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ZOOQUARIA

SPRING 2012

ISSUE 77

Thinking allowed
WHY PHILOSOPHER ALAIN DE BOTTON CHAMPIONS ZOOS

Leap ahead
JOIN IN WITH THE LATEST AMPHIBIAN CONSERVATION INITIATIVE

Great ape debate
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Leaping Ahead of Extinction

To coincide with Leap Day (February 29) 2012, Amphibian Ark (AArk) has launched a new international event, **Leaping Ahead of Extinction: A celebration of good news for amphibians in 2012**. The event will promote great successes in the conservation of amphibians in captivity and in the wild, with a focus on institutions that are managing amphibian rescue or supplementation programmes, recommended either during an AArk conservation needs assessment, or by national governments or field experts.

AArk especially wants to focus on programmes that have, or are currently involved with, in situ releases, head-starting etc, to show the important connections between *ex situ* and *in situ* conservation activities, and will be highlighting essential conservation activities that are being carried out in the wild. AArk is currently tracking almost a hundred programmes for threatened amphibian species. You can see all the key milestones for these programs on our data portal, www.amphibianark.org.

To date, 41 institutions around the world have let us know they will be holding Leap Day events, including six institutions from Europe. It's not too late for your institution to leap on board and promote your amphibian conservation programmes! We'll be encouraging people to visit participating institutions on or around Leap Day 2012, to learn more about their amphibian conservation programmes, and what they are doing in response to the global amphibian crisis. We'll also be promoting any updates about specific amphibian conservation programs that participating institutions are involved with.

For more information, visit our web site www.amphibianark.org/leap-day-2012/ or contact Kevin Johnson, kevinj@amphibianark.org.

Zooquaria

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From the Director's Chair

In January I travelled to Miami, Florida to take part as an invited speaker at the AZA Directors Policy Conference. It was a hugely enjoyable experience with an excellent array of speakers and activities. I had the opportunity to meet many new faces amongst the US Directors and re-connect with some more familiar friends. In particular I would like to thank the AZA Executive Office, the board of AZA and the staff of Miami Zoo for their kind invitation to speak and take part, and the hospitality of the whole group who made me feel very welcome. I hope in turn I gave our US colleagues a clearer view of how EAZA works, our aims and some of the challenges faced by zoos and aquariums in Europe and the Middle East. There are certainly areas where AZA and EAZA could work on a closer basis for the benefit of both our associations and we will be exploring those in the months to come.

I took part in one particularly interesting roundtable event with many follow up discussions during the week; and that was the subject of where the next chief executives are coming from. AZA has canvassed its members and found that in the next five to seven years about 35% of current AZA Chief Executives will retire. A huge gap of knowledge and experience may potentially open up, with a worrying possibility of a dearth of leadership across the community. AZA Directors are rightfully seeing the need to discuss this issue to examine whether there is anything that could be recommended and implemented as a community to ensure that the next generation of directors is of an exemplary standard, not just for their individual institutions but across the community. We are all aware that the modern professional zoo or aquarium cannot function in isolation – we need to work together to ensure sustainable populations, to garner political support, to enhance biodiversity communication to the general public and other important groups.

The discussion at the AZA meeting prompted me to think more about this for the EAZA community – we don't know how many of our directors will retire within the next five to seven years. Maybe the figure is not as high as that of the AZA community, but we do know that the topic is of interest and a paper was presented on this subject at the 2011 EAZA Directors' Day in Jerusalem. With the ability to develop training courses under the EAZA Academy we have been discussing the role of a potential 'emerging leadership' programme for current staff at EAZA members. This is common in other industries so why not for our community, using the potential shown by our best and brightest young staff and encouraging them to go further?

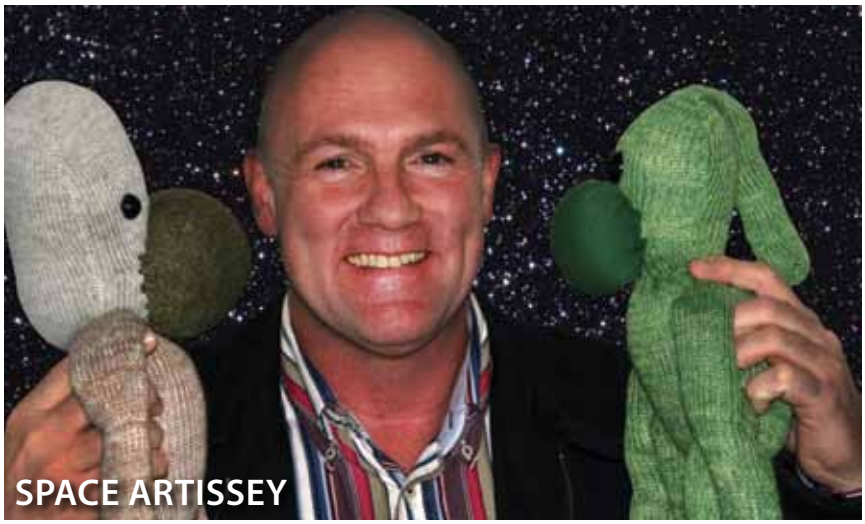
However, that leads onto another set of questions: who do we think the leaders of our zoos and aquariums should be? Should they have come from within the community itself, have grown up in zoos, be zoologists/conservationists/educators who gain other skills over time? Or should they be high-level managers from non-zoo businesses with proven track records in management of large institutions who can apply those skills to an altruistic mission-based organisation? Perhaps there is no single answer to those questions. If we are honest we can all think of examples of both 'types' who have either done great jobs and been great leaders or, sadly, have proven not to be up to the demands of what is an increasingly complicated and challenging job. However, what is absolutely clear is that unless the Chief Executive exemplifies the conservation mission the institution is far poorer in outlook and effectiveness.

The challenges of being a zoo or aquarium director are not to be underestimated. The film *We Bought a Zoo*, that recently went on general release, includes the line that it does not take any special skills to run a zoo. We all know what a travesty that is! Running a top-class zoo or aquarium requires a multitude of skills from animal husbandry, veterinary, research, landscape planning, complicated building challenges, fundraising, marketing and public relations, government relations, conservation at home and abroad, education and evaluation and many more. The person who pulls that all together successfully and who does so with integrity, without compromising the core mission purpose, is a skilled person. The great leaders in our community know that it's not just about making money, but that without making money we cannot undertake our conservation mission. They know that the ethics of what we do are paramount and that the ability of the public to trust that the zoo is 'doing the right thing' is essential. They must inspire their staff and other interested parties, and they must withstand public attacks from uninformed and often vindictive animal rights groups. Why would anyone want to be a zoo or aquarium director? Well, because it's one of the best jobs in the world and it's ultimately a privilege to lead such important institutions. A privilege, but also a responsibility not to be taken lightly.

But we want to know what you think. Please let us know if you think we can and should be providing a way to develop the leadership skills of our community for our future.

Dr Lesley Dickie
Executive Director, EAZA

NOTICEBOARD



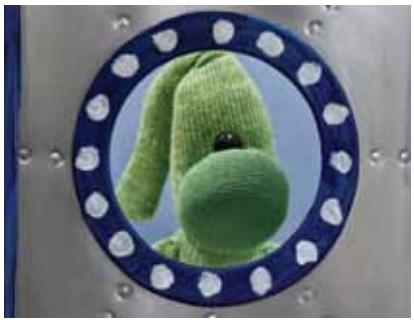
SPACE ARTISSEY

YOU MAY ALREADY KNOW that Artis de Partis, the mascot of Amsterdam's Artis Royal Zoo, has a friend from outer space named Artis de Marsis.

The Dutch astronaut André Kuipers first brought Artis de Marsis to Artis Royal Zoo in 2007, the year of the opening of the new Planetarium. Artis de Marsis spent some years on earth, at the Zoo, where he enjoyed watching the animals and sniffing the flowers, but now it's time for him to return to where he came from: space.

André Kuipers gave him a lift with the Sojoez-rocket on 21 December. Guests were welcome to follow the launch live alongside space experts at the Artis Planetarium. Those who arrived in their self-made space suit were even able to get in for free!

The rest of Artis de Marsis's voyage can



be followed at www.artis.nl/enverder. In April, meanwhile, there will be a live connection between André Kuipers with Artis de Marsis and the Artis Planetarium. Schoolchildren, students and a few journalists will be able to ask them a couple of questions. Staff at Artis Royal Zoo are already excited…

EAZA'S CORPORATE MEMBERS
and where to find them

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Base Structures Ltd	(www.basestructures.com)
Billings Productions	(www.billingsproductions.com)
Brogaarden	(www.brogaarden.eu)
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EKIPA	(www.ekipa.nl)
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Zoolife s.l	(www.zoologicaladviser.com)
ZOOPROFIS	(www.zooprofis.de)
ZooTrend	(www.zootrend.com)

EAZA ACCREDITATION PROGRAMME

IN APRIL 2011 EAZA Council approved the EAZA Accreditation Programme (EAP) for existing members. In October 2011, members were then asked by a postal ballot to indicate whether or not they agreed with Council's decision. In answer to the question 'Do you support the Council decision to implement the EAZA Accreditation Programme?', 155 Yes votes outnumbered the 68 No votes. The postal ballots were independently opened and counted by staff of the IUCN Netherlands office observed by staff of the EAZA Executive Office.

The decision by Council to approve the EAP has now been affirmed, and 30 EAZA members have been invited to participate in the first year of accreditation. This accreditation process for existing members will be managed by April Adams, EAZA Accreditation Coordinator. April comes to us from the United States, and the Sunshine State of Florida. For

the past eight years, she has worked with a variety of taxa at Busch Gardens Tampa, leaving as senior keeper of the orang-utan and tiger team. During her time in Tampa, she also co-founded a long-term conservation education programme focusing on the bushmeat crisis and held positions on fundraising, media, animal enrichment and guest experience committees. She has experience with a rescue-and-release aquarium, an exotic ungulate breeding facility, and two big cat rescue organisations, and was a wildlife rehabilitator. She was also a founding member of the American Association of Zoo Keepers – Tampa Bay chapter.

April brings her experience and dedication to the science of animal keeping and conservation education to the EEO team as Accreditation Coordinator. She looks forward to visiting EAZA institutions, and working with institutional leadership to achieve accreditation for members.

NOTICEBOARD

CASSOWARY RECORDS

THE HATCHING AND REARING of four southern cassowaries (*Casuarius casuarius*) in Vogelpark Avifauna is unique in the zoo world in many ways, *writes Joost Lammers*. Not only is it a one-off that four chicks are being reared by the male, but the pair has also produced its 50th chick, of which 24 have survived, making them without a doubt the most successful breeding pair in European zoological history.

The wild caught pair, believed to originate from New Guinea, arrived at Vogelpark Avifauna in November 1987. In 1993 the first six offspring (two clutches) were born in the incubator and hand-reared. Two survived. In 1995 the male was given the opportunity for the first time to incubate and rear by himself and he managed to rear one chick on the first occasion. In the following years the first clutch was always placed in the incubator and the second clutch was left with the male. Given the fact that the male proved to be very capable of incubating and rearing by himself it was decided that it was no longer needed to place a clutch in the incubator and from 2003 onwards, all chicks were reared by the male. The male was more or less consistent in rearing two chicks (usual clutch 3-5 eggs) every year but this year he managed to rear four chicks and hasn't lost any so far. Given the fact that breeding results in the ESB for this species are still poor, with only two other zoos breeding in 2011 (three chicks in total), this result is of course of great importance to the ESB not only in numbers but especially for husbandry experience.

Southern cassowaries' chicks typically hatch from May to August (90% in the ESB) but since the pair at Avifauna was moved to their new exhibit in 2008 they started courtship and egg-laying in August resulting in hatchings in early October (a

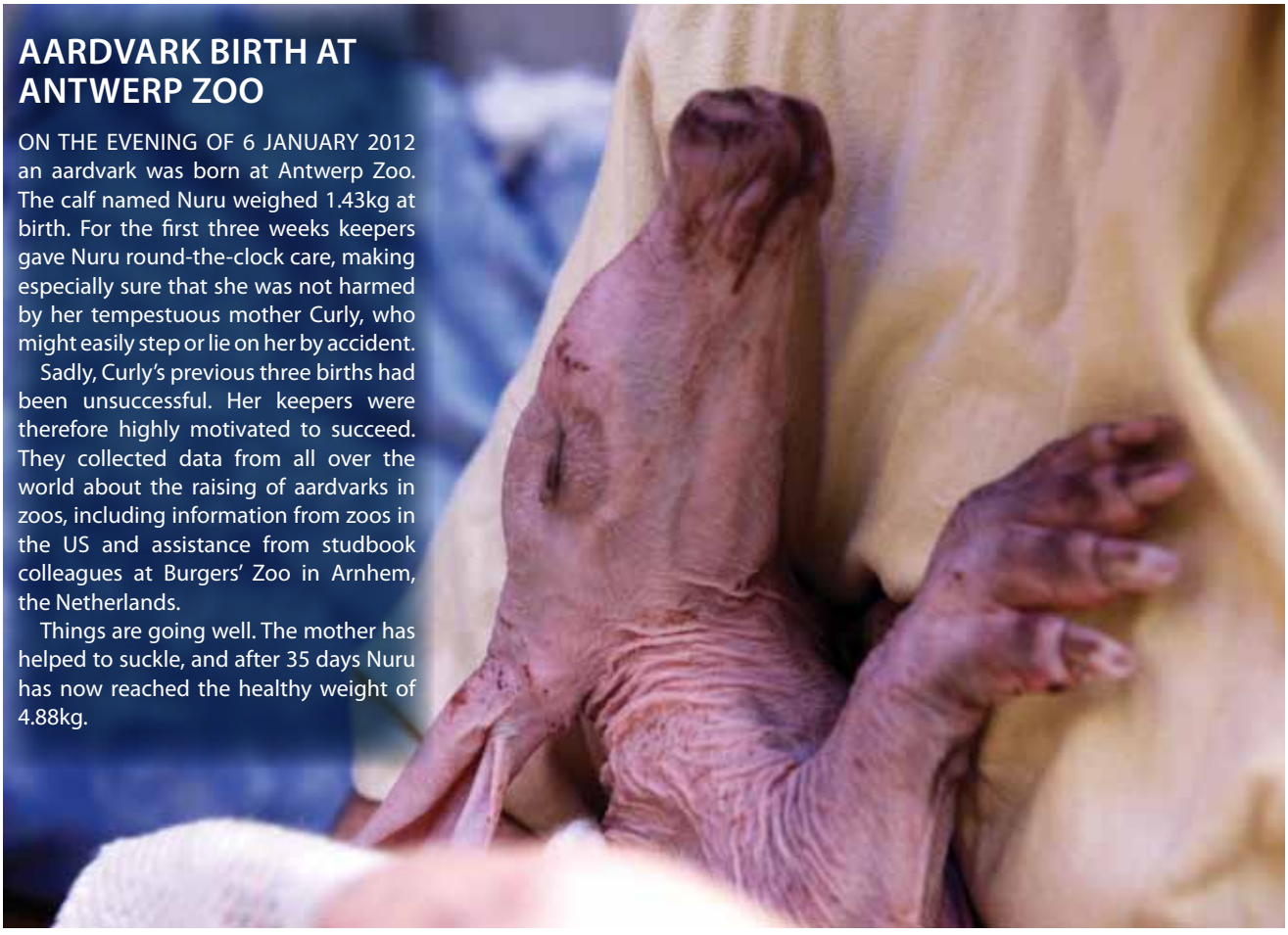
48-day incubation). This year the first chick hatched on 2 October, followed by the three others over the next four days. Due to the fact that the hatchings occurred so late in the season the chicks and male were kept in the heated inside enclosure for the first few days. After one week they were also given access to the outside enclosure after 10am but were closed in again every afternoon at 4pm. This surely contributed to the survival of the chicks, and once they reached two months of age they were no longer locked in. The chicks are all still doing fine and will all move to other EAZA facilities in spring 2012 to form new pairs and hopefully will become as successful as their parents.

AARDVARK BIRTH AT ANTWERP ZOO

ON THE EVENING OF 6 JANUARY 2012 an aardvark was born at Antwerp Zoo. The calf named Nuru weighed 1.43kg at birth. For the first three weeks keepers gave Nuru round-the-clock care, making especially sure that she was not harmed by her tempestuous mother Curly, who might easily step or lie on her by accident.

Sadly, Curly's previous three births had been unsuccessful. Her keepers were therefore highly motivated to succeed. They collected data from all over the world about the raising of aardvarks in zoos, including information from zoos in the US and assistance from studbook colleagues at Burgers' Zoo in Arnhem, the Netherlands.

Things are going well. The mother has helped to suckle, and after 35 days Nuru has now reached the healthy weight of 4.88kg.



A FUTURE DIRECTION: EAZA DIRECTORS' DAY 2012

AT 2011'S ANNUAL CONFERENCE IN MONTPELLIER, members were asked to help identify what EAZA's priorities should be in the coming years, and share their vision of EAZA in the future. Over one hundred feedback postcards were returned to the EAZA Executive Office ranking key actions in order of priority and describing what EAZA should be in the year 2020.

In April this year, all directors and chief executives of EAZA members are invited to participate in Directors' Day 2012, a two-day meeting during which EAZA's strategy for the years 2013 to 2016 will be decided. Already the feedback from postcards has shown broad consensus on key themes, and this feedback will guide the decision-making process on what EAZA's future objectives should be and how they should be met. The meeting, hosted by Münchener Tierpark Hellabrunn, will take place in the beautiful surroundings of Lake Chiemsee outside Munich.

If you are the director or chief executive of an EAZA member and you haven't signed up yet to participate in Directors' Day 2012, register today by emailing info@eaza.net.

HANNAH THOMPSON

FIRST EUROPEAN EASTERN QUOLL SUCCESS FOR 35 YEARS

IN MAY 2011 LEIPZIG ZOO received 3.3 eastern quolls (*Dasyurus viverrinus*) originating from three different breeding institutions in Australia, *writes Dr Sandra Langguth*. The animals are housed in the nocturnal part of the new tropical world of experience Gondwanaland which was opened in July 2011.

Eastern quolls belong to the family *Dasyuridae*, the carnivorous marsupials. The 'native cat', as it is sometimes called in Australia, has two color morphs – ginger-brown or black, both with white spots on the back. Males are about the size of a small domestic cat, averaging 60cm in length and 1.3kg in weight; females are slightly smaller.

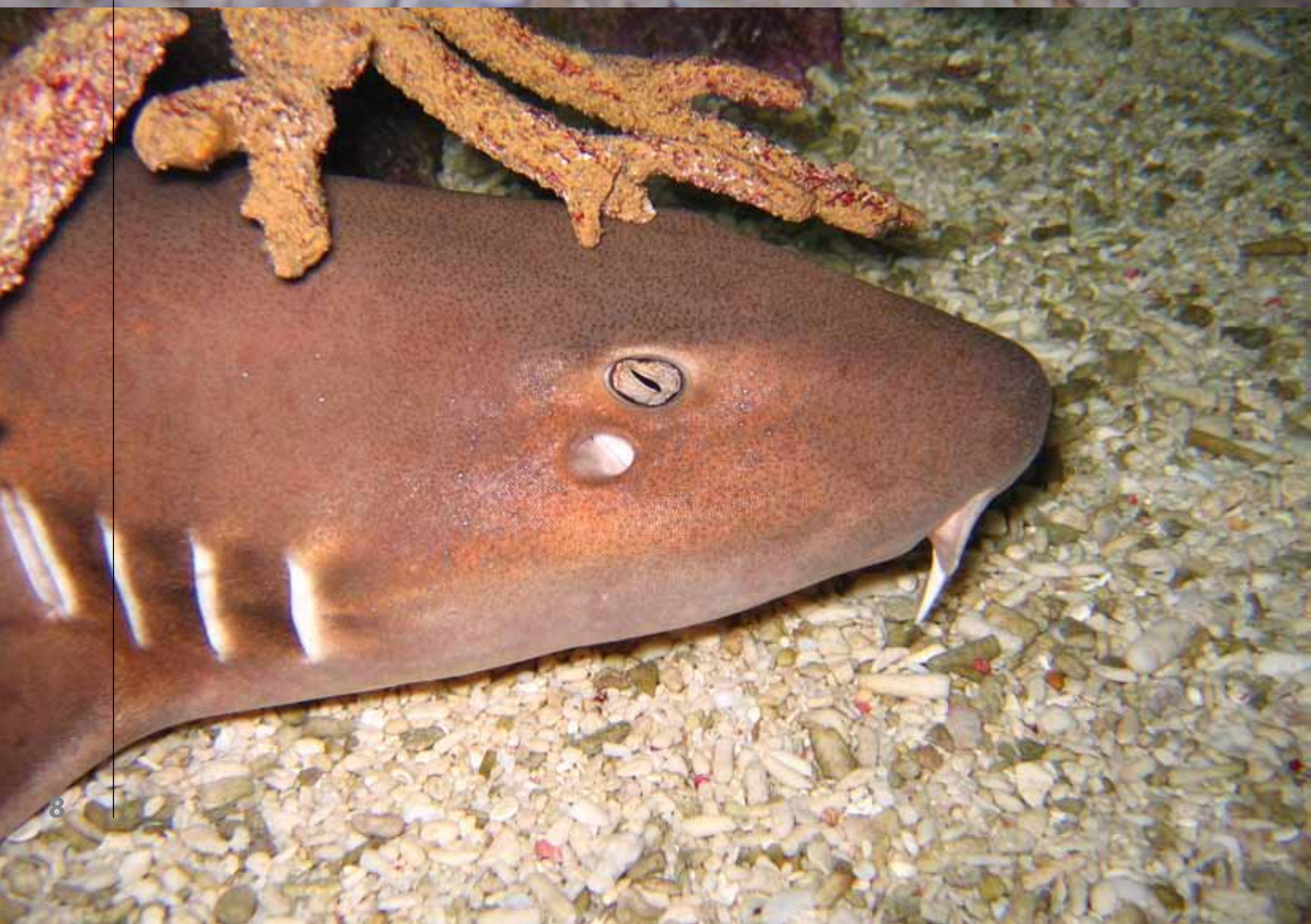
Under the Marsupial TAG quolls are listed as recommended in the Regional Collection Plan. Today the species is extinct from the Australian mainland but still common in Tasmania. Quolls are delicate to keep and breed, but the great effort made by the Leipzig staff was rewarded as early as the first breeding season. In June, mating of all three females was observed, and one female successfully raised six young quolls in the shelter of her pouch. Today the litter of 1.5 is over six months old, weaned and has reached almost the same size as their mother. Leipzig Zoo is conscious of its responsibility to establish a self sustainable population of this charismatic species in Europe in the future.

TRUMPETING A NEW BIRTH

ZSL WHIPSNADE ZOO'S SUCCESS in the breeding of Asian elephants continued in 2011 with the birth in October of a male calf named Scott. This is Azizah's third calf since she arrived at Whipsnade in 2001 and, along with the calves born to other cows in 2009 and 2010, the elephant herd now numbers nine. All calves were sired by resident 10-year-old bull, Emmet.

The female elephants and young are given work-outs in a free-contact system. This system has many benefits for husbandry and training and also ensures the elephants walk several miles around the extensive Whipsnade Zoo site every day. As well as incorporating browsing opportunities, these walks substantially improve the health and well-being of the herd, and also provide magical moments for zoo visitors to witness. The educational potential of the elephants is further emphasised during keeper demonstrations, offering the opportunity to inform visitors of the threats facing elephants and raise awareness of the conservation efforts to protect them.

Within weeks of the birth, the youngster Scott joined the other elephants on strolls around the zoo and will himself be helping to inspire and educate the zoo visitors.



Assessing our sharks and rays

THANKS TO A EUROPEAN CAPTIVE ELASMOBRANCH CENSUS, A FURTHER STEP HAS BEEN TAKEN TOWARDS A MORE SUSTAINABLE CAPTIVE POPULATION

Max Janse, Curator, Burgers' Zoo, Arnhem

Sharks, rays and chimaera are members of the elasmobranches, an animal group which is very attractive and often found on display in zoos and public aquariums. In 2007 the first studbooks were started on elasmobranches beginning with the zebra shark (*Stegostoma fasciatum*) and blue spotted stingray (*Taeniura lymma*). Since then more studbooks have been created, bringing the total up to six by 2011.

In that same year, in an attempt to get an overall picture of the current status of the captive elasmobranch population in Europe, a census was conducted among all EAZA and EUAC members. The response was very good with 66 aquariums responding, and I would like to thank them all. Only three of the aquariums had no elasmobranches in their collection, while of all known elasmobranch species a full 14% are kept in these 66 aquariums, with a total number of 3,088 individuals.

The three most common shark species were lesser spotted dogfish (*Scyliorhinus canicula*), (741 individuals; 65% aquariums house them); nursehound (*Scyliorhinus stellaris*) (210; 50%); and brown banded bamboo shark (*Chiloscyllium punctatum*) (129; 41%). These three species make up 56% of all shark specimens within the census. The most common ray species were: thornback ray (*Raja clavata*) (250; 45%); freshwater stingray (*Potamotrygon motoro*) (134; 36%); and undulate ray (*Raja undulata*) (102; 29%). The only chimaera species was (*Hydrolagus colliei*) (11; 5%).

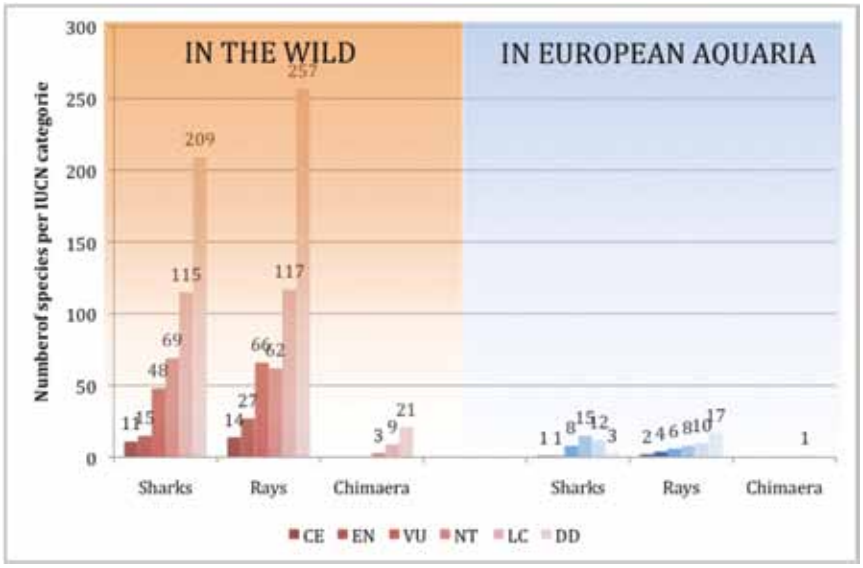
An overview of breeding activity over the period 2006-2010 was also included in the census: 56% of the shark species, 36% of the ray species and 0% of the chimaera species were bred in captivity within this census. This means that a total of 45.7% of all elasmobranch species kept in Europe were bred in captivity. This is a promising number which suggests great potential for further breeding programmes in the future.

RESULTS OF THE ELASMOBRANCH CENSUS

	Known species	Species in census	Individuals in census
Sharks	326	41 (12.6%)	1,936
Rays	302	50 (16.6%)	1,141
Chimaera	28	1 (3.6 %)	11
Total	**656**	**92 (14.0%)**	**3088**

At present, the six studbooks on elasmobranches in Europe represent only a small proportion of the 92 species kept in Europe. However it's a good start and it shows that management of captive elasmobranch populations on a European level is feasible. All studbook keepers mention the willingness of many aquariums in Europe to participate in a studbook. In the future, more species will need attention, but the criteria to help decide which species will need what type of attention requires further discussion.

The most important goal for the future is to create a more sustainable population in captivity so that fewer animals will be taken from the wild.



Overview of the different IUCN Red List categories of elasmobranch species in nature and within the census. Critically Endangered (CE), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC) and Data Deficient (DD). Only four species of elasmobranches are listed under CITES regulation. Two CITES species, which are Critically Endangered, are kept in Europe: large tooth sawfish (*Pristis microdon*) (CITES IIB; 3,1 in 3 aquariums) and green sawfish (*Pristis zijsron*) (CITES IA; 3,3 in 3 aquariums). For both species an ESB will be set up in 2012.

Southeast Asia Campaign: The Hukaung Valley

THE EAZA IUCN/SSC SOUTHEAST ASIA CAMPAIGN COMMITTEE HAS SELECTED SIX FIELD CONSERVATION PROJECTS AS EXAMPLES OF THE KIND OF WORK THAT WILL BE SUPPORTED BY THE CAMPAIGN FUND. THE SIX PROJECTS ARE EVENLY DISTRIBUTED ACROSS SOUTHEAST ASIA AND COVER A WIDE AND DIVERSE RANGE OF SOUTHEAST ASIA SPECIES INCLUDING MEKONG GIANT CATFISH, SAOLA AND RUFOUS-HEADED HORNBILL. EACH PROJECT WILL BE FEATURED IN *ZOOQUARIA* IN THIS SERIES. THIS ISSUE WE INTRODUCE THE WILDLIFE CONSERVATION SOCIETY'S MYANMAR PROGRAMME IN HUKAUNG VALLEY.

Mirko Marseille, Executive Coordinator Communications and Membership, EAZA; and Rob Tizard, Wildlife Conservation Society

The Hukaung Valley Wildlife Sanctuary was created in 2004 and massively expanded in 2010 to create one of the largest protected areas in tropical Asia, over 17,400 square kilometres. The sanctuary is located in the north-western corner of Myanmar, where the Southeast Asian and Indian land masses meet forming a crumpled rugged landscape of rivers and ridges. At the centre of this is the Hukaung Valley, a broad valley surrounded on the north, west and east by high mountain ranges, ascending to almost 4,000m. This unique topography at the intersection of two major faunal zones contributes to this area's impressive species richness.

After World War II the area was consumed by ethnic conflict, which ensured that the valley remained relatively thinly populated until peace returned in the mid 1990s. These conflicts thus indirectly ensured that wildlife populations sensitive to hunting and habitat change remained healthier than in most other areas in Southeast Asia by discouraging settlement and large-scale land conversion for agriculture. Now that peace has returned to the valley the reality of being placed between two of the fastest-growing economies in the world (India and China) are quickly changing things on the ground. The expansion of mining and agricultural development with an associated expansion of infrastructure will undoubtedly bring more people into the area and increase the threats faced by the sanctuary and its wildlife. At present the area is threatened by agricultural expansion into important grass and wetland habitats primarily for cassava and sugar cane production to be used for biofuels (ironically often seen in the West as an environmentally friendly alternative). The area also attracts hunters from across the region because of its healthy populations of large ungulates such as sambar and gaur as well as its remaining tigers. Local people are supportive of the conservation initiatives since they themselves feel threatened by immigrants from elsewhere in Myanmar looking to exploit the area for short-term gain.

The Hukaung Valley continues to support a complete assemblage of forest mammals including tiger (*Panthera tigris*) and six other species of cat, dhole (*Cuon alpines*), Asian elephant (*Elephas maximus*), gaur (*Bos gaurus*), sambar (*Cervus unicolor*), hog deer (*Axis porcinus*), Chinese serow (*Capricornis milneedwardsii*), red serow (*C. rubidus*), sun bear (*Helarctos malayanus)* and Asian black bear (*Ursus thibetanus*). The surrounding ridges still support takin (*Busorcas taxicolor*), red panda (*Ailurus fulgens*) and the recently described leaf muntjac (*Muntiacus putaoensis*). In addition the area is a poorly understood overlap zone for primates such as Eastern and Western hoolocks (*Hoolock hoolock* and *H. leuconedys*), and capped and Shortridge's leaf monkeys (*Trachypithecus pileatus* and *T. shortridgei*), and supports a variety of mostly as yet taxonomically unclarified flying and tree squirrels. The reserve's large size ensures a great potential for conserving large stable populations of these species in the future.

The area is home to over 400 bird species including populations of several globally threatened species, most notably the very endangered white-bellied heron (*Ardea insignis*), white-rumped vulture (*Gyps bengalensis*) and slender-billed vulture (*Gyps tenuirostris*); and also lesser fish eagle (*Ichthyophaga ichthyaetus*), green peafowl (*Pavo muticus*), white-winged duck (*Cairina scutulata*), masked finfoot (*Heliopais personata*) as well as a series of large water birds including five species of stork and spot-billed pelican (*Pelecanus philippensis*). All of these species have shown massive population declines overall in Southeast Asia, and only those which also occur widely outside Southeast Asia are not highly

CLOCKWISE FROM THIS PICTURE: CAMERA TRAP PHOTO OF A TIGER IN THE HUKAUNG VALLEY; SNUB-NOSED MONKEY; UPPER LIMITS OF THE SNUBNOSED MONKEY HABITAT, WHERE THE CONFERS END AND ALPINE MEADOWS START (FRANK MOMBERG); WHITE-BELLIED HERON (ROB TIZARD)

threatened with global extinction.

Starting in 1999 the Wildlife Conservation Society's Myanmar Programme has developed an expanding programme to conserve the amazing wildlife and other resources of the Hukaung Valley. Activities have strongly focused on protecting and monitoring the population of tigers living in the valley and surrounding hills. Since 2004 more attention has been focused on improving the capacity of the Myanmar Forest Department to manage the area as a protected area with a foundation built on law enforcement and patrolling. Additional supporting activities have included monitoring programmes for wild and domestic Asian elephants, white-bellied herons and vultures; a mobile education unit that regularly conducts village and school programmes across the valley to raise local awareness of the global importance of the area's wildlife and how local people can work with the sanctuary to achieve conservation objectives; and a village-based resource management programme where important forest resources are inventoried and then managed by local communities for local use.

Unfortunately, the greatest threats facing the reserve are from illegal activities that need law enforcement and patrolling to effectively control. The government is willing to provide even more staff to expand protection to the larger area but at present funds are lacking. Funds from the EAZA IUCN/SSC Southeast Asia Campaign will be used to support basic operation costs conducted by the Myanmar Forest Department and Wildlife Conservation Society staff such as fuel, rations and basic equipment for patrolling and monitoring teams. These teams will reduce threats to the wildlife sanctuary and assist in understanding populations and documenting trends.

NEW SPECIES DISCOVERED

A team of Fauna and Flora International (FFI) primatologists in collaboration with local partners have discovered a new species of snub-nosed monkey (*Rhinopithecus strykeri*) in North-eastern Myanmar. Researchers described a new species of primate that reportedly sneezes when it rains, and now remote camera traps have taken the first ever photo of the elusive, and likely very rare, Myanmar snub-nosed monkey. No scientist however has ever seen a living individual and the monkey's life is obscured by the little-explored forests of northern Myanmar. The new species joins four previously known species of snub-nosed monkeys, all with small ranges and all highly threatened. Three of the species are restricted to small parts of southern and central China; the other to northern Vietnam.

The newly described Myanmar snub-nosed monkey, threatened by hunting and wildlife trade due to its close proximity to China, and accelerated habitat degradation caused by Chinese logging companies, is highly threatened. The total population size is estimated between 260 and 330 individuals, and it is currently known to exist at only a single site of about 273 km^2. Based on interviews with hunters, at least 13 Myanmar snub-nosed monkeys were hunted during 2009 which is far too high for such a small population to sustain. Furthermore, the hunting pressure is likely to increase considerably in the next few years as a new Chinese hydropower scheme and logging roads invade the area. Myanmar has one of the world's highest deforestation rates, which is at least partly driven by China's rising demand for commodities. Between 1990 and 2010, Myanmar lost 19% of its forest cover, or around 7,445,000 hectares, an area larger than Ireland.

Fauna & Flora International and its partners have started a conservation project for the Myanmar snub-nosed monkey, aiming at reducing hunting through community based patrolling and developing an alternative livelihood programme for forest dependent villages.

LEARN MORE

EAZA IUCN/SSC Southeast Asia Campaign: **www.southeastasiacampaign.org**

Wildlife Conservation Society: **www.wcs.org/saving-wild-places/asia/northern-forest-complex-myanmar.aspx**

Fauna & Flora International: **www.fauna-flora.org/explore/myanmar/**

Leaps and bounds

A REVIEW OF AMPHIBIAN ARK PROGRESS SINCE THE YEAR OF THE FROG

Henk Zwartepoorte, Diergaarde Blijdorp, and Gerardo Garcia, Durrell Wildlife Conservation Trust

In 2008 the EAZA Year of the Frog Campaign was launched in close cooperation with the IUCN Amphibian Specialist Group, Conservation Breeding Specialist Group (CBSG) and the World Association of Zoos and Aquariums (WAZA) as a response to the alarming global decline of amphibians. The EAZA involvement and commitment was discussed during the EAZA Annual Conference in Warsaw, Poland (2007). More than a dozen institutions committed themselves to intensifying amphibian conservation both *in situ* and *ex situ*, and one of the first initiatives was to organise an amphibian husbandry course in early 2008, carried out by the Durrell Conservation Trust with major sponsorship from Chester Zoo. The course was attended by 23 reptile and amphibian zoo professionals, from EAZA institutions and private amphibian experts. The course was a great success and all colleagues left Jersey with high hopes for the future of amphibian conservation.

This article will give you an impression of the activities which have been initiated in the last couple of years, some of them as follow-ups to the course. Activities have been developed in the fields of additional husbandry courses, research, captive breeding, new exhibits and conservation activities for native species.

In this first article the *ex situ* component is summarised with short links to the *in situ* activities. In a second article the *in situ* activities and programmes will be discussed more in detail.

HUSBANDRY COURSES

One of the intentions of the course in Jersey was to 'teach the teachers', so the participants could share their knowledge with the colleagues in their country. This certainly paid off as courses were initiated in Spain, Portugal, France, Germany, Latvia and a combined course in The Netherlands and Belgium, most of them in the native language.

Jersey also initiated courses in range countries, including Argentina and Madagascar. A second course in Madagascar later on this year will both lay the foundations for more extensive captive and field-based amphibian work in the forthcoming year and their hopes to kick-start captive facility development at the university in Tana and support some great captive work already going on at Assocation Mitsinjo in Andasibe.

NATIVE AMPHIBIAN CONSERVATION

Different colleagues initiated conservation activities for their native amphibian populations. Fuengirola Zoo, Spain, for example, intensified their work on the Critically Endangered betic midwife toad (*Alytes dickhilleni*), focusing on the study of chytrid fungus that is affecting many Spanish amphibian species and the monitoring of endangered populations.

At the same time Barcelona Zoo, Spain, actively continued working for the Majorcan midwife toad (*Alytes muletensis*). A breeding programme is still operational and more research is planned. In collaboration with the Catalan government a breeding programme was established for the Montseny brook newt (*Calotriton arnoldi*). Pools were built for the native species the Mediterranean tree frog (*Hyla meridionalis*), the midwife toad (*Alytes obstetricans*) and the Iberian green frog (*Pelophylax perezi*) living in the wild on the zoo premises.

Additionally, Barcelona Zoo in partnership with Barcelona University, Viladecans city council and the Asociación Herpetológica Española started a biodiversity restoration program in the Llobregat Delta near Barcelona in order to reintroduce the 4 amphibian species the midwife toad, the natterjack toad (*Bufo calamita*), the Mediterranean tree frog and the Western spadefoot toad (*Pelobates cultripes*). Riga Zoo is proceeding with work on local species and in particular the natterjack toad. Furthermore, a project has started surveying Riga's city watercourses covering more than 100 ponds and permanent puddles to which the green toad (*Bufo virides*) is a priority species as part of a student's master's degree.

CAPTIVE BREEDING

The course participants also actively initiated breeding activities within their institutions. Zurich reported the successful reproduction of the climbing mantella (*Mantella laevigata*) and the

FROM LEFT TO RIGHT: AMPHIBIAN SECTION ROTTERDAM ZOO; *DENDROBATES AZUREUS*, WEVERSFOTO HZ; BARCELONA ZOO

tomato frog (*Dyscophis guineti*). Bristol zoo focused on reproduction of the lemur leaf frog (*Agalychnis lemur*) and the Madagascar golden frog (*Mantella aurantiaca*). Of the latter 600 were successfully bred and reared. A DNA study is planned to check relatedness and heterozygosity in the Bristol captive population.

Cologne zoo also reported on the enlarged amphibian husbandry and breeding programmes at the zoo. For a number of years the zoo has been very active in Vietnam, and in Hanoi the amphibian station is still operational, from which the moss frog (*Theloderma corticale*) has recently been exported to the EU for a captive breeding programme. An amphibian assessment workshop accessible for zoo staff as well as private attendees is planned in Germany for March 2012.

Chester Zoo reported on the insurance populations at the zoo regarding several frog species. Morelet's tree frog (*Agalychnis moreletii*) is currently bred into the F2 generation. This species was primarily established for conservation research purposes, but it is now proposed to collect additional founder animals and establish a viable long-term population until the threats in the wild are better understood. This population will be used to seed an educational and eventually conservation breeding population in Belize. Meanwhile, the green-eyed frog (*Lithobates vibicarius*) is housed as an insurance population importantly related to field research and rediscovery of new populations in the wild.

ZSL London Zoo attended several symposia and workshops with an emphasis on the Chinese giant salamander (*Andrias davidianus*). Field trips to Japan and China were carried out and information on husbandry and breeding is being gathered and exchanged with zoos and breeding centres. Capacity building, forming partnerships and running workshops are all important issues.

MOUNTAIN CHICKEN FROG

A few years ago a safety net population was established within the European zoo community for the Critically Endangered mountain chicken frog (*Leptodactylus fallax*), a species managed on ESB level by Jersey. Five of the course participants made good progress with breeding this species: Barcelona Zoo, Eskultina Zoo, Bristol Zoo and London Zoo all built two bio-secure facilities for this species. Chester Zoo, meanwhile, received 4.4 founders of the Mountain chicken frogs in January 2011 in order to breed multiple generations for release back to surveyed locations on Montserrat. In cooperation with Durrell a preliminary proposal on radio transmitting a separate captive population is under development with the possible aim of providing a successful system for radio-tracking released frogs, aiding data collection.

CONCLUSION

The above examples illustrate the spinoff of the first amphibian husbandry course at Jersey. In addition, there has been PhD research on chytrid fungus, husbandry guidelines which have been produced, articles published and country surveys which have been organised and/or financially supported. In an upcoming *Zooquaria* article Gerardo Garcia will go into details of the field activities. He will also provide an update on the various *in situ* projects funded within the EAZA Amphibian Ark campaign.

When flight is right

IN 2010, ODENSE ZOO OPENED ONE OF THE LARGEST AVIARIES IN EUROPE, AND IT'S ALREADY ENJOYING SEVERAL BREEDING SUCCESSES

Bjarne Klausen, Vice Director, Odense Zoo

In Odense Zoo, and in most zoos in general, pinioning birds is a fairly normal practice, particularly with larger birds such as flamingos, storks and pelicans. Building large aviaries for these species is very expensive and at Odense Zoo, for some years, we displayed these birds across a 3.5 hectare marshland. The pinioned birds looked very good on the green background, but we felt that there may be impacts on their quality of life.

For example, during the 15 years that these African birds lived out in the open, some – including flamingos, spoonbills, guinea fowls and pelicans – were lost due to predation from mink and fox. Feeding the birds was very difficult, too, as much of the food was eaten by wild Danish birds such a ducks, crows, seagulls and herons. This also probably raised the risk of infection as the number of wild birds in the area was substantial. Last but not least, the birds were transferred from the marsh area to their winter quarters every autumn. Most of the birds walked themselves, but all of them had to be 'talked into' the transfer. This was normally done by boat and a chain of keepers walking towards the birds. We suspect that this transfer stressed the birds, but we do not know to what extent. The flamingos were on an island with direct access to a large winter quarter. This island was grassy with many bushes and trees, giving the flamingos shelter and protection, and they had access to it all year around (except during extreme weather conditions). Yet despite what we thought were optimal conditions, we never successfully bred the flamingos, even though we had more than 50 individuals. During the last three years on the island, we had to vaccinate the birds every year, and we started to suspect that this procedure caused them stress and could have been one of the causes for the negative breeding result.

It is only with birds that we, as a community, have accepted mutilation of an animal to keep it in captivity

By building an aviary, we hoped that many of these problems would be solved. In Denmark, we have to reinforce any construction to be able to withstand the pressure of snow. This gave us some challenges as we wanted the construction of the net and the poles to be as simple as possible. We finally decided that we would prioritise a simple (and cheaper) construction and then accept that the net masks of the 'roof' would be as large as 10x10cm. If we insisted on smaller sized net, the snow would build up on top and crush the aviary. With this size, the snow would fall through the large holes (but still sit on the net itself). The sides of the aviary are constructed with 5x5 net masks, and all netting is made of thin nylon with very flexible sides. The birds therefore 'bounce' off if they hit the net, which has been seen on several occasions.

The final construction is a massive 3,000sq m, and it now holds our groups of flamingos, pink-backed pelicans, African spoonbills, abdim storks, guineafowl, cattle egrets and Nile geese. The aviary is 100m long, 30m wide (on average) and 16m high. It has an entirely flat 'roof' which enables the birds to use its full length.

But does a large bird need to fly? Do we have to give all birds this opportunity? Well, maybe not all. It probably differs from species to species, but in all our species we see a tendency to fly in the mornings and sometimes in the afternoons, especially close to feeding times, but also between them. The flamingos fly a few metres, but rarely further, while the other birds fly regularly and use the full space of the aviary. Unfortunately some of the birds are permanently pinioned and therefore cannot use the potential of the aviary. The pink-backed pelicans in particular show the sharp contrast between the pinioned birds and the flying birds: they are very agile flyers and seem to love to take to the air. So in our minds, there is no doubt. We will never keep pinioned birds in Odense Zoo again. We have accepted that building exhibits for large birds is as expensive as is building exhibits for large mammals and aquatic species, but as it is only with birds that we, as a community, have accepted mutilation of an animal to keep it in captivity, this is an expense that is worth it.

And there are rewards. The really great news is that we have strong breeding results already. We moved the flamingos to their new home in autumn 2010 and in 2011 we had our first ever flamingo breeding success. They raised three chicks in that first year, so it looks promising for the years to come. The spoonbills and egrets are also breeding with great success. We have had eggs from the pelicans, but the abdims have not yet laid.

We have only seen a few incidents where birds have been too curious about the visitors. Some of the pelicans have even tried to take things from them, and we have had a few – a very few – scratches from pelican beaks. Yet all in all, our visitors have reacted very positively to the new aviary, and they enjoy the close proximity of the birds and the fact that they can see these big birds in flight.

Eastern enrichment

AS A RESULT OF A COLLABORATION BETWEEN THE EAZA ACADEMY, EAZA TECHNICAL ASSISTANCE COMMITTEE MEMBER MIRANDA STEVENSON, SHAPE OF ENRICHMENT INC, AND THE ROMANIAN ZOOS AND AQUARIA FEDERATION, TWO SUCCESSFUL ENRICHMENT WORKSHOPS TOOK PLACE IN EASTERN EUROPE IN NOVEMBER. THE WORKSHOPS WERE HOSTED AT INSTITUTIONS IN ROMANIA AND HUNGARY, AND WERE ATTENDED BY OVER 70 PEOPLE FROM 27 DIFFERENT INSTITUTIONS ACROSS FOUR DIFFERENT COUNTRIES.

Dana Canari, RZAF; and Myfanwy Griffith, EAZA Academy Training Officer

The original idea of running an enrichment workshop in Eastern Europe came after five members of the Romanian Zoos and Aquaria Federation (RZAF) attended the Shape of Enrichment International Conference on Environmental Enrichment held at Paington Zoo, UK, in 2009. After the conference they were inspired to initiate South East Europe Shape of Enrichment (SEE Shape of Enrichment) with the aim of organising workshops on enrichment and animal training in Romania.

When Miranda Stevenson, Executive Director of the British and Irish Association of Zoos and Aquaria (BIAZA) and EAZA mentor to the RZAF, heard about the SEE Shape of Enrichment initiative she knew it was an excellent opportunity for EAZA to support Eastern European zoos. But how best to do this? The appointment of Myfanwy Griffith to the new post of EAZA Academy Training Officer at the start of 2011 seemed to provide an ideal opportunity to assist in coordination of efforts.

With provision of funds from the EAZA Technical Assistance Committee to subsidise course costs, many Skype meetings between people in the US, UK, Netherlands, Romania and Hungary, numerous emails between host zoos, and hours of translation we were ready in a few short months to deliver the enrichment workshops.

ROMANIAN WORKSHOP

The RZAF received the news of the workshop with great enthusiasm. Fifteen zoos sent their staff along, including 30 members (keepers, directors, biologists and vets) arriving from all corners of the country. A new and interesting approach was to get everybody equally involved: directors

stood alongside keepers, all working together, learning and connecting, helping everyone understand each other's work and involvement.

The workshop lasted four days, split into theoretical sessions and practical training in Timisoara Zoo. At the zoo participants were divided into teams and had to put theory into practice to create enrichment for a variety of species. The atmosphere of the workshop was vibrant thanks to the energy of Shape of Enrichment Inc trainer Valerie Hare, who managed to deliver lots of information in an appealing way.

The workshop gave participants a strong knowledge and skills base to help enhance animal welfare in their zoos. It was a key moment for RZAF, being an important step towards improving Romanian zoos and the quality of life of the animals held in them. Feedback from participants was excellent and the great success of the workshop has had everyone asking for another. The RZAF wants to thank all involved and this project will be the first of many that will help it fulfil their main goal, that of improving the life of animals in Romanian zoos.

HUNGARIAN WORKSHOP

This workshop followed a similar format to that in Romania. It was based at EAZA member Nyíregyháza Zoo, and attracted participants from not only Hungary, but those in EAZA Candidate for Membership zoos in Croatia and Macedonia. One of the key features for both workshops was that ideally at least two staff members from a zoo should attend. This was to enable exchange of ideas and also support implementation of enrichment ideas when returning to their institutions. Keepers in particular were encouraged to attend, with scholarships from the Lee Houts Memorial Fund and Fondation Segré assisting six participants. Again feedback was excellent and there is a strong feeling that participants are now inspired and enabled to implement enrichment in their own institutions.

We hope these workshops are just the start of EAZA assisted training in Eastern European institutions. If you are interested in developing or hosting a workshop or course please contact Myfanwy.Griffith@eaza.net.

ROLL UP!

The EAZA Academy Prospectus 2012 is now available. Courses offered in 2012 include: Animal Behaviour and Applications to Husbandry, Visitor Studies, Exhibit Design and planning, and much more. For more information visit www.eaza.net/activities/academy.

CLOCKWISE FROM LEFT: HUNGARIAN WORKSHOP PARTICIPANT CREATING A FEEDER (GREGELY GLAZER); HANGING HESSIAN SACK AND SCRATCHING LOG FOR LYNX (VALERIE HARE); PARROT ENRICHMENT, HUNGARIAN WORKSHOP (GREGELY GLAZER); JAGUAR WITH HESSIAN SACK (NYÍREGYHÁZA ZOO)

In praise of zoos

ZOOS ARE NOT JUST FOR CHILDREN: EXOTIC ANIMALS CAN HELP GROWN-UPS GET SOME PERSPECTIVE ON THEIR LIVES

Alain de Botton, writer, thinker and presenter

Moose don't loom large in the British national imagination. There are only around 100 of them on these islands, but they're a fascinating and noble kind of creature. Ugly from one point of view, rather as camels are, but full of a native kind of dignity and stoicism.

I'm mentioning moose because last summer, rather unreported by the media, a baby moose was born in Whipsnade Zoo. It got called Chocolate by the Zoological Society of London, and – according to an email that was sent out to all members of the zoo – it's doing very well. It's being looked after by its concerned mother Minni and its protective dad Melka.

All can be seen in a special exhibit called Wild Wild Whipsnade. If you fancy a trip, as the same email went on to explain, you might want to take in Sapo the pygmy hippo, who'd recently taken his first dip in an outdoor pool.

DISPLACING EGOS

I know David Attenborough has been doing a heroic job trying to change this state of affairs, but it's fair to say that before I had children I simply never thought of wild animals. The odd TV documentary excepted, they just didn't figure on my radar.

My extra curricular activity tended to be culturally based, and animals – as we know – don't loom large in culture. The elegant question is always whether one has caught the new show at Tate Modern or play at the Donmar Warehouse, never what one makes of the new Bactrian camel or Burmese python at London Zoo.

Yet thanks to my two young sons, I now live immersed in the world of exotic animals. We spend our time thinking about Malayan tapirs and Peruvian chinchillas, meerkats from the Kalahari Desert and green and black poison frogs from Costa Rica. Some of every weekend is spent impersonating these animals on the carpet, the rest on discussing their habits, favourite foods and the gathering odds of encroachments on their habitats.

But this really seems just a way of circling around something more unnameable and potent – a fundamental wonder at the sheer existence of creatures so weird and beautiful, so unlike us and yet strangely evocative of parts of us. Alive on our planet at the same time as we are but unreachable by our normal means. Our unknown contemporaries in a galaxy otherwise made up of gas and rock, with not a single other heartbeat within it.

I'm deeply grateful to my children for reintroducing me to wild animals, and yet – with no disloyalty to them – also a little frustrated at the way that zoos (and wider society of course) tend to frame an interest in these animals in such resolutely childlike terms. The world of zoos is bathed in children's language and iconography. The animals are invariably given names designed to appeal to kids, like Moomoo the tiger, Sparkly the oriental small-clawed otter and Speccie the ring-tailed lemur.

The food in the cafes is geared to young appetites and the general impression is that unless you're on a trip with someone under 14 and are eating an ice cream as well, there might be something a little wrong with you for wandering around zoo exhibits.

ANIMAL GODS

I understand why zoos do this – kids are a captive market. The pressures on them financially are extremely grave and hippos hold the attention of five-year-olds in a way that the paintings of Ingres or Rothko just don't, despite the truly heroic efforts of the kids' outreach programmes of the National Gallery and the Tate in the UK.

Yet something does seem to be lost in this focus on children, which is the enormous benefit that the average adult could and should be deriving from encounters with these animals. The typical urban stressed and harried adult is in serious need of a few minutes of reflection upon the life of a Humboldt

VINCENT STARR


Italo Calvino
AUBREY'S BRIEF LIVES
HUXLEY
NARRATIVE FICTION

CLOCKWISE FROM LEFT: BOB PITCHFORD; STEPHEN ALLINSON; ADAM DAVIS

These animals offer us many of the same lessons as religions but without any of the doctrines or supernatural claims

penguin or Egyptian tortoise, more so than his or her child.

At heart, these animals offer us many of the same lessons as religions but without any of the doctrines or supernatural claims. They're walking, munching, biting, bellowing reminders not to take ourselves as the centres of the universe. While wandering around their enclosures they deliver heart-warming covert sermons in the wisdom of displacing our own egos.

The metaphysical importance of zoos is anchored in the way that we tend to loom so absurdly large in our own imaginations. We overstate every aspect of ourselves: how long we are on the planet for, how much it matters what we achieve, how rare and unfair are our professional failures, how rife with misunderstandings are our relationships, how deep are our sorrows. Left to their own devices, our minds are hopelessly egoistic.

GETTING PERSPECTIVE

That's where the animals come in. They are what Emile Durkheim, that great theorist of religions, described as representatives of 'the Other', something non-human which puts us in our place, stills our anxieties, reminds us we're not the only show in town and generally urges us to make a little more room in our imaginations for things which aren't related to our own selves. Typically for the last few millennia in the West, 'the Other' has meant God. A force far larger, older and more mysterious than we are, to which we should – at selected moments in the week – acknowledge, defer and give way to.

We tend not to bother with a religious 'Other' quite so much in swiftly secularising Europe and that's perhaps one reason why we're a little more fragile in our psyches as well. We need regular encounters with otherness so as not to loom dangerously large to ourselves.

That's why people get so much out of nature or from the stars or the great deserts. To be made to feel small is, to be sure, a painful daily reality of the human playground. But to be made to feel small by something beautiful, noble, accomplished, or just weird like the greater one-horned Asian rhino is to have wisdom presented to us along with a measure of delight.

There are zoo animals like the Arabian oryx that can induce us to surrender our egoism without in any way humiliating us. Looking at them, we can set aside our ordinary concerns and take on board – in a way we never dare to do when we are under direct fire from other humans – our own relativity. We can survey ourselves as if from a distance, no longer offended by things, perhaps newly indifferent to our eventual fate, generous towards the universe and open-minded about its course.

Religions outside the Abrahamic tradition have always understood how much we have to learn from animals, how much the attitudes of animals are those we should emulate in ourselves and how calming it can be to place something non-human at the centre of your culture. Buddhists in Thailand will honour the white elephant for its courage, strength and calm nature, the very qualities they believe that the Buddha wished to see us cultivate in ourselves. Likewise, the ancient Egyptians connected their gods to animals in ways which urged humans to draw from the varied virtues of the animal kingdom.

When zoos try to explain to us what they're up to, they often fall back on describing an educational mission. They announce that they are there to teach us where animals come from, how much they eat and how many young they typically have. This is all true and very good, but there's maybe another no less vital mission. We should learn about animals not just for their sake, but – as religions have known – also for our own.

Among other things, the point of zoos should be to give us perspective on ourselves, to push us towards an awareness – always under threat in daily life – of the diversity, mystery, scale, age and complexity of the earth. But unlike zoos at present, perhaps we should not have to think that the point of the exercise is to give us a grounding in a scientific education.

It should not in the end matter very much whether visitors have ever really mastered the differences between, say, the African and Indian elephant, the detailed explanations of which are often painfully laboured over by zoo curators and yet so likely to have been forgotten by most of their audience by the time they reach the car park. We should allow ourselves to handle zoology in the interests of stirring awe rather than in the name of promoting knowledge, biology leant upon for its therapeutic, perspective-giving capacity rather than its factual value.

This article first appeared on the BBC news website.

Target: our professional reputation

THE TALE OF MORGAN THE ORCA HAS HIT THE HEADLINES IN RECENT MONTHS. HERE, THE DOLFINARIUM THAT FIRST TOOK HER IN TELLS ITS SIDE OF THE STORY

Niels van Elk, veterinarian and marine biologist, Dolfinarium Harderwijk

In June 2010 an emaciated, exhausted juvenile killer whale was rescued by the marine mammal park 'Dolfinarium Harderwijk' together with the governmental inspection vessel 'De Krukel' in the Dutch Wadden Sea. The animal recovered well in a provisional pool that had been evacuated for this purpose. The Dolfinarium asked seven experts to evaluate whether the animal was a candidate for release, with an emphasis on its welfare and survival chances. These experts unanimously decided this animal should not be released, the main cause of concern being that this type of killer whale lives in pods which do not exchange animals. Its original pod could not be traced, and therefore release should not be attempted.

After the decision not to release the killer whale was announced, several animal right groups united in the 'Orca Coalition' to combat this decision. They started a vicious but effective media campaign with the goal of damaging the reputation of the Dolfinarium, the keeping of killer whales in zoos in general and the destination of the rehabilitated killer whale, Loro Parque in Tenerife.

Several strategies were deployed in this media campaign by the animal rights activists, which are worth mentioning. Of each strategy one example is given:

Over emphasis on negative events without providing a correct context or interpretation

The skin marks caused by teeth on one of the animals in Loro Parque was used as proof that this group of killer whales was highly aggressive amongst one another. The skin marks however were very superficial and far more serious marks are widely found among killer whales in the wild.

Provision of misleading and false information

The coalition claimed killer whales in zoos have a far shorter life expectancy than their counterparts in the wild. Long term analysis of the marine mammal

inventory of the USA indicates the reverse is true. The difference is due to the fact that animal rights activists count all deaths in zoos starting at birth while in the wild animals are only counted from six months and older, due to the monitoring being done in summer while calving is in winter. The amount of neonatal carcasses found in the wild however is high.

Ignoring counter-arguments

The orca coalition avoided the debate. This was not in their interest. They talked to the media and the politicians, not to the Dolfinarium. As a reaction to the expert report of the Dolfinarium their argument was that the experts were not impartial or knowledgeable. They did not enter a discussion on the arguments provided in the expert report.

Time and time again the argument on longevity of killer whales in zoos was refuted by sharing the data mentioned above. The coalition never reacted but just continued spreading their misleading and false statement.

Speculation and insinuation

The arguments of the coalition were often based on speculation and insinuation. It was even speculated that the Dolfinarium purposefully neglected the killer whale and hoped that thereby she would be mentally traumatised and made unsuitable for release. No matter how hard the attacks were refuted by facts, their echo remained.

The above strategies prohibited a constructive and reasonable debate. The Dolfinarium therefore had to focus on clearly communicating its own story externally but also internally.

While the strategies deployed by the animal rights activists were experienced as unfair and unpleasant, their concern with the welfare of animals living in an artificial environment is legitimate and shared by many, most of all those who work with zoo animals. We all want our animals to be physically and mentally in good shape, and to enjoy their lives.

To assess the quality of life of the animals we humans deal with is a difficult task. We need to pass with empathy across to another species' inner world. This is an incredible border. Pitfalls and limitations are everywhere. Misplaced anthropomorphism is an obvious one; ignoring the fact that animals have emotions is another. Both are easy but utterly wrong.

Ethology, veterinary science, pathology and neurology can help to make a more valuable assessment and come to proper management of the animals we deal with.

Zoos need to be transparent on how they assess the welfare of their animals. It is an all important issue. The fact that we hold charismatic animals for display, have an exemplary function for the general public and often combine the expertise and research of veterinarians, pathologists, biologists and ethologists make us prime candidates to forward the knowledge and expertise on animal welfare assessment and management. We should take the lead in this research. Thereby we can provide an example of how animal welfare can be approached in a scientifically sound and realistic manner. In this way we may help animals of other categories as well. Be it companion animals, farm animals, wild animals or vermin. In the end, all animals are equal, aren't they?

Protecting the passerines

THREATS TO SONGBIRDS IN THE REGION LEADS TO THE ESTABLISHMENT OF A SOUTHEAST ASIA FOCUS GROUP

David Jeggo, Head of Bird Department, Durrell Wildlife Conservation Trust, Chair EAZA Passeriformes TAG; Roger Wilkinson, Head of Field Conservation & Research, Chester Zoo; Theo Pagel, Director, Cologne Zoo

No region in the world holds more threatened bird species than Southeast Asia. While these are spread across many families, passerine species are especially threatened, and particularly because of the regional popularity of keeping wild songbirds and associated pressures on wild birds from trapping.

Desirable species occurring at low densities and especially those with small distributions are most vulnerable. Capture of passerines to satisfy this hobby, particularly within Indonesia, is responsible for the virtual extinction of species such as the straw-headed bulbul (*Pycnonotus zeylanicus*) from Sumatra, Java and Borneo and the localised disappearance of formally common species such as white–rumped shama (*Copsychus malabaricus*). There is no better example of the impacts of capture than the plight of the Bali starling (*Leucopsar rothschildi*), so long a signature programme for the EAZA Passerine TAG and an iconic species for zoos and conservation. Trapping has brought this Critically Endangered species to the brink of extinction in the wild and continued poaching in Bali Barat National Park frustrates long-term success through the reintroduction of captive-bred birds. In fact some authors consider the Bali starling is now extinct in the wild in that the remaining free-flying birds are believed to be all derived from captive stock. Recent release programmes on Nusa Penida (an island off the coast of Bali) and from several holiday resorts around the Bali Barat National Park offer new opportunities to establish free living populations.

Desirable species occurring at low densities and especially those with small distributions are most vulnerable

The precarious status of Bali starlings, existing ESBs for other species from this region and the growing threat to more, especially in Java, led the EAZA Passeriformes TAG to focus attention on this particular and urgent conservation issue within Southeast Asia. To this end a group of involved TAG members joined with Dr Nigel Collar, of BirdLife International, at Chester Zoo last June to discuss conservation actions required and what the TAG could do to assist. The aims of this meeting were:

- to update and discuss the current status in the wild of the species of concern;
- to determine actions necessary to safeguard their future in the wild to

bring about a recovery;
- to determine what assistance EAZA programmes and institutions can contribute to their conservation and set targets;
- assign responsibilities for actions where required and set time scales.

As well as the Bali starling, a range of other species were discussed at the meeting: notably the blue-crowned laughingthrush (*Dryonastes courtoisi*) as the area encompassed within Southeast Asia sometimes includes Southern China and it was convenient to include this Chinese endemic. This species is another Critically Endangered passerine for which there is an ESB programme. It numbers just some 240 birds in Jiangxi province while a second disjunct population in Yunnan Province can no longer be located and seems likely to have been extirpated through excessive collection for the wild bird trade a decade or so ago.

TRAPPING PRESSURES

Another species discussed was the Sumatra laughingthrush (*Garrulax bicolor*) which also has an existing EAZA programme. This species is currently listed as Vulnerable, although further surveys are required as reports are conflicting with information that it is now completely absent from some areas. In more remote places it may not be difficult to find: its continued presence in the bird markets suggests it is under immense pressure from trapping. A small group of birds has been assembled at the Cikananga Breeding Centre in Java, a former gibbon rescue centre that now concentrates on breeding endangered Indonesian endemic wildlife.

The Cikananga Breeding Centre is also working with the nominate subspecies of the black-winged starling (*Sturnus melanopterus melanopterus*), a bird recently up-listed from Endangered to Critically Endangered. Trapping has completely removed it from much of its former range while the other sub-species, tricolor from east Java and tertius from Bali are also in trouble. The TAG has agreed that zoos should support captive breeding efforts in Indonesia and potentially a programme in Europe. ZGAP is a stalwart champion of Cikananga and increasingly EAZA institutions including Koln, Waddesdon Manor, Prague, Plzen and Chester are also lending support. The black-winged starlings at Cikananga are breeding well and releases are already planned. We also have the opportunity to import birds from Cikananga for a managed population in Europe that would aim to assist in financially supporting this important conservation programme in Java.

CLOCKWISE FROM LEFT: BALI STARLINGS AT PURADALEMBUNGKUT, NUSA PENIDA (ROGER WILKINSON); SUMATRAN LAUGHINGTHRUSH (ANDREW OWEN); MALE SHAMA (KARINA SPOERRING); JAVAN GREEN MAGPIE (ANDREW OWEN)

A number of Southeast Asian bird taxa have been recently proposed as species rather than subspecies on the basis of them being sufficiently distinct. The deteriorating state of Java's avifauna is of particular concern and some of these new species appear to be extremely threatened. For example, the revised taxonomy of the short-tailed green magpie splits the Bornean green magpie (*Cissa jefferyi*) from the Javan green magpie (*Cissa thalassina*). This leaves the Javan species as potentially Critically Endangered as perhaps fewer than 100 survive in the wild. Chester Zoo is taking a leading role in seeing what can be done to assist this species and since this meeting eight birds obtained from private holders are now held at Cikananga to initiate a conservation-breeding programme.

The focus group will meet again this year, for updates, progress reports and deciding priorities. Many of the activities can fall to the respective EEP and ESB coordinators but in the face of pressing conservation issues with common factors the focus group aims to help steer actions and bring interested parties together, avoid unnecessary overlap and, hopefully, be able to make a real difference in working together to support conservation programmes for the songbirds of Southeast Asia.

PARTICIPANTS IN THE SOUTHEAST ASIAN FOCUS GROUP MEETING

- Chair: David Jeggo, Head of Birds Durrell Wildlife Conservation Trust
- Vice-chair: Theo Pagel, Director Koln Zoo
- Nigel Collar – Birdlife International
- Roger Wilkinson – Head of Field Conservation and Research Chester Zoo
- Laura Gardner, Leeds Castle, Kent, and ESB co-ordinator for the blue-crowned laughingthrush
- Bernd Marcordes, Curator of Birds Koln Zoo, and EEP co-ordinator for the Bali starling
- Mark Myers, Woodland Park Zoo, Seattle, and North American studbook holder for the blue-crowned laughingthrush
- Andrew Owen, Curator of Birds Chester Zoo, and ESB co-ordinator for the Sumatran laughingthrush

Should castration be used as a man

JAN VERMEER, PRIMATE CONSERVATION AND HUSBANDRY CONSULTANT, GORILLA EEP ADVISOR; AND BRYAN CARROLL, DIRECTOR OF BRISTOL ZOO GARDENS, DEBATE THIS SENSITIVE TOPIC. OUR DEBATE BEGINS WITH A LETTER FROM JAN TO BRYAN. PICTURES BY JAN VERMEER

DEAR BRYAN

Now that many zoos have become successful in breeding gorillas, we are encountering the problem of a male surplus. Between 2005 and 2010, 81 viable births have been recorded in the gorilla EEP population. Of these, 35 were male and 46 female. A 20-year projection of the population (using PM 2000) predicts that in 15 years' time we will have more males than females in the population. As the natural group composition of western lowland gorillas generally has one male to several females, there will be a large surplus of males.

There have been several suggestions to solve this problem. The most space and cost-effective would be to euthanise surplus males. However, as this is ethically not accepted by many zoos and is even illegal in some countries, we need to look for additional solutions.

It is possible to keep some of the males solitary, but it is questionable whether wild gorilla males live solitary lives for long periods, or whether this is just a temporary situation.

Decreasing the number of females per breeding group would be another (partial) solution. The EEP currently limits the number of breeding females per group to three. It is believed that decreasing the number to only two could affect the social development of the offspring born in the group, but this still has to be proved.

The experiences show that bachelor groups are, for most individuals, only a temporary solution. Aggression between males reaching the age of approximately 12 years often results in the transfer of such an animal to another group.

One option that has received little support from zoos is gorilla castration. This is remarkable, as castration has been proven to be a good management tool to prevent aggression in other primate species. I personally have good experiences with the castration of colobus monkeys, capuchin monkeys, mandrills, woolly monkeys and Barbary macaques. In most cases the animals were castrated at a young age (under 2 years). The males never developed the secondary male characteristics, and some mandrills in particular looked rather like lanky females with very long limbs. Aggression between the breeding males (often the sires) and the castrated males is rare, and never resulted in the expulsion of a castrated male. We never had the impression that the castrated males had psychological problems due to the castration.

Our experience with castration in gorillas is based on only one animal: Kukuma, who was born in 1989 at Apenheul Primate Park. At the age of 6 months he had to be transferred to the Stuttgart nursery, after being castrated under responsibility of Wim Mager. His motivation for this castration was the prediction that there would be a serious male surplus problem in the future. After his stay at the Stuttgart nursery, Kukuma was transferred at the age of 4 years to the breeding group of Belfast Zoo. He integrated well into the group, and his friendly behaviour might have facilitated the introduction of two hand-reared infants. New silverbacks were introduced when Kukuma was 9 and 12 years, and both accepted his presence without any problems. He showed no evidence of development of secondary sexual characteristics. Unfortunately he died in 2011.

Zoos with a breeding group are partly responsible for the future of their male offspring. They should support the EEP in its search for solutions for the surplus problem. Castrated males could either stay in their maternal group, or be integrated in a bachelor group. Zoos that will not follow a recommendation to castrate one of their males, should at least provide a second enclosure for one or more surplus males.

DEAR JAN

Castration is a procedure that is carried out in a number of species for a number of reasons, mainly for increased meat production in farmed animals and behaviour modification in companion animals. When considering castration as a management tool for our gorilla population, there are a number of issues and factors that not only need to be considered, but also we need to feel comfortable about our responses to them. We will be asked to explain and justify our choice of this procedure to our visitors and supporters as well as to our critics.

- This procedure is a physical mutilation of an animal that has a profound effect on behaviour, and results in an entirely unnatural animal living within a social organisation. How can we be certain that there are not significant effects on the welfare of that animal within that group? It is also irreversible, so once performed, there is no going back.
- Castrated animals do not occur in nature. The closest equivalent would be a male with undescended testes that does not develop secondary sexual characteristics. We have no evidence from the wild, and scant evidence from captivity of such animals, thus using castration as a management tool would be completely experimental regarding effects on behaviour.
- Is it a boy or is it a girl? It is, of course, neither. Gorillas are highly social animals that are, to an extent, hard wired to behave as males or females. They are also highly sentient animals. How sure can we be that an animal that is neither male nor female, even if it apparently gets along in a group, does not have significantly compromised welfare?
- What are the long-term health effects of this process? Evidence

agement tool for captive gorillas?

from studies on castrated dogs indicate that health problems resulting from castration outweigh any health benefits. These problems include increased risk of osteosarcoma (bone cancer), hypothyroidism, cardiac hemangiosarcoma (cancer of the blood vessels) and obesity. Of course, what is found in dogs does not necessarily apply to great apes, but there have been some studies in humans. In humans (particularly from studies on Ottoman and Chinese castrati) it is known to increase the risk of gynecomastia (enlargement of mammary tissue), and osteoporosis, that kyphosis (crumbling spine) is common, and there is possibly a risk of pituitary hyperplasia. There is no evidence of shortened lifespan in humans, so we may be faced with the problem of castrated males with brittle bone disease living into old age. Of course this may be treatable with vitamin and mineral supplements, but we really don't know that yet.

Aside from these questions on the effects of castration on the animal's health and welfare, there are two other, more general questions that I think we will face. Firstly, if we have to mutilate our animals in order to keep them, what does this say about the way that we are currently keeping them? Is it an admission of defeat, and we are forced to find the least bad way of addressing the surplus male issue? The second is the ethical question of whether it is right to carry out a procedure with such profound consequences on our closest relatives. Great apes, in many ways, reflect us. We talk about, and our visitors appreciate, their human qualities, their ability to play, to laugh, to have bad moods and to understand their environment. Castration is not deemed acceptable in humans, so why should it be in apes? Our treatment of the great apes reflects on us, and we need to bear that in mind in our management practices.

DEAR BRYAN

Castration at a young age will not affect the behaviour, but the development of the behaviour. We might be able to prevent the development of aggressive behaviour, and therefore male gorilla fights that can cause severe wounds. Just like we think we can judge welfare of intact animals, we should also be able to do this in castrated animals. What we can possibly avoid is a welfare issue in which male gorillas have to be kept solitary. Not having experiences cannot be a reason for not castrating, as only if we castrate animals will we learn about the effects on behaviour and health effects. We might call it experimental, but isn't this how we have improved animal husbandry in zoos through the years?

Castration might be seen as an admission of defeat, the least bad way of addressing the surplus male issue. But the male surplus in zoos only exists because we do not allow males to die at sub-adult age through fights with other males, as happens in nature, out of welfare reasons. We can show that we do the right thing; that we breed gorillas with a presumed natural 50/50 sex-ratio at birth, but we care so much about the males that we try to find ways to let them have a good life. This is easy to explain to visitors and welfare-organisations, and we should not be ashamed of it. And if we feel that we should not do it to our closest relatives, shouldn't we than also question if we can keep them in captivity?

Assuming that these males and their group members will have a healthy and social life, which can only be determined if we do it, we can state that we have successfully managed the captive population without killing surplus animals or keeping animals solitary. Let's take up the knife (after EEP recommendation!) and take on our responsibility, before it is too late!

DEAR JAN

You are right when you say that we won't learn about the effects of castration until we do it, and in that way it is experimental. If such a programme were in place, it certainly should be accompanied by intensive behavioural, physiological and health monitoring. I disagree when you say that it is easy to explain to visitors and welfare organisations, and suspect that, in a way, this may make it harder. On matters of animal welfare, most people judge with their hearts, not their heads. A critic who portrayed this as 'experimenting with our animals and we don't know what the effects of it might be' may induce an immediate negative emotional reaction in the general public. In trying to do the right thing we may shoot ourselves in the foot.

At the moment we already manage the surplus male issue through bachelor groups, which as you've said, bring their own challenges as the males mature within them. For the most part, however, we do manage the situation successfully. Are we in danger of looking to castration as an easy way out of the difficulties of managing all-male groups? So far we have not really explored the alternatives.

Perhaps we should be trying to resolve the problem earlier rather than entering an ethical and PR minefield. Our studbook analyses tell us which offspring, if male, would be unwanted. It is a straightforward procedure to ascertain the sex of a foetus in utero. It is also straightforward to abort an unwanted foetus at an early stage of pregnancy. Modern drugs and protocols have reduced immensely the risks associated with general anaesthetic in gorillas. Surely avoiding the problem in the first place is a better route than taking the knife to deal with it once it arises.

HAVE YOUR SAY

Would you like to respond to the debaters on this issue? Please write to Mike Sullivan with your comments at michael.sullivan@eaza.net.

Conceiving new ideas

AN INTRODUCTION TO THE EUROPEAN GROUP FOR ZOO ANIMAL CONTRACEPTION

Dr Kirsten Pullen, Zoo Research Officer, Co-chair EGZAC, Whitley Wildlife Conservation Trust (Paignton Zoo Environmental Park)

Since 1989 the AZA Wildlife Contraception Centre (WCC) has been collating data and providing recommendations on contraceptive experience and products for collections in the North American region. This resource, with more than 23,000 entries, has become invaluable for many zoos. Whilst the AZA WCC has always been happy to assist European zoos, and several have participated in their surveys, European experiences with contraception and the subsequent data, to date, have not been collated. In 2008 a small group discussed the possibility of establishing a European database of contraceptive experience, and from this the European Group for Zoo Animal Contraception (EGZAC) came into being. EGZAC is a resource for European collections and population managers, collating data on contraceptive experiences and providing information on and recommendations for the contraceptive products available within the European region.

To date European experiences with contraception have been passed on anecdotally between collections. This has tended to result in a patchy distribution of knowledge. In addition, although the AZA WCC has been very willing to share experiences, there are some major differences between the regions in the availability and licensing of products. The European region cannot source some products that are readily available in the North American region, and have access to some that are not licensed in the North American region. This means that there is a data gap for the European zoo community in the WCC database. EGZAC is working to bridge that gap, and extend the knowledge in both regions. The EGZAC database has been developed in close collaboration with the WCC (we have a Memorandum of Understanding with the WCC) allowing the databases from both sides of the Atlantic to be merged, increasing documented experiences. This means that we can tap into their expertise for current contraceptive products, but can also add to their knowledge both of North American licensed products and of product opportunities from this side of the pond.

The database is now online and several zoos are already inputting data. The online survey allows those who have registered to track their animals whilst on contraceptives and monitor changes in physiological and behavioural parameters (eg weight levels and aggressive or breeding behaviour) so in itself can be a useful tool for zoo managers. The information then also feeds into the database allowing EGZAC to make up-to-date recommendations concerning the products available. This enables population managers, zoo managers and vets to make informed choices about the contraceptives available to them and apply them to the situations encountered within a zoological collection. In providing recommendations for contraception of species EGZAC will always recommend that individuals managed within breeding programmes should not be contracepted without the agreement of the programme coordinator.

This is an exciting opportunity for European collections to move away from the anecdotal dissemination of information into an evidence-based system, with consolidated knowledge and an increased effectiveness with contraception products, enhancing animal management.

JOIN THE TEAM

EGZAC would like to thank the following institutions for their support to data: Paignton Zoo Environmental Park, Chester Zoo, ZSL, University of Edinburgh, Leibniz-Institute for Zoo and Wildlife Research, Stichting AAP and the AZA Contraception Centre. EGZAC would also like to recognise Chester's input in establishing the online survey and the database. If you would like to find out more about EGZAC and register for the online survey please go to www.egzac.org or email contraception@chesterzoo.org. If you would to become an advisor for EGZAC please contact Sue Walker (s.walker@chesterzoo.org) or Kirsten Pullen (Kirsten.pullen@paigntonzoo.org.uk).

ZOOBOY27 IS ON A MISSION TO BROADEN THE THINKING AND INFLUENCE OF THE EUROPEAN ZOO WORLD, AND PULL NO PUNCHES IN DOING SO. HE REMAINS AT LARGE.

Euthanasia or dysthanasia?

SOME ASPECTS OF ANIMAL MANAGEMENT STIR UP STRONG FEELINGS WITHIN SOCIETY: PERHAPS PART OF THIS COMES DOWN TO THE TERMINOLOGY WE USE

At the EAZA annual conference in Montpellier in September 2011, EAZA Council approved a new 'Euthanasia statement'. The full text is available on EAZA's website, and I recommend reading it, to EAZA members, conservationists, animal welfare groups and politicians alike. I can only fully agree with this courageous statement!

Euthanasia comes from the Greek *eu* (= good) and *thanatos* (= death). The 'good death'. Wikipedia defines euthanasia as 'the intentional ending of a human life in order to relieve pain and suffering'. Wikipedia applies exactly the same definition to animal euthanasia, and thus excludes killing of animals for other purposes from it.

According to this definition, those who oppose (zoo) animal euthanasia for other reasons than the prevention of an individual's pain and suffering are fully correct. Not necessarily because other purposes would be unethical, but simply because they do not fall under the (Wikipedia) definition.

In practice, however, the term animal euthanasia is much more broadly used. Perfectly healthy and happy but unwanted kittens and puppies are euthanised. Wild birds and animals brought into rescue centres with only minor injuries are euthanised when there is lack of space. A child's pony is euthanised when its limping cannot be cured, even though otherwise the animal does not suffer from pain.

It seems as if the meaning of euthanasia has gradually shifted from the reason for ending an animal's life towards the method used for doing it. Have an animal 'put to sleep' by a vet for whatever reason, and it is euthanasia. Slaughter it, hunt or fish it – for food or sports – kill it in the framework of pest or disease control, or cull wild animals by shooting them in order to manage a population in a national park, and nobody would call that euthanasia. And, strangely enough, in all these cases there is relatively little protest from society and politicians. Hundreds of millions of farm, game, pet, pest and wild animals are annually killed in Europe for a variety of reasons, using a variety of methods, and hardly anybody complains (killing for sports being one of the rare exceptions), even though, or maybe just because all these killings are done for the convenience of humans. Start discussing animal euthanasia using a humane technique, however, and suddenly you will have a big emotional debate. As if the term itself causes the trouble, and not the death and its intention.

If we must stick to the term (zoo) animal euthanasia, however, I propose that we broaden its meaning one step further, in such a way that it not only applies to individuals, but also includes 'the intentional ending of an animal's life to relieve the suffering of its group, population or species'. That is exactly what the EAZA statement – in other words – wants to say: euthanasia (even of a healthy animal) is legitimate when this serves the wellbeing of its parents, its social group and/or the prolonged survival of its population or species. In short: euthanasia is fully acceptable as a management tool in breeding and species survival plans and one that has been supported by the Species Survival Commission of the IUCN. Why would culling be a good and legitimate tool to manage wild populations (in far too small parks), while euthanasia (using more humane techniques) to regulate population size and structure in (far too small) zoos would be bad, simply because the term euthanasia evokes so much more emotion?

Searching Wikipedia I also came across the word dysthanasia, a recently invented term expressing the 'irresponsible prolongation of human or animal life, causing unnecessary suffering and pain (by not applying euthanasia when appropriate)'. Maybe we should also 'upgrade' the meaning of dysthanasia to include group, population and species levels as well. Not applying euthanasia appropriately to ensure continued wellbeing, health and survival of zoo animal groups, populations and species would then be irresponsible and unethical. And that is exactly what it is!

Start discussing animal euthanasia using a humane technique and suddenly you will have a big emotional debate

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