

QUARTERLY PUBLICATION OF THE EUROPEAN ASSOCIATION OF ZOOS AND AQUARIA

# ZOOQUARIA

SUMMER 2013

ISSUE 82

## Lynx up

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FIRST IBERIAN  
LYNX EXHIBIT

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MADAGASCAR

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Bluespotted ribbontail ray (*Taeniura lymma*) © Frank Spandl

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## From the Director's Chair

The Eurovision song contest is a peculiar tradition indeed. Started in 1956, this yearly celebration of song, bizarre costumes, pyrotechnic display, weird dance moves and, a more modern phenomenon, the rhinestone encrusted demonstration of European political alliances, is a curious creature to those not brought up in this complex continent. It is watched live by 125 million people and has spawned the careers of many a famous singer or group... and who could not love an event that led to the worldwide domination of music in the 1970s and early 1980s by the Swedish supergroup Abba, winners in 1974, Eurovision's glorious pinnacle.

The song contest is feverishly fought and vast sums of money are spent on the event – an estimated €20 million on the recent contest in Malmo in May, with Azerbaijan in 2012 spending €35 million on the evening spectacular and a further €100 million to build the venue. Yet it was also in May that another European 'event' was quietly announced. It was the IUCN analysis of the state of European wildlife, country by country. It made for both uplifting and depressing reading in equal measure. Uplifting in that the diversity of European wildlife is still broad and fascinating, even if we do not have the spectacular giants of our neighbours in Africa or Asia. Depressing in that the trend is ever downwards with thousands of species in decline.

Some 6,000 European species have been assessed for the Red List with the Mediterranean region home to most of the continent's biodiversity. But it is also the southern countries of Europe that are facing the biggest problems in tackling biodiversity loss: of 2,032 species assessed in Spain, 21% are threatened; of 1,215 species in Portugal assessed, 15% face the same problem; and a further 14% of the 1,684 species in Greece. Italy and Cyprus are the countries that next 'top' this dubious statistic. These are also the countries that face the most pressing economic hardships in austerity-hit Europe. Yet, we do seem to, as a species, spend vast sums of money on other topics, such as Eurovision (fun as the event is) or the \$1.75 trillion spent on armaments worldwide that Nigel Collar notes in his interview on page 22. Presumably we deem these very important? It is acknowledged that Europe's governments spent funds on species and habitat conservation – but clearly not enough as the IUCN's report demonstrates. Europe plc would certainly be doing very badly as a company if it were judged on our protection of the natural places, animals and plants that make our continent unique.

I wonder why we do not demand from our leaders that we spend more on protecting the fabulous outfits, the amazing singers, even the weird dance moves, of our other European

neighbours, the animals that live with and around us. Is it because we have now become so jaded that we expect biodiversity to be in decline, that it seems inevitable in our crowded continent? There is a well-documented phenomenon called the 'Broken Window' effect. Simply put, it suggests that toleration of small amounts of graffiti, a few broken windows, a little litter in a neighbourhood and so on, will lead to a spiral downward into social decline of that same neighbourhood. Where one graffiti tag is tolerated another will soon follow; where one piece of litter remains on the ground, it seems to multiply. To combat this many cities and regions worldwide have 'zero tolerance' approaches to this type of social disorder to prevent decline becoming inevitable. The research suggests this approach has much to commend it.

This led me to thinking why on earth are we not taking a zero-tolerance approach to wildlife here in Europe? What if every city, every region, every country really committed to no more declines – zero tolerance that species will just go because of human activity, not acceptance that this is just one of those things. And what if alongside the Eurovision Song Contest we had the Eurovision Biodiversity Contest where countries competed to ensure that they had been the most able and victorious in protecting the wildlife and habitats in their own lands. This would visualise the value of biodiversity (Aichi Target 1), a commitment of EU Member States, to the vast audience in Europe. And if it helped, the best new biodiversity song, complete with flamboyant outfits, could accompany the visuals of projects that are saving species: our European species. Let's have cheering crowds, all happy to pay an entry fee to offset the costs of the event plus a tariff on top to put towards conservation, packing a stadium to whoop and cheer as we see a species brought back from the brink, so that it is not just another broken window along the way. Let's have the best loved species highlighted and then twinned with the lesser known creatures that make our lands unique.

EAZA zoos and aquariums are taking action for European species (see *Zooquaria* 81) – but let's see if we can do even more – let's make sure that every EAZA member has a native species project that they are involved in and highlight this to our visitors.

And my favourite European species? Dear wolverine – you are my Abba.

Dr Lesley Dickie  
Executive Director, EAZA

## NOTICEBOARD



## ED COUNT

ON 2 MAY BIRDPARK AVIFAUNA HOSTED 'Edward's Awareness Day', an initiative of both the Dutch Zoo Association and Birdpark Avifauna. Edward's Awareness Day focuses on raising awareness about the plight of the Edwards's pheasant (*Lophura edwardsi*), a threatened bird species from Vietnam in Southeast Asia. The Edwards's pheasant was first described in 1896 and named after its discoverer Sir Edward Woolridge. It lives in the densely forested areas of the mountains of Vietnam, yet is Critically Endangered, if not Extinct in the Wild. The decline has been driven by high levels of hunting pressure, including practices of indiscriminate trapping, and lowland forest deterioration. Avifauna Bird Park is participating in the Edwards pheasant EEP, and has been keeping the species

since the 1990s.

People bearing the name 'Edward' were invited to come to Avifauna for free, with two guests. During the day several activities were organised, and visitors were also able to buy EAZA campaign merchandise. Children were able to write words in Thai (using the Thai writing examples from the campaign website) and to colour colouring sheets with Southeast Asia species. People could also sign up for the 'Edward tour', a guided tour to the Edward's pheasant enclosure with lots of information about the Edward's pheasant in the wild, the threats and the species in the zoo and the challenges of the breeding programme.

In total 35 'Edwards' came to Avifauna for free, and the day raised a further 217 euro for the Southeast Asia Campaign.



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EAZA IS A SUPPORTER OF *THE JOURNAL OF ZOO AND WILDLIFE Medicine*, distributed world-wide, and one of the most well-read refereed journals on zoo and wildlife medicine. The Journal is published by the American Association of Zoo Veterinarians (AAZV), and is the official journal of both the AAZV and the European Association of Zoo and Wildlife Veterinarians (EAZVV). As a token of appreciation for EAZA's support, AAZV is making the Journal available online to EAZA members.

Many of the veterinarians practicing in EAZA member institutions already subscribe to the *Journal* through their membership in AAZV, EAZVV, or as a subscription. However, if your veterinarian does not have access, now's your chance to provide it for them. The offer is limited to one online access per institution.

Here's how it works. The AAZV system only allows for individuals to gain online access, and each individual receives a user name and password for access (sorry, there are no institutional subscriptions

through the AAZV system). AAZV sends an updated list to the publisher (Allen Press) about four weeks prior to publication of each issue, and the issues come out in March, June, September and December each year. If you would like to take advantage of this offer, please send an email to [AAZVOrg@aol.com](mailto:AAZVOrg@aol.com) with the following information: the name of your institution; the name and contact email address of the person submitting this information; the name of the vet who you would like to grant access to the *JZWM*; the name of the institution where they work; and their email address.

We will collect the information and forward it to Allen Press about the second or third week of August so they will have access starting with the September issue. Emails received after that will be added prior to the December issue. Online access runs out automatically each year on 31 January, so it will be necessary for you to order access each year your membership is active with EAZA if you want the vet to continue having access. You can send the above information any time between 15 November and 31 January to ensure seamless access. AAZV is grateful for EAZA's support of the *Journal of Zoo and Wildlife Medicine*.

## NOTICEBOARD



LEFT TO RIGHT: DERBY ELAND ENTERING NEW BREEDING ENCLOSURE; DOCUMENTING THE DERBY ELANDS; DERBY ELAND BREEDING HERD - ALL BANDIA RESERVE © TOM JUNEK

### NEW FUTURE FOR LARGEST ANTELOPE

MORE THAN 40 EXPERTS FROM SEVEN COUNTRIES AND FOUR continents met in January 2013 in Senegal to create the conservation strategy for one of the largest and critically endangered antelope, the western giant eland (*Taurotragus derbianus derbianus*), writes *Karolína Brandlová, Researcher, Faculty of Tropical AgriSciences, Czech University of Life Sciences Prague*. The last viable population (170 individuals in 2006) of this magnificent antelope survives in Niokolo Koba National Park (NKNP) in eastern Senegal, threatened by poaching and habitat loss. A semi-captive population was established in 2000 from six founders captured in NKNP thanks to the Directorate of National Parks in Senegal (DPN) and the Society for the Protection of Environment and Fauna of Senegal (SPEFS). This semi-captive population has become the base of the conservation programme led by the Derbianus Czech Society for African Wildlife NGO, DPN, and SPEFS. Due to careful breeding management, research and education, the population

reached 95 individuals in 2013, separated into several herds within two fenced reserves (Bandia and Fathala) in Western Senegal.

A Species Conservation Planning Workshop for the western giant eland (also known as the western Lord Derby eland) was organized by the Derbianus Czech Society for African Wildlife, DPN and SPEFS, and supported by Czech University of Life Sciences Prague, Knowsley Safari Park, Prague Zoo, Chester Zoo and IUCN. During three days of discussions led by Dr. David Mallon, the co-chair of Antelope Specialist Group IUCN SSC, a conservation strategy plan for the eland was established. We hope that the conservation strategy accepted by all key stakeholders will lead to one plan for the *ex situ* and *in situ* population as the *ex situ* animals may directly contribute to the conservation of the unique ecosystem of the West African savannah.



### FLOODING AFFECTS PRAGUE ZOO A SECOND TIME

Eleven years after a disastrous flood that covered much of the lower reaches of the Prague Zoo they have been affected once again by the torrential rainfall that fell in early June throughout much of central Europe. The zoo is happy to report that all staff and animals are safe. Some animals, including the tigers had to be sedated and moved to higher ground, however, while there has been no repeat of the loss of animals that occurred in 2002 there has been severe damage once again to the lower part of the zoo. The zoo estimates that the water has caused just over 6 million euro of damage to buildings and material losses. If any members would like to donate to assist Prague Zoo please contact the EAZA office ([info@eaza.net](mailto:info@eaza.net)) and we will pass on the requisite bank account details.

### GET YOUR BOOTS ON

In September at the EAZA annual conference in Edinburgh we will launch Pole to Pole, our new two-year campaign focusing on the polar regions, and how it's the people who live between the poles, us - who are causing rapid change, writes *Lesley Dickie, EAZA Executive Director*. Pole to Pole will not be a fundraising campaign this time around, but a campaign to try and evoke positive behavioural change in resource use in European citizens.

Rebecca Willers of Shepreth Zoo, an EAZA member in the UK, approached me last year to suggest an EAZA assault on

Mount Kilimanjaro, half way between the two poles, putting together a team to try and reach the summit. Rebecca has done a fantastic job in researching companies to work with and we are teaming up with Uhuru Expeditions to put together a team of 25 people to climb the mountain in January 2014. We will be carbon offsetting all travel plus using the opportunity to fundraise for other conservation projects that are dear to the heart of EAZA members. If we make it to the top we will raise a banner for Pole to



Pole. It will also be a once-in-a-lifetime opportunity and great fun to work together.

We need to know numbers by 1 September and costs will be \$1,650 plus flights. If you are interested in taking part and have a conservation project that you would dearly like to raise funding for via sponsorship for the climb then please get in contact with me ([lesley.dickie@eaza.net](mailto:lesley.dickie@eaza.net)) or Rebecca ([rebecca@sheprethwildlifepark.co.uk](mailto:rebecca@sheprethwildlifepark.co.uk)). Rebecca and I are hoping to be able to stand on the roof of Africa – want to join us?

# BIRTHS & HATCHINGS

## A PROMISING START TO THE BREEDING SEASON IN 2013 AT ZLIN ZOO



Zlin Zoo has been keeping wattled cranes since 1996 when we received a female from Vogelpark Walsrode, writes Zoo Zlin director Roman Horsky. It was not easy to find a suitable parent-reared male, but thanks to Saitama Children's Zoo in Japan we managed to get one in 2008 and could finally provide our female with a suitable mate. The male is full-winged and the female came pinioned. They were settled in a large aviary called Omo River along with a few other species including yellow-billed storks, marabous, hammerkops, ibises, hornbills, and parrots.

We noticed the first egg at the beginning of 2012 but unfortunately it

was broken. Later eggs were laid on 11 and 13 March 2012, but were unfertilized.

The first successful hatching took place as 2012 turned into 2013. The female was 16 years old and the male six years old at that time. The female laid two eggs which we had to put in an incubator, as the cranes had built the nest and laid the eggs outside, and we were concerned about winter temperatures. After 25 days we found that only one egg was fertilized. The female and the male were by this time sitting on the dummy egg. The chick was hatched on 1 February after 33 days of artificial incubation and was returned to the nest. Unfortunately, after a few hours

the male tried to attack the young in the outside enclosure. We tried to isolate the chick with only the female in the inside enclosure but unsuccessfully: the female didn't take care of the chick, and we had to proceed with hand-rearing. The hand-rearing has been practised strictly without human contact. The keeper hand-rearing the bird puts on a mask imitating the parent. Today the chick is 39 days old and weighs almost 2 kg.

The zoo hopes to have a successful breeding season of vultures, as well: four pairs of Rüppell's vultures, 2 pairs of brown vultures and 1 pair of griffon vultures are sitting on eggs at the time of writing.

## LITTLE RAYS OF SUNSHINE SPOTTED AT LIVING COASTS

Two bluespotted ribbontail rays – one male and one female – were born on Sunday 17 March at Living Coasts, Torquay, United Kingdom, writes Philip Knowling, Press Officer.

'Twins are not unusual – it's thought that they can have up to five pups per litter,' says Clare Rugg, Living Coasts Operations Manager. 'The babies are perfect miniatures of the parents – but they do have their own individual spot patterning.'

The two have been moved to a nursery tank to make sure they feed well. They are being tempted with live river shrimp – live food is essential to trigger the feeding response. They also get ragworm and oily fish chopped in to manageable pieces. Later we will add smelt and sprat and eventually chopped squid.

Once they have achieved a good weight and a good eating regime they will return to the main tank with the adults. It is a great achievement for our aquarist Adam to breed these fish. Only a few collections in the UK hold this species.

Torquay's coastal zoo is home to one male, Trevor, and two females, Sandy and Stumpy, plus a female pup born at Christmas named Holly.

The bluespotted ribbontail ray (*Taeniura lymma*) is found throughout the tropical Indian and western Pacific Oceans, often on coral reefs. It can grow to be 35cm (14 inches) across, 80cm (31 inches) long and 5 kilos (11 pounds). It is capable of inflicting an

excruciating wound with its venomous tail spines. Stingray embryos develop inside eggs that are retained within the mother's body until they are ready to hatch. The young are born live. The gestation period is uncertain, but is thought to be between four to 12 months.



## BIRTHS AND HATCHINGS

### DOUBLE SUCCESS IN PRAGUE

On 3 February Sumatran orangutan female Mawar gave birth to the very first orangutan born in Prague Zoo for 42 years, writes Michal Štátný, Prague Zoo. We don't yet know the sex as Mawar gave birth in her enclosure, and she has been shy since then. As she made a huge nest consisting of wooden pool and other items, the keepers have not yet been able to see much of the baby.

As Mawar has been nervous in her behaviour, the curator decided to close the Indonesian jungle to the public for almost a month. The baby became one of the most popular new births as soon as the house reopened.

24 year-old Mawar originally came from Jersey. She has lived in Prague with another of her babies, Gempa, since 2011. Father Padang came from Chester.

The following week, the very first Indian elephant baby in the 82 year history of Prague Zoo was born on 11 February. Mother Donna gave a very quick birth to a female calf, which was named Sita (meaning bright and shiny, as well as being the name of the queen from Ramajana) during the inauguration of the Elephant Valley (the new complex for elephants) to the public. The name was chosen by the public and people sent in more than 12,000 proposals in less than week.

Donna's delivery started early in the morning, and the calf was born at 13.20, standing up after just a few minutes. Donna's four year-old daughter was present at the delivery as the experience would be very important for her in the future. Donna, Tonya and Sita were presented to the rest of our female herd shortly after the birth.

The public can now see Sita and her family in our very new exhibit Elephant Valley.



## GIANT CELEBRATIONS

One couldn't have come up with anything better, writes *Stephanie Zech, Scientific Assistant, Dortmund Zoo*. On 2 April our 60th giant anteater was born during our 60th anniversary. The young female Isabela is doing well and her mother Zenobia (six years old) is carefully looking after her second offspring.

The husbandry of giant anteaters in Dortmund Zoo started in 1975 with a wild-born male and a wild-born female. The first cub was born after just one year. At that time, however, nobody could imagine how successful Dortmund Zoo would become in breeding the species – since that time, 59 giant anteaters have been born, most of them successfully raised by their mothers, only a few had to be hand-raised.

Young Isabela and her half brother Hoppy (four months old) can be seen in the Tamandua House. This zoo building is exclusively designed for keeping giant anteaters and other xenarthrans, including tamanduas, the two-toed sloth and armadillos (brown hairy, nine-banded and six-banded armadillo).

For further information, please contact Ilona Schappert (I.Schappert@stadtdo.de) or Stephanie Zech (szech@stadtdo.de) at Dortmund Zoo.



### FAST FIVE

Lisbon Zoo is proud to present the newest members of the cat family: five cheetah cubs, writes *Inês Seruya, Jardim Zoológico de Lisboa*. The cubs' parents are female Dakartas and male Aska.

The birth of these five cubs is a huge success for the reproduction project undertaken by the zoo, especially created for the cheetahs. A team of architects, veterinarians and experts were responsible for the redesign of their enclosure and for the development of mating incentives. The project began in 2010 and the first results have now been collected. The cubs, just five months old, are now on view for the public.

The cheetah can be a challenging species to breed. According to the IUCN, the cheetah is a Vulnerable species in the wild.

# Hope for the hornbill

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 EAZA IUCN SSC SOUTHEAST ASIA CAMPAIGN. THE SIX PROJECTS ARE EVENLY DISTRIBUTED AMONG MOST ASEAN COUNTRIES AND COVER A WIDE AND DIVERSE RANGE OF SOUTHEAST ASIA SPECIES INCLUDING TOMISTOMA CROCODILE AND MEKONG GIANT CATFISH. THE SIXTH AND FINAL PROJECT TO BE INTRODUCED IN THESE PAGES IS THE RUFOUS-HEADED HORNBILL CONSERVATION PROJECT OF THE PHILIPPINES BIODIVERSITY CONSERVATION PROGRAMME (PBCFI-PBCP).

Mirko Marseille, Executive coordinator communications and membership, EAZA and William Oliver PBCFI-PBCP

The Philippines supports more endemic hornbills than any other country in the world: nine species and at least 10 distinct subspecies. All of these species and subspecies are threatened to varying degrees ranging from Vulnerable (five species), Endangered (two species) to Critically Endangered (the Sulu hornbill (*Anthracoceros montani*) and rufous-headed hornbill (*Aceros waldeni*)). There are consequently many more severely threatened hornbills in the Philippines than in any other country.

This project focuses on the rufous-headed hornbill, which is endemic to the West Visayas Faunal Region, one of

the world's single highest conservation priority areas for conservation concern and action, in the central Philippines. Within this region, the rufous-headed hornbill (also known as the Visayan writhed hornbill) is known or presumed to have occurred on only three islands: Negros, where only 3% forest cover remains and where the species was long feared extinct, but is now thought to survive in very small numbers in only two or three of the largest remaining forest fragments; Guimaras, which has been almost entirely denuded and the species is undoubtedly certainly extinct; and Panay, with approximately

6% remaining forest cover, but where remaining habitat (particularly species' rich lowland forest) is already badly fragmented and still subject to continued attrition through agricultural encroachment, illegal logging and other disturbances.

Generally speaking, most existing 'protected areas' in this region are ineffectively protected, support little or no remaining lowland forest and are likewise subject to human encroachment, small scale logging and other illegal activities, including hunting. The rufous-headed hornbill has been traditionally subject to high levels of hunting pressure, to which it is particularly prone. It is not only a 'noisy' flyer, but tends to aggregate in fruiting trees and, perhaps most unfortunately, it is reputed to congregate around injured flock members. As a consequence, proficient hunters (especially those that can mimic the calls of distressed birds) can extirpate relatively large numbers of individuals during single hunting excursions. Nesting birds are also especially susceptible to the robbing of their nests, resulting in the loss of breeding females and the squabs being sold via the local live animal trade or eaten as 'pulutan' (finger food) during beer drinking parties.

The Philippine Hornbill Conservation Programme has been in continual operation since late 1993/ early 1994 when proceedings were initiated via a wide-ranging distribution, ethno-biological and status survey of the country's most threatened hornbills and other selected species considered to be most at risk from extensive habitat loss, hunting and local or international trade. Recommendations arising from this and other more detailed surveys in selected priority areas (most notably



ADULT FEMALE

## BACK FROM THE DEAD?

Hornbill subspecies are excluded from Red Listing evaluation; yet one subspecies, the Ticao Island tarictic (*Penelopides panini ticaoensis*) has been widely cited as constituting the first human-induced extinction of any hornbill taxon. However, a recent major review of the taxonomy of Philippines by J.C.T. Gonzalez (in press) has suggested that the Ticao Island tarictic is effectively indistinguishable from tarictic hornbills occurring on the nearest neighbouring island of Masbate; these hornbills are currently lumped with other West Visayan tarictics of the nominate race *P. p. panini* otherwise confined to Panay and Negros Island. If this arrangement (which also makes better biogeographic sense given the relative proximities of Ticao and Masbate versus Panay and Negros Islands), this will effectively, if somewhat paradoxically, both 'resuscitate' ticaoensis as a living taxon, but nonetheless result in this race becoming the world's most endangered hornbill. This is because Masbate tarictics are reportedly reduced to only a few surviving individuals in one small area of badly degraded area of mixed secondary forest and mangrove.



ADULT MALE RUFIOUS-HEADED HORNBILL

the West Visayas Faunal Region) were duly incorporated in various follow-up research and conservation management interventions, but not formally inaugurated until 2002 under the auspices of the first covering MOA between Department of Environment & Natural Resources (DENR, Government of the Philippines), Vogelpark Avifauna (Netherlands) and the North of England Zoological Society (NEZS, Chester Zoo, UK). The programme will re-assess the current remaining distribution, conservation status, threats and current conservation management requirements of the rufous-headed hornbill. Based on these findings, it will enable or assist with the formulation and implementation of highest conservation research and management actions, hopefully including the establishment of several new 'Local Conservation Areas (LCAs)'. The project will also capitalise on (and benefit from) diverse other related activities, such as the highly successful local conservation breeding programmes for this and other species (and therefore explore and development potential future reintroduction

opportunities), substantive counterpart funding and other in-kind support), and various and diverse local and international institutional partnership networks relevant to these activities.

The main focus of activities over the past 12 months have centred on Negros Island, where the species was long presumed extinct. However, recent surveys have confirmed its survival in small numbers in at least three separate sites. These surveys were otherwise intended to initiate proceedings for the development and implementation of new conservation management plans in each of these areas. The North Negros Natural Park (about 13,000ha), comprises the single largest remaining tract of native forest on Negros, and almost certainly supports the single largest remaining population of rufous-headed hornbill and many other severely threatened West Visayan endemic species, including the Visayan

tarctic hornbill (*Penelopides panini*).

The new management plans also promote and enable the establishment of teams of local community forest wardens ('bantay gubat') duly deployed to assist and enhance wildlife and habitat protection, restoration and monitoring activities. The long-awaited UNDP-GEF 'Biodiversity Partnership Project (BPP) for the North Negros Natural Park' (NANNP) finally came on line in June 2012, wherein PBCFI is designated as the 'Principal Implementing Partner' agency together with a long standing local NGO partner. This new project, which will run over five years to early 2017, is primarily aimed at assisting development and implementation of more effective conservation management and habitat restoration plans and protection activities in the national park in close collaboration with all partners and other key stakeholders.



#### LEARN MORE

EAZA IUCN SSC SE Asia Campaign: [www.southeastasiacampaign.org](http://www.southeastasiacampaign.org).  
Philippines Biodiversity Conservation Foundation: [www.pbcfi.org.ph](http://www.pbcfi.org.ph).



# CIVET DUTY

A SERIES OF EXCHANGES BETWEEN VIETNAM AND THE UK COULD HELP SPELL SALVATION FOR THE OWSTON'S PALM CIVET

Stewart Muir, Director, Newquay Zoo

It is now just over 12 years ago, when I was Director at Shaldon Wildlife Trust, that a few emails began my involvement with the Owston's Civet Conservation Programme. I was fortunate enough to be able continue to work with the project when I came to Newquay Zoo working for the Whitley Wildlife Conservation Trust. During the intervening years, the project has grown and evolved, first raising awareness of conservation for all small carnivores in Vietnam and, more recently, to include the heavily-traded and much-threatened pangolin. Although we are now officially the Vietnamese Carnivore and Pangolin Conservation Programme, the civets have remained at the heart of the project. This has only been achieved with ongoing support from the European zoo community and several zoos in America.

The centre at Cuc Phuong National Park was the first to breed the Owston's civets in captivity. When the number

of civets, through several years of successful breeding, reached 26, we felt that it would be prudent to house some in another location to avoid the risk of any diseases wiping out the entire captive population.

We initially looked for a partner within Vietnam and several meetings took place with Hanoi Zoo but we could not get a satisfactory agreement for suitable accommodation and felt that moving animals there, to the rather bleak concrete enclosures that were offered, would compromise their welfare.

We then began to look at the feasibility of an *ex situ* population coming to Europe. As the civets are owned by the National Park Authority, we embarked on two years of lengthy negotiations to get permission to export three pairs of civets to the UK. The agreements were duly drawn up and signed by the parties involved with ownership of the animals remaining

with the National Park.

At the time our plans were complicated by the outbreak of HN51 Bird Flu which had affected common palm civets in the food markets in China and was decimating chicken farms in Vietnam. Airlines were naturally dubious when we even mentioned the word 'civet' and 'export' in the same sentence. Eventually Thai Airways agreed to carry the animals and on 15 December 2004 three pairs duly made the long journey via Bangkok to a purpose-built quarantine facility provided by Paradise Wildlife Park in Hertfordshire. The decision to move the civets proved to be a wise one as, some time later, the animals kept at Cuc Phuong were indeed affected by HN51. In two separate outbreaks, almost half the animals were lost. Tracing the source proved extremely difficult, but we received enormous help from the World Health Authority in Hong Kong who provided gowns,



**CARNIVORE & PANGOLIN  
CONSERVATION PROGRAM**  
Chương trình Bảo tồn Thú ăn thịt và Tê tê

masks, boots etc. The whole project was threatened as the press that this incurred was very damaging to the National Park itself, a popular tourist attraction with Vietnamese and foreigners alike. The solution for the park authorities was to instruct us to release all the animals but, after many worrying months of discussions, we were able to persuade them that this was not a good idea on welfare grounds and would possibly incur more negative press. Testing of wild birds and local domestic livestock was inconclusive but we suspected that the virus may have originated from the large forest worms that we regularly bought from local villages to feed the civets. Since deciding not to continue this practice, we have had no further outbreaks.

During their time in quarantine at Paradise Wildlife Park, one pair successfully reared a female offspring but since then the only animals that have bred consistently well have

been at Newquay. Although births have taken place at Thrigby Hall and Shaldon Wildlife Trust, none of the offspring survived. It became increasingly apparent that we needed to exchange animals with the project to improve the inbreeding coefficient as, at the present time, most of the UK animals are related to the very successful pairs at Newquay and, of the animals remaining at Cuc Phuong, only one is male.

The decision was taken to send two males back to the project and receive the project's only male to the UK. Despite the obvious benefits, it still took a year of negotiations to persuade the park authorities that this was a good idea. The inevitable mass of paperwork and permissions was completed and in February 2013 one male housed at Shaldon Wildlife Trust and one male from Newquay made the long journey to Vietnam. Fortunately last year, for the first time, Vietnamese Airlines

began direct flights from Gatwick to Hanoi, and the animals therefore did not have to be unloaded and reloaded en route which was obviously better.

The only slight complication was that the transfer took place during Tet, the Vietnamese national holiday that celebrates the Lunar New Year. During this time the whole country grinds to a halt while everybody prepares to party and, as the project staff only have motorbikes, organising drivers and vehicles to transport the civets wasn't easy. I had travelled to Hanoi in advance of the animals' arrival and we spent five long hours at the airport waiting for them to be cleared through customs and Animal Health. After much hanging around and pacing about, we finally loaded the civets on to the transport. Although it had been an anxious time for us, the civets were perfectly calm and relaxed.

One benefit of this holiday period was that the normally congested roads were almost completely empty, considerably shortening our travel time to the National Park. We had been given special permission for the civets to complete the statutory 30 days' quarantine at the centre and they settled very quickly into their new accommodation. Any special event during Tet is considered to be very lucky and a good omen for the coming year, so the project staff were very excited about the civets' auspicious arrival. Both animals have now completed their quarantine and have been paired with their new mates. In the autumn we will transfer their male civet Bao from Cuc Phuong to Newquay.

Having set these precedents, we hope we have paved the way for future exchanges to continue managing these rare and beautiful animals as one population.

It gave me great pleasure to be able to send animals back to their native homeland but all of the good work we have achieved has only been possible through a lot of support. I would particularly like to thank Tran Quang Phuong, the Project Manager at the Carnivore and Pangolin Conservation Program, Ken Simms from Thrigby Hall Wildlife Gardens, Pete Sampson of Paradise Wildlife Park and all those zoos that have contributed to this success story.

# LEADERSHIP IN TURBULENT TIMES

**Horst Abraham, of the Ross School of Business, University of Michigan, was the keynote speaker at the EAZA Directors Day, hosted by Attica Zoo in Greece in April. Zoo directors have a challenging task leading institutions that are mission-led while incorporating the complexity of highly popular visitor attractions. Here Horst talks about the challenges of being a pioneering adaptive leader**

‘To lead is to live dangerously’ is the subtitle of Ron Haifetz’s book *Leadership Without Easy Answers*. The core premise of the book is: ‘Not all challenges are the same’. While on the surface this assertion seems simplistic and non-controversial, when we dig into the meaning of the notion it is a game-changer. Once we understand the difference between ‘technical’ and ‘adaptive’ challenges, not only do we begin to understand the leading cause for the increasing number of leadership failures, but comprehending the nature of ‘adaptive’ challenges will help us make sense of myriad socio-economic and business dynamics we are witnessing in organisations here and abroad.

Leading change is dangerous because disturbing any system also disturbs people’s need for stability, routines, securities and loyalties. Yet while organisations seek stasis, its survival depends upon its capacity to morph and adapt to the changes around it. The challenge that leaders are facing is to bring about change by mobilising the constituency to do the change work while avoiding the risk of being ‘silenced’ as a result of the discomfort leading change produces. Many leaders who have attempted

to push adaptive change through a system have become casualties of their efforts. A system has many overt and covert ways to ‘silence’ a formal or informal leader threatening to disturb the organisational equilibrium.

As a result of the inherent dangers of leading change we witness political and business leaders often opting for popular (technical) rather than impactful (adaptive) solutions. Yet without learning new ways – changing attitudes, values and behaviors, people and organisations cannot make the adaptive ‘leap’ necessary to thrive in a new, emerging environment. The sustainability of change depends upon having the people with the problem internalise the change itself.

In the face of leadership having to face pressing issues and the corresponding impatience of the constituencies, it is easy to understand the temptation to opt for quick fixes. After all, such solutions are in line with widespread assumptions of how problems get solved. Quick fixes also protect the leaders’ popularity even though he makes promises he later on can’t keep. But most of all, quick (technical) fixes allow the people who own and are the problem to do nothing.



Stark examples of adaptive challenges in the US being met with technical solutions are issues such as the drug problem and the national deficit. More police on the street and printing money are typical technical solutions for adaptive problems. Yet politicians are careful not to risk being silenced, thus they provide what is popular. And so the problems grow and fester.

On a more personal level a persistent ‘adaptive’ problem is obesity or the smoking habit. Billion dollar industries have spawned in an attempt to solve these adaptive problems with technical solutions. The evidence



of the incompatibility of technical solutions with adaptive problems is that we, as western developed countries, grow fatter every year. The unpopular, but effective solution – lifestyle changes – though known, are not utilised. Solutions and salvation you can buy trump what we know.

Only a part of the leadership-effectiveness problem is that many leaders do not understand the difference between technical and adaptive challenges. The biggest part of the problem resides in people opting to choose leaders who provide quick fixes over asking us to do the 'heavy lifting' ourselves.

#### **CHASING CHANGE**

Here is what Ron Haifetz suggests leadership needs to do to lead adaptive challenges effectively:

- Get on the balcony: get a birds-eye diagnostic view of what is or is not happening.
- Identify the nature of the challenge: is it a technical, adaptive or mixed challenge?
- Disturb the system: too much or too little and it will not work.
- Give the work back to people: if they are the challenge or problem, they need to be the solution.
- Detect signs of work avoidance: deferring to leaders, finger-pointing, denial, forming committees.
- Regulate the disturbance: keep the amount of dissonance workable.
- Protect the dissident (voice): meaningful change comes from the fringes, not mainstream.

# Returning the compliment

THE MASOALA RAINFOREST AT ZOO ZÜRICH CELEBRATES ITS 10TH ANNIVERSARY, AND THE INVESTMENT IT HAS BEEN ABLE TO MAKE IN THE MALAGASY REGION UPON WHICH IT IS BASED

Dr Alex Rübel, Zoo Zürich

On 29 June 2003, an ambitious project became reality: after more than 12 years' planning and construction work, Zoo Zürich was able to open its Masoala Rainforest exhibit. It was the start of a win-win project between a zoo enclosure and a National Park in Madagascar. Since then, the flora and fauna in this ecosystem greenhouse have developed in an amazing manner. The original 17,000 tropical plants have grown to form a dense rainforest, and the lemurs, reptiles, flying foxes and birds have become acclimatised and have reproduced.

The initial success was the successful breeding of the crested ibis, which was followed by further successes with the pitta ground roller and the red ruffed lemurs. The tomato frogs reproduced well, which was encouraging as these frogs only mate under highly specific climatic conditions. There were some setbacks, though: disputes between the different species of lemur meant that the gentle lemurs had to be removed from the exhibit, and the integration of some of the frog and bird species also failed.

Overall, however, this miniature ecosystem has bedded in excellently, with the plantlife forming the core. Dr Martin Bauert, curator of the rainforest, was able to grow rosewood and ebony seeds from Madagascar, and although biological control of insects is still ongoing even 10 years after the greenhouse opened, it does not pose any problems now that staff have become experienced in this matter. In 2010, ten cocoa fruits that had ripened in the tropical greenhouse were made into the first pure Swiss chocolate, with 100% Swiss ingredients, and sold to support a sustainable cocoa plantation in Madagascar.

Most importantly, the Masoala Rainforest exhibit has enabled Zoo Zürich to play a significant role in the preservation of the Malagasy National Park on which it is based. Some 10 million people have visited the exhibit over the years, and 300,000 have taken part in guided tours, helping the zoo to be able to invest more than 3.3 million Swiss francs (2.65 million euro) in conservation and development projects in Madagascar, from which 37,000 people are now benefiting, and protecting 2,100 km<sup>2</sup> of rainforest over the longer term. Of this financial commitment, 85% has gone to the Masoala region and the National Park, and 15% to Ivoloina and the rainforest around Betampona, the projects of the Madagascar Fauna and Flora Group (MFG). All in all, over the past 10 years, Zoo Zürich has implemented more than 20 projects with its partners, Madagascar National Parks MNP, the Wildlife Conservation Society (WCS) and MFG, which are helping to conserve the rainforest and improve the situation of the local population.

## ALTERNATIVE TRADE

One way of protecting the National Park against both human interference and destruction is to create alternative sources of income. A large number of education projects have provided a basis for doing this. Zoo Zürich has funded training projects for promoting beekeeping: honey is now produced in 16 villages. Some 130 families in five villages have benefited from further training in arts and crafts, such as weaving and carving. 103 families from eight villages have received training in efficient rice cultivation methods. The hand-held tool introduced in

the course of the further training improves the condition of the soil and thus promotes high-yield flooded rice cultivation. Reliable water supply systems made up of concrete water channels and aqueducts were constructed in different rice fields covering a total area of 380 hectares, from which 962 families from nine villages are benefiting. And to minimise losses from incorrect storage, Zoo Zürich has paid for a rice silo for 19 families.

In the so-called buffer zones, 21 villages have been allocated areas of forest for sustainable use under their own management. A total of 22,000 people are thus entitled to collect wood for their own use in the forest, together with non-wood products, such as weaving materials or wild fruits. In this way, responsibility for sustainable use and conservation is to be handed over to the local population. On the one hand, the population benefits in economic terms and, on the other hand, the local inhabitants protect the forest from outsiders.

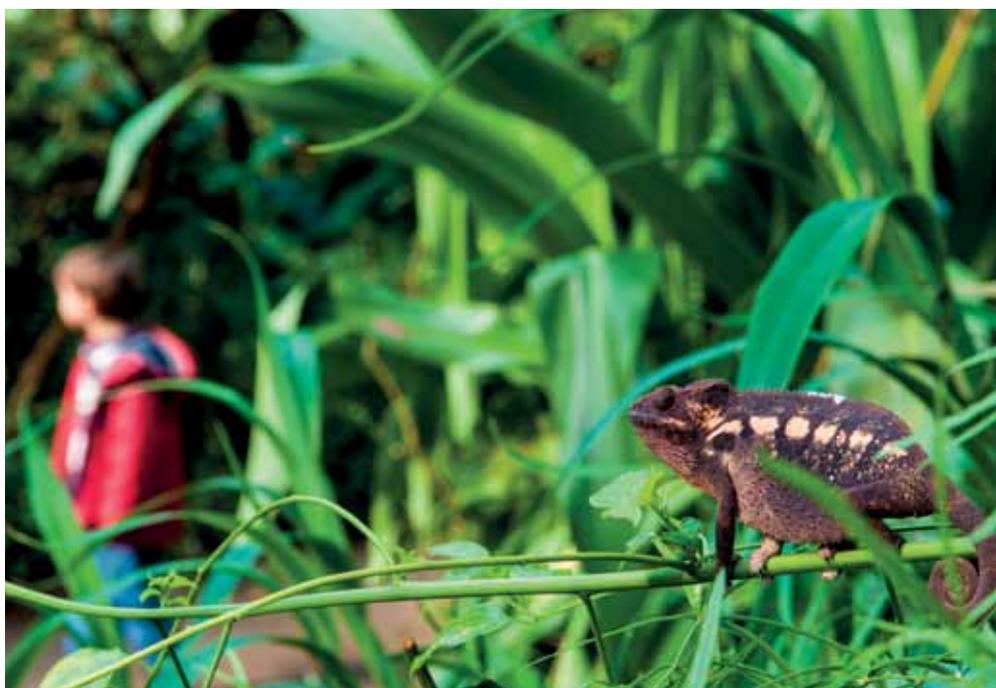
Furthermore, 130 schoolchildren from two villages have been able to move into new school buildings. A visitors' centre for the Masoala National Park, which incorporates a school, is currently under construction and is scheduled to open in autumn 2013. The MFG-concept for the nature-conservation 'Saturday School' that has proved highly successful for 500 pupils in the Toamasina region, has now been adopted by UNICEF for the whole of Madagascar.

Also successful has been the reforestation in the Ambatoledama corridor, where 60 hectares of new forest were planted. A further 39 hectares were planted in order to



link up two existing sections of park and thus provide a corridor for the passage of wild animals. As a result of the political instability in Madagascar, the illegal logging of precious wood in the National Park spiralled out of control between 2009 and 2011. Zoo Zürich is strongly committed to combating the illegal trade in rosewood. Together with the ETH Zurich, Zoo Zürich has developed a DNA test which will allow illegal and legal tropical wood to be distinguished through laboratory tests and its origin determined. Setbacks repeatedly had to be contended with on account of natural catastrophes, such as cyclones and the associated flooding. The zoo then funded the repair of footpaths and the water supply as well as the reforestation of destroyed areas of forest. The zoo considers cocoa-growing to hold great potential. A new cultivation project in the region to the west of Maroantsetra has been set up with a model plantation, a tree nursery, a drying system powered by solar energy and a fermentation unit. The project is being run by an association of 13 agricultural cooperatives.

Back in Switzerland, the Masoala Rainforest in Zoo Zürich is presenting itself from a completely different angle for its anniversary in 2013: from above. This has been made possible by two towers (18m and 10m high) which are linked via a treetop walkway. Landscape architects, Günther Vogt and Lars Ruge, who were already involved in the construction of the greenhouse, took their inspiration for this from an insect cocoon. The two steel towers are to blend harmoniously with the rainforest in the same way as the explorers' camp and other small buildings in the greenhouse. Vines and aerial plants will soon be encircling the structures. A tree is to grow up the centre of the big tower so that visitors will one day be able to climb up along its trunk to reach the canopy of leaves. The new Masoala treetop walkway was opened during a visit of the Malagasy Prime Minister and the authorities involved in conservation in Madagascar on 4 April and was enthusiastically welcomed by the public.



# Pull your horns in

THE EEP OF THE BEAUTIFUL, CHARISMATIC INDIAN OR GREATER ONE-HORNED RHINOCEROS IS LOOKING FOR NEW HOLDERS

Beatrice Steck, Indian Rhino EEP Coordinator's Assistant, Zoo Basel



The Indian rhino (*Rhinoceros unicornis*) is one of the three rhinoceros species kept in EAZA zoos. In the wild, their populations in India and Nepal number slightly more than 3,000 individuals and are severely threatened by poaching and habitat loss.

The total captive population was 189 Indian rhinos on 1 January 2012. The EEP population has been growing steadily and included 62 individuals as of 1 January 2013. To maintain the growth of this small EEP and ensure a healthy and thriving captive population, new holders are urgently needed. Although the interest in this species has always been high among EAZA zoos, several zoos have been unable to build their exhibits for

financial and other reasons. As a result, we are always looking for new homes for the births and if you would like to keep this unique species, we would love to hear from you.

Indian rhinos live in the riverine grasslands of the Terai and Brahmaputra basins. In captivity, they need heated indoor housing, pools inside and outside as well as a mud wallow, and soft substrates in the indoor and outdoor exhibits. Males and females need to be kept separated.

Indian rhinos are a great attraction in every zoo. Young calves are usually the favorites of the visitors and enchant the public, especially when they play with each other and their mothers.

In recent years, the poaching of rhinos for their horn has increased drastically. It is thus more important than ever that a healthy, growing *ex situ* population is kept in zoos and that the public is made aware of the threats that loom over the rhinos and what zoos do to help these wonderful animals in the wild. Conservation projects for this species exist in India and Nepal and are in urgent need of support. Indian rhinos are thus perfect for illustrating the important role that zoos and EEPs play in the protection of species.

*If you are interested in keeping this charismatic species, please contact Beatrice Steck at [steck@zoobasel.ch](mailto:steck@zoobasel.ch).*

# Making the lynx

THE VERY FIRST IBERIAN LYNXES TO BE DISPLAYED IN ZOOS CAME FROM AN IMPORTANT BREEDING PROGRAMME

Iñigo Sánchez, Curator, Zoobotánico Jerez

On 17 February 2013 the Zoobotánico Jerez celebrated its 60th anniversary. To mark the occasion, a new enclosure for Iberian lynxes was unveiled, meaning that for the first time in the world the Iberian lynx (*Lynx pardinus*) is now on display to the general public.

Jerez Zoo is a small municipal zoo that has had a long tradition of involvement with many conservation programs concerning Iberian fauna. For this reason, work on the conservation of the Iberian Lynx, the most endangered cat in the world, began many years ago.

In fact, Jerez Zoo was one of the institutions promoting the *ex situ* conservation programme for this species, the principal partners in this work being the Spanish Ministry of the Environment and the Andalusian Government, under whose jurisdiction the last remaining wild populations of lynxes reside in Spain.

It was in Jerez where the Committee for the Iberian Lynx Captive Breeding Programme was first established to coordinate an ongoing programme and where the first lynx cubs were brought from the wild to be hand-raised. In fact, Jerez Zoo is still the only zoo associated with the network of captive breeding centres of this endangered cat.

The programme began in 2002 with only three female lynxes and there are now 120 captive lynxes among the five breeding centres. This rapid growth in their number means that the breeding facilities are at capacity. It was consequently decided that, for the first time, a few of the lynxes no longer suitable for the reproduction programme could now be viewed by the public for the benefit of conservation education.

The first lynxes chosen for this inaugural education enclosure in Jerez Zoo are a female lynx named Esperanza who is 12 years old, and a 13 year old male named Jub. Esperanza was the first female at the outset of the breeding



programme, hence her name which means 'Hope' in Spanish. She was brought to Jerez Zoo and hand-raised after being found in a critical condition in Doñana National Park at only five days old. She was sent as a young healthy lynx to El Acebuche Breeding Centre, in Doñana, where she was able to reproduce over several seasons.

Jub is a male from Sierra de Andújar National Park, where he was found badly injured from a fight with other lynxes. After his recovery he was also sent to El Acebuche where he became the second founder male in the breeding programme and one who contributed many times to the reproductive programme.

Unfortunately, in the last few years, Esperanza & Jub have experienced health issues. In 2010 both suffered an episode of chronic kidney disease which afflicted much of the captive lynx population, and Esperanza has also had a breast lump removed. This has meant that both lynxes not only have a shortened life expectancy but due to their age and condition they have been withdrawn from the breeding programme.

## LARGE ENCLOSURE

The new lynx enclosure in Jerez Zoo is more than 600 m<sup>2</sup> in size. As the Iberian Lynx is found in Mediterranean forest and scrubland ecosystems the environment of the enclosure was designed to suit this particular landscape. Within the enclosure a number of trees and bushes have been planted that are specific to this type of ecosystem. Other natural elements have been introduced such as large rocks, hollow logs, and refuges that in the wild would provide shelter for rabbits which are the principal source of prey for the lynx. The lynxes also have access to two 60 m<sup>2</sup> size enclosures in which they spend the night. These enclosures are similar to the outside environment but provide undercover areas and large resting platforms. The officials present at the opening of the inaugural Iberian lynx enclosure at Jerez Zoo were the Spanish government Minister for the Environment, the Andalusian Government Secretary General for the Environment, and the Mayor of Jerez. All praised the conservation work achieved by Zoobotánico Jerez.

# Added bite

A RECENT WORKSHOP HAS DRAWN ATTENTION TO THE NEED FOR GREATER WORK WITH SHARKS AND RAYS

Brian Zimmerman, Aquarium curator, Zoological Society of London

In early April this year ZSL London Zoo hosted the European Elasmobranch Workshop, attracting 25 participants from 17 institutions and eight European countries. Over two days a variety of presentations were mixed with small group discussions aimed at developing the European shark and ray regional collection plan and tackling population management issues within zoo and aquarium collections.

Invited speakers included John Fitzpatrick from the University of Manchester who gave an excellent talk on genetically managing captive elasmobranch populations and Matt Gollock from ZSL who spoke about the EDGE programme and the launch of EDGE sharks which will categorise species by their evolutionary distinctiveness and global endangerment. Additional presentations introduced participants to EAZA's population management categories and the RCP development process since many participants came from aquariums unfamiliar with these tools.

The bulk of the workshop was spent reviewing elasmobranch species in order to identify priority species for the European Regional Collection Plan. With over 1,000 species of sharks and rays recognised, the initial list for consideration had to be pared down to a workable number before using the RCP Decision Tree to sort through species in more detail. The refined list included those species already being kept by European institutions, based on the 2011 survey conducted by Max Janse from Burger's Zoo, as well as species of concern in Europe and those that have been historically held; it still contained nearly 200 species. The revised EAZA 2005 RCP Manual for Lower Vertebrates and Invertebrates was used for developing the RCP, together with the IUCN Red List and the knowledge of the aquarium colleagues attending.



The review revealed that some of the most prevalent species in zoo/aquarium collections are not being bred or managed and are still being wild caught. There were also a number of species reviewed that are regularly being captive bred and could benefit from more coordinated management.

Perhaps surprisingly no elasmobranch species was identified as a 'conservation' species, under which captive management would benefit the survival of the species or wild populations, despite several being listed as CR by IUCN. The reasons for this assessment included a lack of recommendation for captive breeding by IUCN, a lack of available founders to start a captive breeding programme and/or a lack of knowledge about breeding for these species. For example the two species of sawfish, *Pristis* species, for which an ESB was recently created, are included on the RCP but not as a 'conservation' species even though both are classified as CR by IUCN. This is due to a lack of a conservation recommendation for captive breeding and the limited number of founders. Instead they were categorised as a 'Conservation

Research' and 'Conservation Education' species on the RCP.

In all, the workshop identified potentially four new ESBs, and 27 species for monitoring by the TAG or a designated individual. A total of 42 elasmobranchs are included on the RCP.

The workshop included discussions about whether aquariums with good success in breeding a particular species should become 'breeding centres'. Dealing with surplus animals and registering animals was also discussed in detail, including how ZIMS could help with managing captive populations.

The workshop wrapped up with a discussion about the proposal to split elasmobranchs into their own TAG, separate from FAITAG. With the large number of species represented under FAITAG and the distinct management strategies in place for sharks and rays (more like that of mammals) the group unanimously agreed that elasmobranchs should form their own TAG, after completing a year's trial as a sub-TAG under FAITAG and with the approval of the EEP Committee.

## Nigel Collar

**Position:** Research fellow at BirdLife International

**Hobbies:** No time for them

**Last book read:** *Rimbaud in Abyssinia*, by Alain Borer

**Last movie seen:** *Melancholia*, by Lars von Trier

**Last concert attended:** Figaros Hochzeit, in the Bode Museum, Berlin

**Last trip made abroad:** To the Kyzylkum Desert in Uzbekistan for a project on the Asian Houbara

### QUESTIONS:

**What does your role at BirdLife International encompass?**

The main focus of my first 20 years here was on documenting threatened species. This work identified the conservation priorities for birds globally. In my second incarnation I work with great university-based ecologists like Paul Dolman at East Anglia and Stu Marsden at Manchester Metropolitan on a range of species in dire need of study and conservation (bustards, ibises, parrots and so on). Right now I co-supervise eight PhD students, five of them from developing countries.

**What was your background on route to this role?**

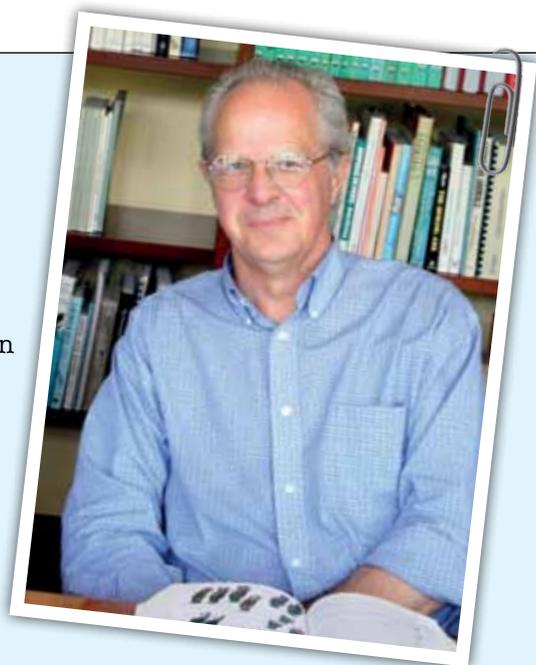
I read English at Cambridge and did a PhD on George Orwell at the University of East Anglia. Then I got lucky (the story is too long to fit in here) and ended up studying great bustards at the Edward Grey Institute in Oxford. Then I got luckier and moved to Cambridge to work for what was to become BirdLife International.

**There are some 10,000 species of bird in the world, so it's difficult to generalise, but are you seeing an overall trend of improvement or decline in their fortunes?**

Declines. The Red List Index is quite clear on this. The planet is losing its biodiversity, and the birds are the best indicator of this overall trend. Of course some species are increasing but the great majority are not.

**What can zoos do to help?**

First, get involved with conservation organisations and seek as far as possible to work with them to address real global priorities. Second, use your facilities to the maximum to turn all your visitors into conservationists by the time they head for the exit at the end of the day.



**How can zoos use the support of BirdLife International and the IUCN to help them decide upon and prioritise the species they work with *in situ* and *ex situ*?**

EAZA generously invited me last year to address this issue, and International Zoo Yearbook will carry the results of this study in 2014. So we have begun to clarify the species to choose between, many of them representing quite serious challenges in terms of cost and logistics. Consequently I see BirdLife and zoos in a steadily emerging relationship that will require dialogue and understanding.

**Are you optimistic for the future?**

No. People don't care enough about biodiversity. Governments don't spend enough on it. With seven billion people on the planet, almost 20% of them in poverty, we still have no political mechanism to tap and channel the collective wisdom, goodness and skills of humankind to stem the tide of problems rising to engulf us. Instead our fate is to be decided by a nationalist-tribalist patchwork structure where self-interest is more highly respected as a human value than goodwill. As a result nature and species conservation will never reach a high enough place on the global agenda. The world's military expenditure in 2012 was 1.75 trillion dollars. We probably spend more money trying to find a microbe on Mars than we do trying to preserve rainforests in all their dazzling complexity on earth.

'We have begun to clarify the species to choose between, many of them representing quite serious challenges in terms of cost and logistics. Consequently I see BirdLife and zoos in a steadily emerging relationship that will require dialogue and understanding.'

# Songs of Asia

OUR INTERVIEWEE OPPOSITE, NIGEL COLLAR, RECENTLY PUBLISHED A REPORT ON ASIAN PASSERINE CONSERVATION BREEDING. HERE, WE PRESENT A SYNOPSIS

The role of public and private zoos, aviaries and bird gardens in the conservation of threatened birds has not, for the most part, been pivotal – or at least not so far. A recent review of the value of zoos to bird conservation suggested that projects involving conservation breeding projects can be broken down into six general types (to some extent overlapping):

- 1 necessary – the only conservation option available since the species is extinct in the wild;
- 2 integral – one of several key tools;
- 3 precautionary – providing a back-up population;
- 4 prudent – making best use of existing captive populations;
- 5 motivational – building support for conservation;
- 6 market-driven – meeting trade demand.

Necessary *ex situ* projects have involved several species such as the Hawaiian goose, Socorro dove and Bali starling, but in this top priority class of ‘zoo species’ is a second group where birds survive in the wild, but in such tiny, uncertain or vulnerable numbers that *ex situ* programmes are deemed to be vital – Madagascar pochard, spoon-billed sandpiper, Baer’s pochard, Edward’s pheasant and black-winged starling.

It’s notable that the first group contains only a single Asian species, whereas the second contains only one that is not Asian. Moreover, within the integral category are two Asian species out of 16, while 10 of the 23 species within the precautionary category are Asian. Several Asian species are mentioned in the prudent list, while the motivational list includes all cranes and large hornbills, and the market-driven list adds a few more. A few other species, such as Gurney’s pitta, are knocking on the door.

All in all, there are more than 50 Asian species included across the six categories, suggesting that the role of zoos in the future of Asian birds should be more central than is currently the case. Few zoos have the capacity to



undertake single-species conservation projects single-handed, and many have joined forces to develop a more coherent and robust response to the particular issues that they wish to tackle. One such initiative, taken under the umbrella of EAZA, addresses the conservation of some of the most threatened passerines in Asia.

The people involved represent an amalgam of those concerned initially with the Bali starling and the black-winged starling, and those concerned initially with the blue-crowned laughingthrush. The ‘starling people’, led by David Jeggo of Jersey (now Durrell) Wildlife Conservation Trust and Theo Pagel of Cologne Zoo, met first at BirdLife’s headquarters in Cambridge in January 2004 to discuss how aviculture could best help advance the interests of the two threatened starlings endemic to Java and Bali. The ‘laughingthrush people’, led by Laura Gardner of London Zoo (formerly of Leeds Castle, Kent) and Roger Wilkinson of Chester Zoo, met almost annually at BirdLife’s

headquarters throughout the 2000s, planning both the captive breeding of the species and the next steps in the field research they were funding. Eventually, at Chester Zoo in June 2011 and at Plzen Zoo, Czech Republic, in May 2012, the two parties merged into an EAZA ‘Threatened Songbirds of Asia Working Group’ (TSAWG – for more see *Zooquaria* 77, page 24), building and broadening their remit to the extent that the name of the group is still only tentative – its future targets may not all be songbirds.

Perhaps the strongest insight from TSAWG’s evolving programme is the degree to which trade in Indonesia, and on Java in particular, represents a threat to birds. Consequently TSAWG is starting to consider the conservation status of passerine species endemic to Java (or Java and Bali), since these may be the most seriously affected and in need of attention.

To read Nigel Collar’s full report, please visit the member area of our website, and see the *Passeriformes* TAG page.



**Numbers Game**

**FOOTPRINT** – 2,500 sq metres

**DIMENSIONS** – 17m high x 70m x 70m (max)

**CONSTRUCTION** – 3mm diameter cable woven 316 stainless steel mesh (100mm x 100mm aperture) to form lattice structure, supported by four cones and varying height steel posts around its perimeter



# STARS WITH STRIPES

ZSL LONDON ZOO HAS UNVEILED ITS FLAGSHIP TIGER TERRITORY, AND ITS DESIGN REVEALS THE VALUE OF TRUE COOPERATION

Lucinda Brook, Director, Marketing Clout

Where once the brief for a new animal enclosure might have focused on creating an architectural masterpiece, times have moved on. Today, thankfully, the primary focus is animal welfare, and for ZSL London Zoo's new flagship Sumatran tiger enclosure, conservation of this Critically Endangered species and, in particular, fostering the perfect environment for animal husbandry were key components. With a footprint five times the size of the tigers' former enclosure this might appear to be a straightforward task but with a 186-year-old site and adjacent buildings to consider, plus multiple stakeholders not least the viewing public, it was inevitably more complex.

To being with, creating an enclosure that is in tune with the species' behaviours and natural habitat is the obvious consideration in any zoological brief. The Sumatran tiger (*Panthera tigris sumatrae*) is an excellent climber. It has an incredible jumping ability of up to 5m vertically and likes to observe its terrain from a vantage point. This Indonesian animal also loves water – all vital elements that needed to be incorporated into its new territory. But perhaps above all else was the 'genetic lifeboat' objective – to maintain a genetically diverse population of this rare species. The Sumatran tiger population has seen a 95% drop in the last 10 years. Sadly, due to poaching, habitat loss and human conflict, it is estimated that just 300 Sumatran tigers remain in the wild, which puts it at high risk of extinction on the IUCN Red List.

Representing the smallest of the tiger subspecies, Jae Jae (male) and

Melati (female) were matched by the global studbook and, due to their genetics, they are the most important pair of tigers in Europe. This gives the mating objective more impetus: if this rare breed is to survive it could, albeit unlikely, pave the way for reintroducing the species into the wild should this become necessary in the future. In the meantime, ZSL London Zoo offers a platform to gain vital knowledge of these animals which could be directly applied to saving these rare and beautiful animals in the wild.

'Our goal was to seek out the latest technologies and designs that could match our husbandry and habitat requirements while still satisfying visitor needs,' says Robin Fitzgerald, project manager at ZSL London Zoo. Robin was in charge of turning the vision of several different stakeholders into a reality that would satisfy all of them. To do this it was vital to put the right team in place so that all perspectives including the conservationists, tiger keepers and education department among others would be addressed and a list of specific objectives could be created:

- to meet husbandry requirements;
- to build in future capacity for 'additions' to the enclosure;
- to be sustainable and energy efficient;
- to be simple for day to day zoo keeper use;
- to give the education department a suitable platform to conduct talks, visible from all vantage points around the exhibit;
- to offer a brilliant visitor/viewing experience with multiple perspectives;



- and more, within the constraints of the footprint and its surrounding architecture.

Equally important was the co-ordination with external consultants who could offer specialist advice on interpreting the brief and developing an appropriate concept, plus the possibilities and feasibility of construction. Robin and his team worked closely with the architect, Mike Kozdon of Wharmby Kozdon Architects, and specialist consultants including Base Structures (tensile mesh contractor) and Dexter Associates (structural engineers) to ensure that the final exhibit could be built.

‘Avoid new buildings’ is not something you expect to hear from an architect but Mike Kozdon was clear on his brief to focus on the creation of shelters, environments and recycling existing structures, rather than creating new architectural icons. The concept design settled on a woven mesh structure which would work within the geometry of the footprint, providing the necessary height to suit its ‘jumping’ inhabitant but also the added value of a virtually invisible barrier between the animal and the viewing public. ‘Standard building construction and engineering methods are not suitable for good zoo projects,’ says Mike. ‘The key is to adapt materials and technology to suit the purpose.’

With a mesh structure, they could avoid the need for large section structural steel framing and cables,



plus disruptive groundworks. It could also interface with the two buildings

at either end of the enclosure and the existing mature trees inside the enclosure. while taking on architectural form to provide aesthetic appeal. Other important guiding principles included designing out 90° angles and opting for sloping lines rather than true verticals, just as in nature. Another important element was to consider the lifespan of the exhibit and factor in potential moves such as a change in usage or resident species. Flexibility is important to ensure the Zoo’s long-term use of the structure.

While mesh is often used for enclosure design, ‘innovation’ is not a word you might associate with it... until now. Mesh enclosures are typically square boxes or simple net structures with posts pushed against the mesh to create form. The trouble is this is very limiting in scope. In Tiger Territory, Base Structures

applied its fabric structures expertise to mesh, patterning the mesh into different shapes just like a dress, which could then be stitched together into header cones to create an ultimately more dynamic, three-dimensional form. The resulting structure offers the height the Sumatran tiger needs. It is self stabilising so requires minimal supporting steel work and interfaces directly with the buildings either side.

Attention to detail in both the design and build is vital to ensure that all the necessary calculations are considered. Net shears in a certain way and the pattern must be engineered accordingly. Equally snow, ice loading and the impact of tiger charging all needed factoring in so that the necessary tensioning across the structure is in place.

Tiger Territory opened to the public on 22 March 2013. Jae Jae and Melati are already settling in to their new home and getting along well and it is hoped that the zoo will welcome its first Sumatran tiger cub for 15 years in due course.



#### KEY MESSAGES

- Expect changes. Spend as much time as possible defining and honing the design in advance of any construction, but accept that the bespoke nature of these projects will mean that you always need to make amendments along the way.
- The architect needs to be involved in the development of the brief and resist the temptation to make visual statements. More subtle creativity should satisfy the brief, above all for the benefit of the real client, the animals, as well as building in future adaptability.
- When it comes to mesh enclosures, think beyond the box! You can afford to think creatively and organically about the visual impression you want to create.

#### INTERIOR DESIGN

Specific features incorporated into Tiger Territory include

- Heated rocks – mimicking the tigers' native habitat where the warmth stimulates the cats and encourages mating activity.
- Cubbing dens – custom dens for the female to have some privacy when rearing cubs – male Sumatran tigers have little to do with raising their offspring.
- Custom-built pool – allowing the tigers to indulge in one of their favourite activities. Tall trees and a high feeding pole – for climbing and exercise. Stalking a piece of meat in a tree is fantastic enrichment.





FAREWELL DINNER



TOUR OF BURGERS BUSH

# EDUCATING THE EDUCATORS

The biannual EAZA educators meeting at Burgers' Zoo was a great success

Constanze Mager, Burgers' Zoo

For one reason or another it seems that hosting a large international zoo conference is one of the many things that a zoo celebrating a special anniversary almost always seems to do. Nevertheless, however busy an anniversary year is for the zoo in question, an EAZA conference always fits well into the full agenda. It is, after all, great to celebrate a zoo's birthday with colleagues from all over Europe! And while the 100-year-old Edinburgh Zoo will be the place to be this September for the EAZA Annual Conference, the EAZA zoo educators met in March in Arnhem's Burgers' Zoo, also celebrating its first century.

With its grand Safari meeting centre, Burgers' zoo is a fantastic place to host large group events. If only there were large and low-priced hotels around easily covered by public transport! Due to the lack of appropriate sized hotels to house all the delegates, we chose a bungalow park in the beautiful woods as our main conference accommodation. Educators are in general easy going, and sharing a family bungalow with a few colleagues provided a kind of comfy camp-feeling.

The three-day conference saw 115 delegates from 27 countries attending a variety of presentations in the large auditorium. Presentations were clustered in different topics, for example 'New Ways of Communication: Social Media, Apps, etc', 'Life Long Learning' and 'How to Inspire People to Care about nature?' Next to the classic plenary lectures, we also split up into smaller groups for lectures and workshops for special interest. For example one of these parallel sessions was dedicated to the topic of 'visitor studies'. In this session

Andrew Moss (Chester Zoo), Harry Schram (Antwerp Zoo) and Aude Demoulins (ZooParc de Beauval) gave an overview of the recent visitor research going on in their parks. Andrew Moss and Myfanwy Griffith (EAZA) also started a discussion on how to create a draft EAZA quality framework for all aspects of education in zoos and aquariums. Delegates could also choose between an interesting discussion session held by Lesley Dickie (EAZA) on invasive species or an interactive and inspiring session by Stephen Woollard (Edinburgh Zoo) on communication techniques.

One of the conference days was about EAZA conservation campaigns. Delegates reported on the successful efforts they have made to bring the campaigns to the public in their zoos, and keynote speaker Vincent Nijman (Oxford Brookes University) talked about wildlife trade in Asia. In preparation for the new Pole to Pole Campaign (to be launched in September 2013) the campaign team involved educators in the planning and thinking process around suitable topics and campaign focus. It was exciting to hear at an early stage about all the plans and to be able to be involved. After all, the educators often play a key role in realising a zoo's campaign efforts! The workshop discussions led by members of the campaign planning team brought up a lot of creative ideas, but also revealed large cultural differences in how the public thinks about climate change and related issues. Plenty of suggestions were offered for the accompanying campaign material, and for the campaign planning group it was an invaluable session generating a lot of energy, but also resulting

in even more preparation work to accomplish.

A tour was included in the programme in order to break up the daily presentation sessions. On one day participants could choose between different guided walks through Burgers' world-famous eco displays. Those not familiar with the zoo were given impressions of the Bush, Ocean, Mangrove and Desert displays, while those who had already visited explored Ocean and Bush in more detail. On the next day, the delegates had the chance to experience one of the educational programmes of the zoo, for example the incorporation of the Southeast Asia campaign into Burgers' Zoo, the family-targeted programme 'Elephants from Trunk to Tail' or a programme for business groups comparing human behaviour in the workplace to the behaviour of our fellow primates and hoofed animals.

Finally, on the third day we walked to the famous Dutch Open Air Museum, a neighbour of Burgers' Zoo. A member of their education staff gave talk on their extended school programmes. It revealed that other institutions outside the zoo world use similar educational methods but meet similar problems. A good hint to look further than zoos every now and then.

Time passed by very quickly, and after a very busy week for the small education department and the team of educational volunteers who were assisting in every way you can think of, the farewell dinner took place. Once more the zoo's restaurant team spoilt the participants with great food including an African touch. The silent auction made over 800 Euros for the Southeast Asia Campaign; a result we celebrated with joyful dancing!

# Emotions run high

A SUCCESSFUL EAZA ACADEMY SEMINAR, WHICH SHOWED THE VALUE OF SOCIAL AND EMOTIONAL LEARNING, DREW A GREAT RESPONSE

Myfanwy Griffith, EAZA Academy

There were 50 zoo and aquarium educators in all at the one-day EAZA Academy Social and Emotional Aspects of Learning (SEAL) seminar preceding the EZE Conference at Burgers Zoo in March (see page 28), and the overall feedback was highly positive, indicating an inspirational and worthwhile session. One participant commented: 'Excellent course. I strongly agree with a lot of the concepts. The ideas of different ways of learning are much needed (not everyone learns in the same way and emotions are more powerful than facts)'.

The aim of the seminar was to highlight the established principles of SEAL programmes utilised in schools and provide participants with different ways to apply them to zoo and aquarium environments. Many of the current learning programmes and opportunities presented by animal collections focus their success criteria on the knowledge transfer of facts and figures (cognitive activities). The seminar encouraged participants to expand on this and consider how social and emotional content could be included or added. Emotions are often the heart of establishing empathy for animals as well as motivation for behaviour change. With this in mind the seminar wished to highlight that if our mission as animal collections is to change visitors' hearts, minds and behaviour, we cannot achieve this by focusing on cognitive based activities alone.

## FEEDBACK

When asked what parts of the seminar would be used back in their collections, participants commented:

- 'How to create emotional experiences for kids to get them really involved in nature.'
- 'I picked up lots of ideas to work into existing programmes from the activities.'
- 'Evaluation of SEAL programmes.'



The seminar was highly interactive and excellently delivered by the Chair of EAZA's Education and Exhibit Design Committee, Sarah Thomas (Zoological Society of London). Activities included creating animals and designing zoos to house them, to demonstrate that social, emotional and cognitive learning can occur through group work, cooperation, creativity and role allocation. Another theme was the identification of a place where a SEAL activity could take place and then deciding how it could be evaluated.

Participants came from 35 institutions across 18 different countries. It was pleasing to see this included participants from non-EAZA European and American institutions,

further highlighting the relevance of this subject and value of EAZA Academy training. It was encouraging to see that some collections already integrate SEAL concepts in their educational activities, and that this EAZA Academy training has helped them identify more clearly when this is and how to improve them. Through the high quality delivery, interactive nature of the content and diversity of participants those involved now feel motivated and enabled to apply SEAL in their educational programmes and experiences.

If you want to find out more about SEAL or other EAZA Academy courses please contact the EAZA Academy Training Officer Myfanwy.Griffith@eaza.net.



# EAZA ANNUAL CONFERENCE

September 25 to 28, with Icebreaker on Tuesday 24

EAZA's Annual Conference in 2013 will be hosted by Edinburgh Zoo, Scotland. The conference itself will be based in the heart of this historical city, one of the United Kingdom's most popular tourist destinations.

Registrations are now open and accommodation can be booked in a range of hotels located around the city centre. The conference will take place at Edinburgh International Conference Centre (EICC), a dedicated conference and exhibition centre.

Full Conference Fee	€658.00 (£530.00)
Early bird rate* <i>(register before midnight May 17th)</i>	€535.00 (£430.00)
Single Day Fee	€282.00 (£225.00)
Early bird rate* <i>(register before midnight May 17th)</i>	€232.00 (£185.00)
Accompanying Partner	€185.00 (£150.00)



For more information, visit [www.eaza.net](http://www.eaza.net)



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