation. However there have been incidences where play has gone a step too far; there are anecdotal stories of Diana monkeys being swung round by the tail and colobus monkeys being grabbed. You have to wonder how long the cheeky gibbon will be able to pull the orangutan's hair before the orangutan has had enough.

Careful enclosure design though can obviously help to diffuse situations; escape routes, shut offs with shift doors and ensuring there are no dead-ends within the enclosures are all useful design features, as are featured landscape design allowing visual barriers to increase the sense of distance between animals. But these should all be features of standard ape enclosures; facilitating the introduction of new group members, allowing for control as individuals grow up in the group (though the scale maybe different when dealing with a mangabey). Water moats that antelope species can wade across to a 'safe' area nearby are a design feature that facilitates a successful mixed exhibit.

There are a growing number of success stories with a range of species and as our experiences increase we will be better able to adjust and establish our groups. One of the key factors involved in any of these mixed species exhibits, has to be the individuals themselves. Ape behaviour is complex and will vary from individual to individual, and situation to situation. An individual's response will depend on past experience and social background as well as current influences, so assessing the individuals, designing flexible enclosures and adapting to current situations are a must.

Red and bred

AFTER ITS FIRST THREE DECADES, THE ORANGUTAN EEP HAS COME A LONG WAY: BUT THERE'S STILL MUCH MORE TO DO

Clemens Becker, Karlsruhe Zoo, Deputy Zoo Director and EEP coordinator for orangutans

The orangutan is one of the most threatened primates on earth. Recent data indicate that the Bornean orangutan population, with its three or four subspecies, consists of about 54,000 individuals within 306 geographically distinct forest areas. In Sumatra orangutans occur only in the northern part of the island with an estimate of only 6,000 to 7,000 individuals. The Sumatran orangutan is Critically Endangered.

For approximately 30 years now we have been collectively managing orangutans in European zoos. In 1982, during studies on 'orangutan play behaviour' involving more than 20 European zoos, I compiled the first manuscript for a regional orangutan studbook including 187 orangutans in 32 zoos in central Europe. At that time nearly 40% of the animals in the studbook were wild born. After I was employed by Karlsruhe Zoo in 1985, the zoo took on the responsibility for this regional studbook.

At the International Union of Directors of Zoological Gardens (IUDZG, now WAZA) conference held in San Antonio in 1989, the European members of IUDZG agreed to the proposal of the EEP Committee to establish the Orangutan EEP and to enlarge the region to continental Europe with more than 250 orangutans in more than 50 institutions. The initial aims for this specific ape species were to reduce the high number of known hybrids (nearly 20%) and to identify unknown hybrids and the pure Bornean and Sumatran population through caryotyping.

After the first election of a species committee in 1990, a very important milestone was the ECAZA (now EAZA) conference in Budapest (1991) when zoos from the British Isles, who until then ran a Joint Managed Species Programme (JMSP) for orangutans (held by Bristol Zoo), stated their intention to join the EEP. A general decision was also taken to develop pure Bornean and Sumatran zoo populations as well as to reduce (eliminate) the hybrids, simultaneously. At that time the programme included 65 holders with 307 orangutans, including 16% hybrids and 25% remaining wild born apes. These 'Budapest decisions' still stand today:

- It is essential for future breeding management to establish over the long term separate and self-sustaining populations of Bornean and Sumatran orangutans.
- To preserve the genetic variability over many generations, all available orangutans have to be integrated into the founder population, and thus encouraged to reproduce, taking especially ethological aspects into account.
- All EEP members have to stop producing hybrids and cease breeding with hybrids. Infertile hybrids can remain in the presently existing groups.

Since 1993 the EEP has prioritised breeding according to mean kinship and made an effort to integrate and better represent the high ranking potential founders (that never bred) and genetically important founders (with few offspring) into the gene pool of the population. However, the EEP never completely prevented low ranking animals from breeding. Today the EEP population is in the fortunate position of having comparatively large populations with a robust genetic profile for both species of orangutan maintaining 98% gene diversity of the founder population, and a realistic potential to keep this well above 90% in 100 years time. At the beginning of the year in the EEP there were 154 Borneans (47%), 148 Sumatrans (45%) and 27 remaining hybrids (8%) with only 9% remaining wild born animals.

Since the initiation of the EEP the growth rate of the two populations remains stable at an approximate replacement level, even considering the average annual birth rate of 16 animals and an effective population size of over 40%. Placing a growing number of younger males is an issue for the EEP. These males are needed for breeding purposes in the future, but are temporarily surplus due to the lack of available suitable accommodation. In the past years some holders tried to house all male groups which so far have not really been successful due to the aggressive behaviour of the sub adult/adolescent males.

The fact that the populations lack sufficient growth could be related to our present system of housing orangutans, which does not sufficiently reflect their social structure in the wild. In most of our zoos, males and females live together for a large part of their lifetime. In the wild, females and juveniles are relatively social. Females only seek the company of flanged males (with fully developed secondary sexual characteristics) when seeking a partner for breeding. Unflanged males (no secondary sexual characteristics developed) are comparatively social and tolerant towards other males and actively find females for short and successful sexual contacts. In our zoos, females should have a choice between different (separated) males and should be able to choose when to be with that preferred male or when to be separated.

To enable this so-called 'fission-fusion system', the current holding systems for orangutans, with only limited potential for variations, must change over the coming years: bigger and more flexible orangutan facilities with a variety of inside and outside enclosures, with possibilities for separations and new combinations, must be constructed in the future. Such new enclosure systems must provide space to accommodate two or more males (flanged and unflanged) and/or to separate the sexes for certain time spans to stimulate sexual behaviour. This will also help to solve the male surplus problem, for which all holders have a shared responsibility. These different facts and estimates for the stability and growth of the populations in the future should be carefully compared and observed.

For more information please refer to the paper *Orangutans: Distribution, species status and social system - consequences for the EEP management, the future husbandry and enclosure design* available from the Great Ape TAG library on the EAZA website.

High hopes for the lowlands

A BORNEAN ORANGUTAN PROJECT HAS SHOWN THAT GOOD SCIENCE REALLY CAN MAKE A DIFFERENCE TO CONSERVATION

Simon Husson, Director of Biodiversity Research and Conservation, The Orangutan Tropical Peatland Project

Swathing the lowlands of southern Borneo island is a vast expanse of peatland. This is a densely-forested, swampy environment unknown to all but the most adventurous explorers until well into the 1990s. Hidden within this habitat is a wealth of fauna and flora, such as the clouded leopard, storm's stork, gibbon, rhinoceros hornbill, sun-bear and reticulated python, but the species that brings most scientists and conservationists to the region is the endangered orangutan.

Orangutans are lowland forest specialists, rarely living higher than 500m above sea-level, and only found on the islands of Borneo and Sumatra in Southeast Asia. The species is threatened by habitat destruction, especially from fire, illegal logging and plantation expansion (primarily oil palm, the oil from which is used in a wide range of manufacturing and food-production processes and increasingly as a bio-fuel) and hunting for the pet-trade and as 'pest-control' in plantations and fruit-gardens. They are naturally vulnerable to disturbance and hunting because they occur at low densities of between 1 and 5 individuals per square kilometre. Their preferred habitat of dryland forest intermixed with freshwater swamp has been largely cleared and thus peat-swamp forest has become the keystone habitat for this species. Almost half of the world's remaining 50,000 orangutans are found in peat-swamp forest, with the largest population anywhere occurring in the Sabangau Forest in Central Kalimantan, Indonesian Borneo. The Orangutan Tropical Peatland Project (OuTrop), a UK-based NGO, has worked here for 15 years to protect the forest and conserve its globally-important orangutan population and other biodiversity.

OuTrop was established by Simon Husson and Helen Morrogh-Bernard, two British primatologists who first visited Sabangau in 1995 to survey orangutans as part of a Nottingham University expedition. At that time it was believed only 15,000 orangutans survived in the wild, but OuTrop's surveys suggested a further 10,000 could be added to that figure and firmly established Sabangau as a major orangutan stronghold.

Covering an area of 600,000 hectares, Sabangau is the largest unfragmented peat-swamp forest in Borneo. Peat-swamp forest is a fascinating dual-ecosystem, with tropical rainforest growing atop a deep peat layer up to 15m thick, and the interface between the two ecosystems determines the nutrient flow, forest structure and floral composition. Peat has accumulated here over thousands of years, formed by the incomplete breakdown of plant material under wet, poorly-drained, acidic conditions and settling in large, shallow domes across the landscape. Compared to dryland forests the trees aren't as tall and the species diversity lower, but trees fruit regularly year-round compared to the far more seasonal fruiting cycles observed elsewhere and this steady supply of fruit enables orangutans and other frugivores to flourish. This includes the endangered southern Bornean gibbon, a small ape that lives in territorial groups and whose early-morning singing provides an unforgettable soundtrack to the forest. Tropical peatlands are also notable as a globally-significant store of carbon, regulate hydrology over large areas, are a fire buffer in their pristine state and contain many non-timber forest products of cultural and economic significance for local communities.

Logging concessions were granted in Sabangau in the 1970s, with companies permitted to remove the largest trees of certain species. Trees cut for timber included *Gonystylus bancanus*, the 'ramin' tree much prized internationally for its high-quality grain, and various species of dipterocarp trees, Asian mahogany or 'meranti'. These concessions expired in the late 1990's, but were then immediately followed by a rampant wave of uncontrolled illegal logging. Major political changes in Indonesia caused widespread uncertainty and led to increasing corruption and poverty, driving the trade and enabling illegal loggers to


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work with impunity. Any tree of any value was cut and laundered onto the international market. Illegal logging occurred everywhere in Indonesia from National Parks to logging concessions and was the major cause of habitat destruction and orangutan population decline for a decade, before the expansion of oil-palm plantations superseded this.

OuTrop by this time was carrying out annual surveys of orangutan throughout Sabangau in order to confirm the large population and raise the profile of the region for conservation. Orangutans are a cryptic, low-density species and it is therefore very difficult to survey them directly. Instead, we counted their 'nests', sleeping platforms that they build every night and occasionally during the day by breaking branches into a bowl-shape and filling with leaves. Armed with knowledge on the number of nests built per day rate; the proportion of infants in a population (who don't make nests); and the length of time a nest remains visible before it falls apart, we were able to convert nest densities into a reliable estimate of orangutan density.

As well as identifying the distribution of orangutans in the Sabangau Forest (we found them everywhere!) our annual surveys also highlighted movements and responses to illegal logging. As loggers moved inland from the rivers, so the orangutans moved further inland away from the disturbance and into poorer-quality habitat. Our surveys captured this movement – and then identified a major population crash between 2002-03 during which up to a third of orangutans perished. It seems that the population was overcrowded for too long, in too poor a habitat, to be able to cope with a subsequent period of fruit shortage.

We work in partnership with the Indonesian NGO CIMTROP (The Centre for International Cooperation in Management of Peat-swamp Forest). Together with CIMTROP and other conservation groups we lobbied for protection of the Sabangau Forest and succeeded in protecting a 50,000 hectare area as a research forest in 1997, with the rest of the Sabangau given National Park status in 2004. OuTrop's work is now heavily focused on protecting the habitat from further degradation and rehabilitating damaged areas. Funding is prioritised for the CIMTROP Patrol Team, a group of people from the local village who prevent illegal activities and fight dry-season fires that occur in the forest margins.

They proved their effectiveness against difficult odds by stopping illegal logging in the northern Sabangau in 2004. The primary focus at present is damming the many hundreds of small canals that riddle the forest. These were dug by illegal loggers for floating timber out of the forest, but have since caused the forest to drain rapidly at the start of the dry season. Dried peat degrades and burns easily, and the long-term consequences of unmitigated drainage are unthinkable – widespread fires and forest collapse.

OuTrop now supports a diverse full-time research programme at our Setia Alam base camp. When we realised that illegal logging was having a negative effect on the population we increased focus on the individual orangutans themselves – how were they living? what were they eating? what was their physical condition? Now in its eighth year this is one of the longest-running studies of orangutan behavioural ecology. Fortunately we found that those orangutans that survived the illegal logging wave are now healthy and breeding with four newly-born vigorous and playful baby orangutans the best reward for our efforts! As well as orangutans we study forest dynamics and regeneration processes, gibbon density and behaviour, red leaf monkey ecology, bird and amphibian diversity and have set up an ecological monitoring project with several remote field stations in order to quickly identify any negative changes. Monitoring is essential to understand the processes underlying change, to divert resources to threatened areas, report on success and justify actions to funders and supporters.

Every year 20-30 young student volunteers join us in Sabangau to help us with our research, undertake projects for undergraduate and masters degrees and experience this wild habitat and its awesome wildlife. They help us survey new sites in Borneo that we are working to protect and trek many miles into the forest interior to collect vital data. Our volunteers get the opportunity to observe orangutans and gibbons in their natural habitat, and there are few experiences more exhilarating than being with someone when they see a wild orangutan for the first time! This project is an example of how good science can inform positive policy decisions and conservation actions, and in an ever-shrinking Bornean forest, protecting Sabangau is crucial for orangutan conservation.

FIND OUT MORE

For further information, visit www.orangutantrop.com, www.outrop.blogspot.com, or e-mail info@orangutantrop.com.

SONGS OF EXPERIENCE

THERE'S SO MUCH WE CAN LEARN ABOUT GIBBONS, SIMPLY BY UNDERSTANDING THEIR SONGS

Holly Farmer, Assistant Zoo Research Officer, & Vicky Melfi, Senior Research Officer, Whitley Wildlife Conservation Trust, Paignton Zoo Environmental Park, UK

Gibbons are infamous singers! Their loud, long and elaborate vocalisations convey information over vast distances of up to 1km. When interpreted these songs can help us understand gibbon taxonomy, inter and intra group social interactions, and how many gibbons we have left in the wild.

Songs vary in their frequency, length and content; they can comprise of a variety of trills, hoots and sounds described phonetically as 'wa', 'oo' and 'wa-oo'. Combinations of these units create the loud stereotyped great (long) calls, and also the complex pattern of precisely timed synchronised duets sung by mated pairs. Duets are frequently performed in the early morning. Differences in acoustic features between species, such as the duration and frequency of specific elements of the song, have been used by taxonomists to support species designation. For example, vocal differences between two closely related gibbons of two different genus, the agile (*Hylobates agilis)* and Bornean gibbons (*muelleri)*, and yellow cheeked crested (*Nomascus gabriellae)* and southern white cheeked crested gibbons (*siki)* were considered significant enough, with other supporting data, to be considered two different species. Other studies have used species differences in song characteristics to identify silvery gibbons (*Hylobates moloch*) and Kloss's gibbons (*Hylobates klossii*).

In terms of social dynamics, most research has been undertaken to investigate why gibbons sing duets. As a consequence, four possible explanations have been put forward:

i) to reinforce pair-bonds, indeed duet singing in siamangs (*Symphalangus syndactylus*) has been associated with grooming, behavioural synchronisation and is less frequent when the pair is distantly separated;

ii) to attract mates, it is hypothesised that females are able to distinguish 'higher quality' males by the quality and quantity of their singing;

iii) to defend their territory from other gibbons. Although it is the male of the pair who is involved in physical defence, the female's duet is suggested to exclude other females and maintain pair monogamy. Historically gibbons are considered to be monogamous, but more recent data have established some gibbons engage in serial monogamy, while others engage in extra-pair copulations;

iv) to provide information about dangerous situations or location within the group, for example, pileated gibbons (*Hylobates pileatus*) appear to sing a specific song in response to a terrestrial predator in experiments.

There is lots of evidence for intra species communication, and lar gibbons (*Hylobates lar*) are known to wait until neighbouring groups have sung their whole song before responding, with no overlap between songs. This process allows each group to listen to the neighbouring group so that they can identify the caller, mainly through their great call. However, it seems that inter species communication might be less informative. Interestingly results from playback studies, where recorded vocalisations are played to captive animals, have found that the gender of the singer could not be determined, thus confirming a degree of species specificity in their singing; these data were compiled using lar and pileated gibbons.

Incredibly individuals can be identified from recordings of their song alone. Studies of female songs have found sufficient differences in vocal characteristics, such as duration and frequency of notes, between individuals to enable accurate identification of individuals, which has enabled mapping of wild animals. This technology has been used to map groups of endangered silvery gibbons on Java.

Much can be learnt from studying gibbon vocalisations, however we still know very little about the songs of some gibbon species, especially those which are Critically Endangered.

For links to vocalisations, visit the Sound Gallery on Thomas Geissmann's Research Lab site at www.gibbons.de/main/index.html

The human factor

A PSYCHOLOGICAL STUDY OF GORILLAS HAS REVEALED THAT THEIR RELATIONSHIPS WITH THEIR KEEPERS AND EVEN ZOO VISITORS CAN HAVE AN EFFECT ON THEIR OWN FAMILY DYNAMICS

Professor Andreas Spengler, Wunstorf and Dr Heiner Engel, Hannover Zoo

New discoveries about the mental and social capabilities of the great apes are on the increase. Nonetheless, the individual interactions between the great apes and their keepers, and the effects these have on social behaviour, have not been systematically investigated. This is rather astonishing in light of the knowledge gathered from experience by zoo staff, not to mention common knowledge from pets and circus animals. Consequently, in response to an emergency situation in a gorilla family at Hannover Zoo in 2003, we began external psychological counselling and supervision to change the individual interactions between the apes and the zoo staff.

We originally had a functioning gorilla family including Artis the alpha male, three females and their offspring. They lived in an extensive outdoor enclosure, and in an indoor area at the tropical house. Disaster struck in 2000 when Artis drowned in the moat, an event that destabilised the family dynamic and caused severe tension. We brought in a 10-year-old named Batouri from Melbourne Zoo in September 2001, but he was still learning the basics of social behaviour, and needed to be hand-reared by a keeper for the next two years. During this time, the tension rose. He broke the arm of one of the youngster, Mambele, and even threw her into the moat from which she was rescued by her mother, Zazie. He also bit another child, Awembe, who then had to be removed. Batouri was incapable of assuming his role as alpha male.

Medical interventions with neuroleptics or benzodiazepines were tried, but failed entirely, and it was up to the keepers to control and separate him when he became aggressive. Breeding was clearly out of the question, and zoo management was under increasing pressure from visitors and the media.

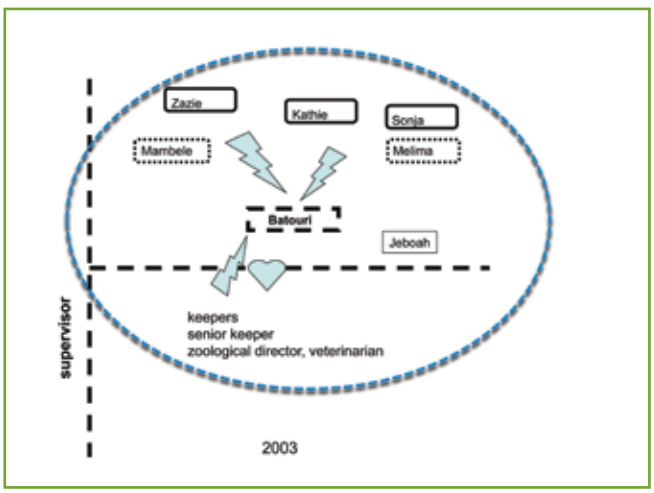
At the request of the zoo, the first author began an external consultation by assuming the role of psychological supervisor, as established in human therapeutic processes. The theoretical framework was one of family therapy. This approach seemed useful because it did not focus on individuals but on interactions and personal relationships.

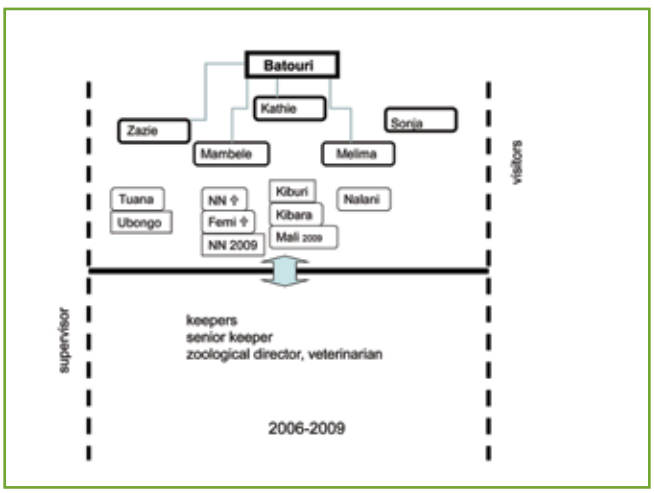
The keepers felt the burden caused by risks and responsibilities. They showed inconsistent attitudes and behaviour towards the apes, and from an outsider's perspective, the key factors seemed to be the gorillas' attachment to keeper team members, and awareness of the human hierarchy, and specific differentiation and attraction between males and females of both humans and gorillas.

From this we developed the idea of a shared social system, within which personalities from different species experience complex personal relationships: to some extent, a life with 'two cultures' in one social space. Our expectation was that change in the behaviour of the humans would also have an effect on the animals. We tested a sociogram including animals and team-members, and were able to better understand the individual relationships with the apes.

ALPHA ROLE

The first step was to deliberately assign the role of the alpha male to Batouri, to pay him more attention and to approach him in an explicitly respectful manner. This meant indirectly paying the female gorillas less attention and treating them in a more distant manner.This turned out to be a decisive factor. Within three or four weeks Batouri was showing a clear change in his behaviour. He was a group member now, observing and controlling the family. He modulated his dominance behaviour, and the family responded by becoming markedly more relaxed. The females Kathie and Zazie presented themselves to Batouri in 2004 and 2005, and two young were born. Between 2006 and 2008 another four children were born to Zazie and Kathie, and then to their daughters





FROM A LECTURE AT THE GREAT APE TAG MEETING, BUDAPEST, 23 APRIL 2009

Mambele and Melima as well, one of which was stillborn. These were all natural births in the family, as Batouri steadily matured into a handsome and imposing silverback. In 2009, two more children were born, and today the group has seven healthy youngsters.

HURDLES

There were relapses on route to this successful outcome, however. Once or twice a year we observed outbursts of rage from Batouri, who would seize his own young and throw them aside, where they would be rescued by the females. In 2008, Mambele's youngest baby was often left lying around and ignored by her, but carried by her elder siblings. In October, Batouri suddenly hurled the baby against a rock wall. It was injured, fell ill and succumbed to subsequent infection some days later.

Other aspects came to light during this period, one of which was particularly interesting. Interaction with visitors who spend long periods at the gorilla enclosure was found to be a relevant source of stress and disturbed behaviour for Batouri, who could recognise visitors individually. In 2005 one female visitor regularly provoked Batouri to aggression. When we spoke to her she confirmed her personal antipathy to Batouri: out of sympathy for the female gorillas, she greeted only them and paid him no attention. We convinced her to greet Batouri first whenever she came, and the tension caused by her appearance evaporated.

Ultimately, we could not offer an explanation for Batouri's aggressive acts against babies. Normally infanticide is directed against the children of rivals. It seems possible that an unspecific effect came from the surroundings, from overstimulation and limited territory. Actually, he reacted aggressively to the appearance of a new, blonde trainee. His human nurse had been blond, so we speculate that his problematic early development could play a specific role.

We conclude with the proposition that psychological counselling and external systemic supervision are appropriate in this field and should continue to be tested in practice. In our project, the unexpectedly strong influence of human beings became clear. Our hypothesis of 'a system in two cultures' was confirmed. In this, the knowledge and experience of the keepers is the essential resource. Our 'hands-off' philosophy of keeping the apes was confirmed effective, but it was extended by adopting a mental attitude of greater emotional distance by the keepers. Today, we see a functioning gorilla family life.

There are new tasks for visitor management, and in public relations. Breeding success and undisturbed animal behaviour must be considered in more than only terms of technical and veterinary husbandry regimes. Sustained success will not be possible in a socially incompetent or dysfunctional animal family.

Penguin power

THE CREATION OF A CAPTIVE POPULATION OF HUMBOLDT PENGUINS IN SOUTH AMERICA REVEALS THE SUCCESS THAT COOPERATIVE PROGRAMMES BETWEEN EAZA AND ALPZA CAN ACHIEVE

Miguel Bueno (EAZA Penguin TAG Chair), Pierre de Wit (Humboldt penguin EEP coordinator) and Guillermo Cubillos (studbook keeper, ALPZA Humboldt penguin programme)

After the establishment of an MoU (Memorandum of Understandig) between ALPZA and EAZA in 2005, an initiative was taken together by ALPZA and the EAZA Penguin TAG to study the possibility of setting up a managed population of Humboldt penguins (*Spheniscus humboldtii*) in South American zoos, boosted with surplus animals sent over from Europe, in order to promote the establishment of a solid captive population of these penguins as platform for future *in situ* conservation actions.

The captive population of the species in the ALPZA zoos is very small, while the one of the relevant EAZA EEP is considerably larger, exceeding 1,200 individuals. Having considered this fact, ALPZA and the EEP agreed to launch a cooperative scheme in which birds which are surplus to the EEP requirements were sent out to South America.

The goal is to establish demographically balanced and genetically healthy breeding colonies that can permanently be kept in several zoos in the region, as managed meta-population under the supervision of the ALPZA breeding programme coordinators. The final aim is to produce birds which could eventually be transferred back to the wild in the future in order to reinforce already existing populations.

With this in mind, ALPZA (through its Cooperative Species Management Committee and the breeding programme coordinator for the Humboldt penguin) started a survey process to research and update existing colony data, in size and husbandry procedures. At the same time, a general request was sent out to all institutions to invite them to take part in the project and EAZA penguin husbandry guidelines have also been distributed.

The EEP selected, based upon the capacity of the facility involved, a total number of 20 (11.9) birds from two collections in the EEP. In the selection process, welfare, genetics, demographics and logistics were considered.

The Santiago Zoo has taken the lead in the project and the kick off of the program was on the 3rd of June with the arrival of 12 (8.4) juvenile Humboldt penguins coming from Zooparc de Beauval in France. Another group of eight (3.5) is expected from Villars-les-Dombes in order to balance the sex ratio and maximize reproductive chances.

The birds, accompanied by journalists who were covering the penguins' story, arrived early in the morning to Santiago airport. The birds had no problems due to the trip and were in a good physical condition. After customs procedures, the birds were transferred to the national zoo where they were put into their new enclosure for their habituation. It was closed to the public, so that birds could adapt to their new facility. Their behaviour was closely monitored: they were very curious, exploring their area. During the following days they were increasingly confident in their explorations, very active and showing a strong appetite! During their second week, wing bands were put in place to visually identify them.

Continuing with the collaboration program in the near future at least five Latin American zoos will receive Humboldt penguins from Europe and establish stable breeding colonies, making this a first step towards conservation of the species in one of the countries where it can be found in the wild.

Rearing dragons

THE RIBBONED SEADRAGON MAKES A GREAT AMBASSADOR FOR THE CORAL CRISIS, BUT ITS HUSBANDRY REQUIRES PLENTY OF PATIENCE AND WORK

Isabel Koch, Curator of Reptiles, Fishes & Invertebrates, Zoological and Botanical Garden Wilhelma, Stuttgart

Known to Australian Aborigines for more than 6,000 years and to science since 1859, a strange fish appeared in some public aquariums a few years ago. The ribboned seadragon (*Haliichthys taeniophorus*), like seahorses and pipefish, is a member of the syngnathid family. It can grow up to 30cm, its golden greenish colour is quite charming and the numerous skin appendages give this beautiful charismatic fish an absolutely unique appearance.

The ribboned seadragon lives in the shallow tropical waters (coastal reefs and sea-grass areas) around Irian Jaya and the northern and western coasts of Australia. Whether it is a common species or a rare one is not known – a literature search reveals little about this mysterious fish. It has no IUCN status, but neither does it appear on the lists of wholesalers (fortunately, perhaps).

In 2005 a few specimens arrived at the Dallas World Aquarium. Our experienced colleagues in Dallas were successful in breeding the seadragon, and in April 2008 ten little ribboned seadragons from the Dallas breeding programme arrived at the Zoological and Botanical Garden Wilhelma in Stuttgart. Husbandry for this species proved to be easier than for leafy or weedy seadragons: *Haliichthys* is happy with a 2,000 litre tank, filled with 25°C artificial seawater and decorated with soft corals and algae, and will accept live or frozen mysiid shrimps as food. They are not aggressive towards each other and start mating at the age of approximately six months. As is common practice in this family, the male carries the eggs in a brood pouch under his tail. In August 2008 one of our males gave birth to about 120 young. Newborn ribboned seadragons are about 2cm long and still have a caudal fin. They feed on freshly hatched artemia after just one day, and grow up to 4cm within 10 days. Unfortunately we lost the whole brood due to a technical accident.

Although there's no information up to now about how threatened this species might be, we assume that life is as hard for them as for their syngnathid relatives. Therefore we have tried repeatedly to breed them – unfortunately in vain. We lost some of our adults due to gas bubble problems, and, as of now, the rest are mating but not reproducing. A second shipment from Dallas brought more ribboned seadragons to Europe – now they are also exhibited in Hull and in Berlin, but unfortunately also with no breeding results.

The FAITAG (Fish and Aquatic Invertebrate TAG) is monitoring threatened aquatic species and is managing some species in breeding programmes according to the EAZA approach for birds and mammals. Initial experience was gained with ESBs for the zebra shark, blue-spotted ray and the European seahorses. As some members of the syngnathid family are already managed in programs by the FAITAG, the ribboned seadragon might be a suitable species for another try – as soon as the population in Europe is big enough and ready for regular breeding. The aim is certainly to create a self supporting population in Europe.

But why all this effort? Because weedy and leafy seadragons are gorgeous species which up to now did not reproduce in Europe and therefore have to be constantly imported for display – that's not only frustrating but also expensive. I think that the ribboned seadragon is, due to husbandry reasons and possible breeding success, a better candidate for public aquariums than the leafies or weedies.

The ribboned seadragon is a charismatic species and therefore a perfect ambassador for the fragile reef ecosystem – the visitors just love them, and will listen to all the stories this fish can tell about the threatened world under water.

We finish our retrospective review in celebration of the International Year of Biodiversity 2010 with a look at the

Amphibians: not a moment too soon

Malcolm Tait, Editor, *Zooquaria*

GOLDEN POISON FROG (*PHYLLOBATES TERRIBILIS*)

There's been a real drive to succeed from all the campaigns launched by EAZA over the years, but few have had the sheer sense of urgency that accompanied the seventh in the list, launched back in 2007. The EAZA Amphibian Campaign emerged from the news just a few years ago that, after thriving for over 360 million years, up to 50% of the world's amphibian species might fail to see out the end of the century.

The plight of the world's amphibians has become truly dire. Up to 122 amphibian species may already have become extinct since 1980, and population numbers are decreasing for at least 43% of species. Habitat loss, fragmentation and degradation are major causes of declining populations, and the rapid dispersal of disease caused by the chytrid fungus is one of the most disturbing threats of all.

Recognising that time was of the essence, various parties from the global conservation community, including specialists from the relevant IUCN groups and experts from within EAZA and other zoo associations, initiated joint actions to tackle these declines. Amphibian Ark (AArk) was developed to deal with key *ex situ* projects, and as EAZA is closely linked with AArk a campaign - which became known as Amphibian Alarm - was a natural next step. Some of the funds raised went directly to AArk, while the remainder was used to establish an EAZA Amphibian Conservation Fund that would distribute grants to new projects as they are developed.

The aims were simple yet ambitious:

- To generate public awareness and understanding of the amphibian extinction crisis;
- To raise funds for implementing the *ex situ* aspects of the ACAP (Amphibian Conservation Action Plan);
- To encourage further EAZA member participation in amphibian *ex situ* conservation;
- To raise awareness and funds to support and supplement the activities of the Amphibian Ark; and
- To further position the IUCN and the zoo community as leaders in global conservation.

Achievements

By the close of the campaign in 2008, a preliminary total of €410,803 had been raised, 40% going to AArk. In addition, the EAZA Amphibian Campaign was the first campaign launched with a clear link to European fauna. It was this link that inspired EAZA to register for the IUCN initiative Countdown 2010. This aimed to mobilise governments and society to take the necessary actions to halt the loss of biodiversity. Several key projects were supported with the funding. Those that have received grants include development of the AArk Taxon Management Plan for the yellow-spotted newt; direct research in Vietnam, conservation breeding for the reintroduction of the mountain chicken frog, conservation of threatened amphibians in Colombia, and several other species-specific programmes.

Where are we now?

The work is still ongoing. The first EAZA Amphibian Conservation Husbandry Course was held in 2008 to improve EAZA member institutions' contribution to global amphibian conservation initiatives. Furthermore, AArk is also active with Frog Match Maker, a conservation project list that includes organisations and projects throughout the world that are currently seeking external support for their amphibian conservation work. The aim is to foster partnerships between suitable funding and support

Last, but by no means least, a survey was sent out to *ex situ* institutions in June 2010 by AArk to further the understanding of the amount and variety of amphibian research within the *ex situ* community. The idea is to gauge the resources available for amphibian research and to improve collaboration with ACAP researchers.

FIND OUT MORE

For further information visit: ● www.amphibianark.org – website of Amphibian Ark, the Amphibian Conservation Action Plan and the Frog Match Maker. ● www.amphibians.org – the website of the IUCN's Amphibian Specialist Group.

European Carnivore Campaign: still busy!

Angela R Glatston, Rotterdam Zoo. Chair of the EAZA European Carnivore Campaign

As I write, the European Carnivore Campaign (ECC) is drawing to a close. This, the eighth in the series of EAZA campaigns, has built on a number of traditions established by its predecessors as well as creating a few of its own. Most of the previous campaigns have focused on fundraising and awareness issues and the ECC has been no exception in this, however it has also followed the lead of the Bushmeat Campaign by attempting to lobby the European Parliament via a petition. In the case of the ECC this petition aims to stop the illegal use of poison to control wildlife in Europe.

As only the second campaign to be given the opportunity to run for two years, the ECC has been able to grow and develop its activities over a longer period. This meant we were able to expand our focus from members of the order Carnivora to meat-eaters in general, thereby increasing our scope to birds of prey, vultures and marine mammals, which in turn provided more opportunities for the EAZA membership to connect with the campaign. At the same time we have also changed the tone of the campaign from one focusing on the promotion of a positive message, 'Living Together', to one actively discouraging a negative behaviour, 'Stop Poison in Europe'. These changes are reflected in the choice of additional projects which we hope to be able to support at the end of the campaign.

The ECC has also established its own unique approach to campaigning through the development of a dedicated website. Fairly early in the planning process the campaign committee decided that, in the interests of habitat preservation and sustainability, they would not produce a printed information pack or even a CD to disseminate campaign information. Instead the campaign committee chose to communicate with participants via the internet; zoos not only registered their participation online but also were able to download their campaign materials as required from the site. This not only promoted the 'green image' of the campaign but also gave us the chance to reach out beyond our traditional zoo visitors to the general public through the development of a public website. We hope that, in addition to achieving more widespread support for our conservation goals, these activities will also stimulate greater public interest in zoos and zoo-based conservation.

Campaign success can be measured in terms of participation and fundraising. Zoo participation in this campaign has more or less conformed to the trend of most preceding campaigns although we have not managed to attain the popularity of the most recent campaign (see opposite). However, we have also seen a shift in participation from Western Europe to zoos located in key habitat countries of our flagship species; there are more zoos joining us from Eastern, Southern and Central Europe than was the case in previous campaigns. Our fundraising ambitions so far seem to have been less successful than we had hoped; our target was undoubtedly high as it was based on the success of recent campaigns, but we are still hoping that we will be able to raise the €600,000+ needed to cover all the projects we would like to support.

As the first year closed it seemed we were falling far short of the mark. However, as many previous campaigns have only achieved their fundraising targets after the campaign has closed, we are still hoping that we will be able to achieve our fundraising ambition, even in this period of general financial uncertainty. Despite this reduction in fundraising capacity, we still raised enough money by the end of the first year to be able to support eight of our ten first round projects. Results are now coming in from these projects and information on their progress will be published on the campaign website as it is received.

However fundraising has not been our only goal. We have also been garnering support for our Stop Poison in Europe petition. We are planning to continue the collection of signatures until the end of the year. A number of zoos are still busy collecting signatures amongst their visitors and hopefully will continue to do so until the end of the year. The online petition, which can be found on the campaign website, will also remain open until 2011 and we are still investigating ways to encourage more external interest and support for the petition.

Finally, the ECC has been the first EAZA campaign to concentrate entirely on our own native fauna and as such has formed the basis of some important partnerships. The campaign has demonstrated what EAZA and the European zoo community can mean to the conservation of European biodiversity. It is to be hoped that the end of this campaign will not be the end of this cooperation but instead will mark the first step in the development of long-term cooperation between the European zoo and conservation communities.

Conservation begins at home

NOW THAT THE UN INTERNATIONAL YEAR OF BIODIVERSITY IS DRAWING TO A CLOSE, HAS THE ZOO COMMUNITY USED THE OPPORTUNITY TO MAKE THEIR VISITORS, AUTHORITIES AND THE PUBLIC IN GENERAL AWARE OF WHAT A DIFFERENCE A GOOD ZOO CAN MAKE FOR CONSERVATION?

Dr Lena M Lindén, CEO, Nordens Ark, Sweden

Many zoos live under pressure from their board of trustees, shareholders or owners to get as many visitors as possible. I know from my own experience that there are other ways to increase the transaction yield and to make a profit, than by gate admission. Nordens Ark in Sweden has had the same number of visitors, around 100,000 per year, for the last 15 years but turnover has tripled. Nowadays only a quarter of the income is from the gate whereas 40% comes from donations, wills, sponsors, business partners, trusts, EU funds and members. This has made it possible to increase the number of reintroduction projects every year. How come?

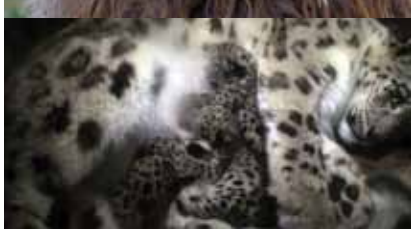
Nordens Ark was modeled 20 years ago on the Jersey Wildlife Preservation Trust (now Durrell Wildlife Conservation Trust). We didn't call the site a zoo as we were afraid that visitors would be disappointed. We called ourselves a 'captive breeding centre for endangered species' as we were actually just aiming for conservation. The enclosures were huge and the animal collection a bit unusual. This was a tough start as biodiversity and conservation were rather unknown subjects to people in general, so we nearly failed in our ambition to make people aware of the need to take action and were close to bankruptcy.

After some years of hard work and stubbornly claiming that we were a conservation centre and nothing else, we were gradually recognised because the media started to pay attention to the threats to endangered species due to the Rio Convention on Biodiversity (CBD). Most countries in Europe had signed up to the CBD and thereby agreed to look after and to save their native species, especially if threatened. Nordens Ark used that agreement and offered to be a tool for the government to fulfil at least a tiny part of their CBD commitment.

Today, 20 years after the opening of Nordens Ark, I can say that we would not have survived from a financial point of view if we hadn't followed what I think is a way forward for a small or medium sized zoo in the countryside – to choose to go down the scientific track and specialise in conservation of a few native species.

During recent years some of the really big city zoos have invested in mega-sized, extremely expensive and of course excellent attractive enclosures. They have also experienced a valuable increase in visitor numbers. When asked the hard question about spending so much money just to make visitors happy instead of supporting *in situ* projects, the directors claim they get the message about the need for conservation to many more people and they consequently can afford to do more *in situ* projects because they have raised the income from the gate. This may well be true but can make all the small zoos, which actually constitute the largest number of EAZA members, left feeling less important and not good enough.

My point is that the big difference for the survival chances of many species can be made as much by small



LEFT: DR LENA LINDÉN WITH A SELECTION OF THE ANIMALS ON VIEW AT NORDENS ARK

zoos as larger ones. They might even prosper financially if they make the right choice on the crossroads between a traditional zoo and a zoo dedicated to true conservation.

To offer a company a partnership to save a certain species will ensure a win-win situation. Both partners can use the conservation project for attractive marketing activities. The zoo will get free publicity through the company's advertisements and the company benefits from being seen as a 'good citizen' through using pictures of the species in a positive way in their promotional materials.

Many trusts and foundations are both willing and able to support real conservation work but are completely uninterested in commercial zoos. Again, from my experience, I know there are foundations, trusts and private people who are more than happy to support conservation if it's run in a proper way. It has to be in partnership with a university to secure scientific credibility, but there are many researchers happy to work on important reintroduction projects. There is a lot of money waiting to be used for conservation! I would suggest that every zoo among EAZA members take just one or two threatened species 'on board' and decide to make a contribution for their survival. I have to say that I mean a real input – scientifically based and run as a long lasting project aiming for a healthy sustainable population in the wild, in the ecosystem the species belongs to. If that were to come true, EAZA would be extremely strong when claiming that the members of the association are working to save approximately 4-500 European species! That is a powerful argument for EAZA when dealing with EU funds.

The choice of species should of course be made according to the IUCN Red List and zoos have a strong advantage when focusing on native or at least European species. If it is a frog or an insect it does not have to be expensive to keep and it is of far more interest for visitors than most zoo staff can imagine.

The species should be kept on display in the public area although the huge numbers and the breeding population have to be kept backstage for reasons of biosecurity and space. Backstage the enclosures can be rather simple, especially for amphibians and insects where one can simply use domestic food type containers. Birds and small mammals demand more space and facilities – but it's still possible to carry out their conservation in nearly all small zoos. The backstage area is the perfect place to bring potential sponsors and people interested in making a donation.

Up-to-date information with pictures and movies should be sent to the media on a regular basis to make them feel involved and excited about the outcome. Media are always happy to follow a reintroduction project because it is so rare when it happens. Visitors and friends of the zoo can follow the work over the web and information at the enclosure in the public area should be kept up-to-date all the time. It represents a lot more work but this will certainly open new sources of income, even if it is about a tiny pale spider or a brownish fat frog!

I hereby make a call to arms for all medium- and small-sized zoos to be pioneers for a new zoo era. I am convinced we are facing a time when people in general expect the local zoo to develop their business not only by exhibiting exotic animals in a pleasant way. *If our species conservation efforts amount only to keeping a few specimens of a threatened species in enclosures and running some education programmes, I think we risk having the public turn their back on us*. They will only regard us as serious if we actually work with an obvious link to the wild that they recognise and that is local. And if we as a zoo community do not act to secure biodiversity for future generations... who will?

Biodiversity under the microscope

THE RELAUNCH OF THE EAZA CONSERVATION FORUM IS A GREAT SUCCESS

Frank Rietkerk, Apenheul Primate Park; Chair, EAZA Conservation Forum 2010

During a week of blazing hot sun in late June, Switzerland played host to more than 80 EAZA and non-EAZA delegates for the revived EAZA Conservation Forum. Some years had passed since the most recent of the Angers Conservation Forum meetings and we thought that 2010, International Year of Biodiversity, would be the perfect time to hold another meeting in the series. The Papiliorama Foundation enthusiastically hosted the meeting at a conference centre near the historic walled city of Murten.

The meeting aimed to bring together a wide mix of delegates, with EAZA members, IUCN representatives and non-zoo field conservation practitioners discussing various aspects of field conservation and research. The unifying theme for the event was 'Working for Biodiversity' with further emphasis given to reflecting three high priority conservation topics; the crisis affecting large animals in Asia, conservation of European wildlife and, last but not least, conservation of apes.

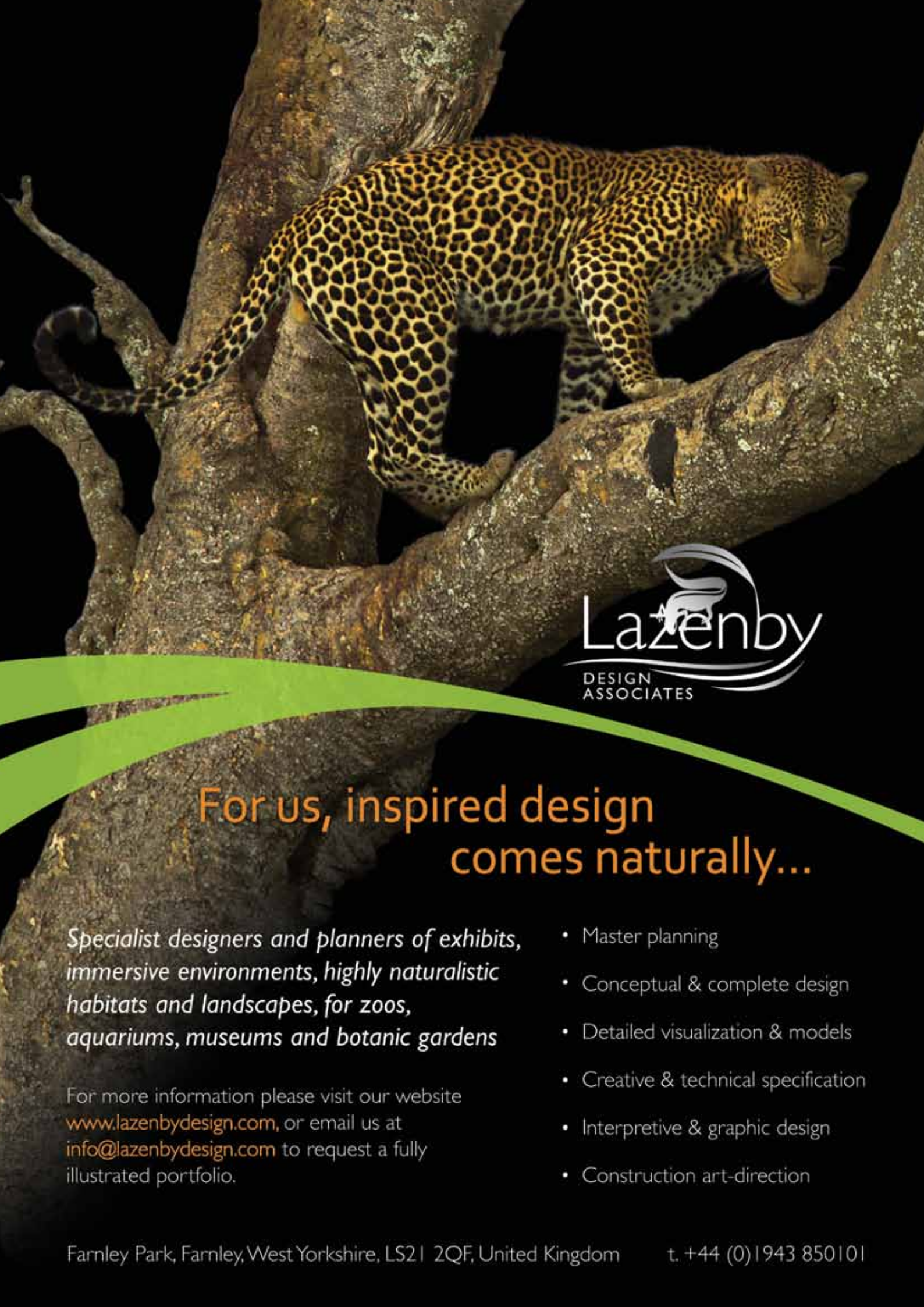
The keynote speaker on day one of the meeting was Dr Simon Stuart, Chair of the Species Survival Commission, who presented the problems facing conservation of Asian large animals. While the conference heard from dedicated individuals about many encouraging projects taking place in Asia, there is a clearly a need for a more coordinated effort in this region as the problems are huge. A burgeoning human population in Asia itself and demands from regions such as Europe for commodities like palm oil is pushing large animals into smaller and smaller ranges with declining numbers and making them vulnerable to increased hunting and disease pressures. In 2009 EAZA became the first official partner with the IUCN in the new initiative to halt further declines in Asia; more news on how EAZA members can help support this initiative will follow later this year. Simon Stuart was followed by a rich diversity of speakers discussing topics such as wildlife trade, habitat loss, species such as orangutans and the Cat Ba langur, elusive small carnivores and conservation education topics.

The second day turned to conservation in our own backyards here in Europe. Dr Eladio Fernandez Galiano, Head of the Biological Diversity Unit at the Council of Europe, gave the keynote on this theme with a wide-ranging look at conservation needs in Europe. The EAZA Carnivore Campaign was highlighted, including the Stop Poison in Europe petition, which can be accessed through the campaign website (www.carnivorecampaign.eu). We also heard about diverse subjects such as Hungarian meadow vipers and European freshwater fish critically at risk (and indeed that freshwater fish globally are in serious decline).

The third and final day of the meeting focused on all the ape species, to prepare the way for the EAZA Ape Campaign 2010/2011 which will be launched in Verona this month (September). Our keynote speaker on this day was Dr Thomas Breuer who works in Congo with the Wildlife Conservation Society. Thomas described the work of WCS and its local partners around the Mbeli Bai, an opening in the Congolese forest of some 13 acres. Gorillas have been monitored there since 1995, building up an intricate picture of gorilla life. The EAZA Ape Campaign was introduced and we also heard from speakers about gibbons, ape rescue operations and how diverse communication tools were being used to get ape conservation messages to a wider public, including an entertaining Cameroonian pop song and video.

Throughout the conference our hosts, Caspar Bijleveld van Lexmond and all the staff of the Papiliorama Foundation, made sure we were all looked after superbly. We wish to thank them for making our visit to Switzerland both highly productive but also pleasurable. We spent a lovely final few hours at the Papiliorama Swiss Tropical Gardens (in sweltering heat but cooled down by free ice creams from the zoo shop), where we also had a sumptuous vegetarian Indian meal. We also thank all the speakers who took the time and effort to be with us and present their work and ideas so generously and of course all the participants for supporting this key EAZA event in the International Year of Biodiversity.

FROM LEFT TO RIGHT: SIMON STUART (CHAIR, IUCN SPECIES SURVIVAL COMMISSION), CASPAR BIJLEVELD VAN LEXMOND (DIRECTOR, PAPILIORAMA FOUNDATION), LESLEY DICKIE (EXECUTIVE DIRECTOR, EAZA), FRANK RIETKERK (ZOOLOGICAL DIRECTOR, APENHEUL PRIMATE PARK; CHAIR OF EAZA CONSERVATION FORUM), BENGT HOLST (DIRECTOR OF RESEARCH AND CONSERVATION, COPENHAGEN ZOO; VICE-CHAIR, EAZA CONSERVATION COMMITTEE).



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