EAZA NEWS

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2009

QUARTERLY PUBLICATION OF THE EUROPEAN ASSOCIATION OF ZOOS AND AQUARIA
SPRING 2009

Contents SPRING 2009

EAZA News

EAZA News is the quarterly magazine of the European Association of Zoos and Aquaria (EAZA).

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ISSN 1574 2997
The views expressed in this magazine are not necessarily those of EAZA.
Printed on paper using wood fibre from sustainable forests and using Elemental Chlorine-Free manufacturing processes.
Print production by Aspen Graphic Communications Ltd.
www.aspen.org.uk
Cover picture: © W. Perry Conway/CORBIS

From the Director's Chair

2009 is going to be a very special year as we celebrate the bicentenary of the birth of Charles Darwin and the 150th anniversary of the publication of *On the Origin of the Species by Means of Natural Selection*. This body of work is the cornerstone of all modern biology, as important a contribution to our world as that of the work of Newton or Copernicus. I have beside me my own copy of *On the Origin*, a 6th edition (1885), slightly tattered, that was first owned by a woman in the 1880s called Juliette Heal (or Healer, the nameplate is somewhat faded through time). It's a connection to what must have been a quite amazing time in science and a time when a scientific book would have been so widely read and debated. Darwin, so vilified in life by some, was eventually laid to rest with a state funeral in Westminster Abbey in 1882 and today graces the back of the Bank of England ten pound note. In 2008 the Church of England made a public apology for their treatment of Darwin in his lifetime and fully accepted his work and the relationship of man to other primates.

Darwin's insights underpin our work in EAZA, in the heart of our breeding programmes and in our efforts to connect people to the diversity of life. The wonder in our world is found through the elegance of evolution and how Earth has evolved over the past 4.5 billion years, with life beginning some 3.5-4 billion years ago, leading to what we see today. In our efforts to conserve life on Earth we should also be seeking to conserve the ability to evolve, making it imperative that our breeding programmes take care to not only conserve genes but behaviour.

Darwin was born on 12 February 1809 and his birthday was celebrated by many all over the world, including EAZA members. It's 24 November that will mark the 150th anniversary of the publication of *On the Origin* and the forthcoming EAZA Annual Conference will have a distinctly Darwinian flavour running throughout. EAZA is officially now a partner of the Darwin200 initiative which seeks to celebrate the life of Darwin throughout this year. On the back of this issue of *EAZA News* we provide more information about Darwin200 and we would like to hear how EAZA members are celebrating the life of Darwin and engaging their visitors in the science of evolution in 2009.

I have just returned from the 2009 Zoos and Aquariums Committing to Conservation meeting in Houston, Texas, ably hosted by the Houston Zoo. This meeting brought together zoos carrying out their own conservation work and the many field workers with which they engage and fund. This ZACC meeting occurs every two years in the States and through discussion with our colleagues in the US we will be looking at staging an EAZA conservation meeting in 2010 and every second year thereafter to complement the ZACC conference. More details will be available later in the year.

EAZA has from 2001 made compulsory accreditation inspections for all new members, an important step in ensuring that high standards prevail. This does however mean that the majority of members, those who joined before that year, have not been through the inspection process. This leads to two conclusions: it is somewhat unfair to impose accreditation on one set of members but not others, and also that EAZA is at reputational risk by not having such an accreditation scheme. Therefore this year EAZA will begin offering voluntary re-accreditation for all pre-2001 members. We are already in discussion with some members eager to step forward and hope to hear from many more of you. To this end we are also investigating setting up under the EAZA Academy banner an EAZA Inspectors course, to ensure parity across all inspections, and would like to hear from all individuals at EAZA member institutions who would like to be considered as EAZA inspectors – and also importantly those colleagues who have generously given of their time in the past as inspectors and could teach on the course. Those members that volunteer and pass the re-accreditation process will be given special recognition with the status of 'EAZA Accredited Member'. This will take some time but 2009 would be a great time to start ensuring that accreditation for all members begins. Please contact me if you wish to discuss re-accreditation further.

I hope all members have had a successful start to the year.

Dates for your diary

SPRING COUNCIL & GM MEETINGS IN DVUR-KRALOVE

We would like to invite you to participate in the upcoming EAZA Spring Council and General meeting that will be hosted by Zoo Dvûr Králové from 15 to 17 May 2009 in Dvûr Králové, Czech Republic. Invitation letter and registration documents have been sent out to the membership.

EAZA ANNUAL CONFERENCE 2009 IN COPENHAGEN

The 26th EAZA Annual Conference will be hosted by Copenhagen Zoo, Denmark from 16 to 20 September 2009. As always we will have loads of meetings and lectures focusing on interesting topics with a gran finale in one of Copenhagen's most beautiful locations. Please check out the EAZA website (www.eaza.net) for more information and registration.

ALPZA CONGRESS IN PANAMA

The next ALPZA congress 'Zoos, Aquariums and Sustainability' from 25 to 29 May 2009 in Panamá City will be hosted by Summit National Park. ALPZA looks forward to have a great national and international audience and invites all EAZA members to attend. More information can be found on www.alpza.com

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Communications and Fundraising Committee: Vacant

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Germany: Achim Johann, NaturZoo Rheine
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Turkey: Vacancy
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United Kingdom: Bryan Carroll, Bristol Zoo
United Kingdom: Mark Pilgrim, Chester Zoo
United Kingdom: Simon Tonge, Paignton Zoo
United Kingdom: Ken J. Sims, Thrigby Hall Wildlife Gardens (Great Yarmouth)
United Kingdom: Dominique A Tropeano, Colchester Zoo

Co-opted: B. Holst, Copenhagen Zoo (Chair, EEP Committee), J. Lange, EUAC (Chair Aquarium Committee)

Observers: H. Hiddingh, Emmen Zoo/NVD (Chair Education Committee), J. Kaandorp, Safaripark Beekse Bergen (Chair, Veterinary Committee), Alastair Macdonald, University of Edinburgh (Chair, Research Committee)

Standing Committee Chairs co-opted in Council
Bengt Holst, Copenhagen Zoo
Philippe Jouk, Antwerp Zoo

Specialist Committee Chairs as observers in Council
Alastair MacDonald, University of Edinburgh
Jacques Kaandorp, Safari Beekse Bergen (Hivarenbeek)
Henk Hiddingh, Emmen Zoo

EAZA CAMPAIGNS

Since their inception in 2000 the EAZA campaigns have proven to be extremely popular with both EAZA member institutions and non-members. Bringing conservation awareness to hundreds of millions of Europeans, on a variety of topics, the campaigns have to date raised in excess of three million Euro for conservation. With a great start to the European Carnivore Campaign and money still coming for the Amphibian Alarm Campaign this figure will rise dramatically again over the next year. To help disseminate the results of the campaigns, EAZA will be working this year with all campaign groups to put together communication materials that bring together the overall results so far and to create a 'living document' to which more materials can be added with each successive campaign. We will update you later in the year with progress on this project.

THE CARNIVORE CAMPAIGN WEBSITE

The EAZA European Carnivore Campaign is now up and running with, to date, 120 registered participants, 89 EAZA members and 31 non-EAZA institutions. You can register for the campaign and access all materials through the campaign website (www.carnivorecampaign.eu) which, after some teething problems, is up and running too. There are still a few aspects of the public part of the site which need finishing but these will hopefully be ready soon. Don't forget to visit us to keep up with carnivore news.

Especially for the kids

A new kids section has just been added to the site. Under the guidance of Björn, the campaign bear, kids will be able to learn about our dirty dozen species. They will be given access to simplified fact sheets which are being translated into as many languages as possible with the help of zoo educators throughout Europe (thank you all). We will hopefully soon have links to Facebook groups for all of the dirty dozen species which will also be manned by a group of zoo educators.

Competition

The website will also have two competitions. The first is a quiz/survey which is also intended to discover what people actually know about carnivores both in Europe in general and in their own country. We would like to offer a small prize to winner(s) of this competition. So it would be great if zoos could offer some: perhaps entry tickets, or zoo tee shirts etc.

CARNIVORE
EAZA European Carnivore Campaign

If your zoo is willing to offer a prize please let us know so what you have in mind so that we can list it as a competition prize.

The second competition is to provide the words for a Carnivore Rap. We will be providing suitable music on the website and contestants will be invited to provide suitable lyrics.

All going well, the best Carnivore raps will be performed at the 'Teddy Bears' Picnic'.

Please remember...

The EAZA European Carnivore Campaign website, www.carnivorecampaign.eu , is intended for use by the public as well as by EAZA members. It is part of the campaign's awareness activities and fund-raising initiatives. The campaign website also links to those of the participating zoos, so it benefits everyone if it gets plenty of visitors.

So please:

1. Make your visitors aware of the website: www.carnivorecampaign.eu by putting the address on campaign information boards etc, and

2. Make a link to the carnivore campaign website on your own zoo website

Call for news

We want to keep the website up to date with European carnivore news, particularly news about the dirty dozen species. So please send your interesting news about European carnivores to Ann-Katrine Garn (akg@zoo.dk) so that she can add it to the site.

News could be about an unusual birth(s) in your zoo, a unique sighting, progress of a conservation initiative, new carnivore threats in your country and more. A link to an external website is also an option.

Please remember we are running this campaign for our continent, our environment and our wildlife. We all need to contribute to make this campaign work so please send us your carnivore news, place your videos on YouTube, tell your visitors about the campaign website, help us with competition prizes and above all don't forget the Teddy Bears' Picnic.

Call For Carnivore videos

Have you made attractive videos of the European carnivores in your zoo? If so, PLEASE put them on YouTube with EAZA and/or Carnivore Campaign in the title or in the keywords.

Better yet, include a frame in your video with the carnivore campaign web address, www.carnivorecampaign.eu.

When you upload your video to YouTube please let us know (a.glatston@rotterdamzoo.nl or akg@zoo.dk) so that we can make a link to it from the campaign website.

Thank you so much for your help.
Angela Glatston
EAZA Carnivore Campaign

The Teddy Bear's Picnic will go ahead on Sunday 21 June 2009. We are registering with the Guinness Book of Records for a record attempt on that day. Currently we are registered for an individual record for 'Largest Teddy Bear's Picnic'. The current record for the largest Teddy bears picnic ever staged involved 33,573 bears together with their owners at Dublin Zoo on 24 June 1995. However we are looking at the possibility of converting this to a group record attempt for which there is no existing title. More on this will follow as it becomes clearer. Keep watching the website!

AMPHIBIAN ALARM

The Amphibian Alarm Campaign, part of the worldwide 2008 Year of the Frog Campaign, ended in September 2008. Since that time money has continued to be sent in to the campaign account and to date €372,262 has been received. As per our long-standing commitment 40% of the total raised to date was transferred to Amphibian Ark in January to continue support of the coordination of global captive response, and the prioritisation of the most important species for ex situ propagation. One more payment will be made to Amphibian Ark later in the year when a final balance is known. The remaining 60% of funds received will be distributed to projects to be selected by the EAZA Amphibian Campaign group, now headed up by Gerardo Garcia of Durrell. More details on applications to the fund will be available shortly.

ALMOST €600,000 RAISED!

AT THE END OF THE EAZA MADAGASCAR CAMPAIGN, in September 2007, it was already clear that the fundraising target of €500.000 would be met. Now, more than a year later, we can announce the final result of the fundraising efforts for Madagascar: **€595,008!**

With this fantastic result, the 20 projects that were selected for funding could be sent the pledged amounts in early 2008. Most of these projects were scheduled to run throughout 2008 and some will continue in 2009. All project coordinators have provided interim reports in September 2008, which are available on the EAZA website. Final reports will be requested this year and also published on the EAZA website.

The 20 campaign projects received a total amount of €361,891. In addition, €10,000 was sent to EAZA as administration costs for running the campaign and a small (€360) travel grant was awarded. Another €25,045 was used as emergency support following the cyclones that hit Madagascar in March and April 2007 (see *EAZA News* 59 and 60).

This means that a total of almost €400,000 has been used to support conservation in Madagascar already. The remaining amount of approximately €200,000 remains on the campaign account. The Planning Group is currently working on a large EU funding application, for which the remaining funds will be used as 'matching fund'. EAZA members will be kept updated on the progress of this funding application.

EAZA would like to thank all participants in the Madagascar Campaign for their efforts. That includes the institutions, mentioned in the table below, that raised funds, but also the many zoos that are not in this list and contributed through awareness and education activities.

EAZA shortname	Funds €
Woburn (UK)	€ 38,646.00
Broxbourne (UK)	€ 21,625.07
Blackpool (UK)	€ 20,603.97
Amersfoort (NL)	€ 17,140.57
Les-Mathes (FR)	€ 16,815.00
Fota (IE)	€ 15,745.00
Bandholm (DK)	€ 14,015.41
Fuengirola (ES)	€ 14,000.00
Apeldoorn (NL)	€ 13,000.00
FED-UCSZ (CZ)	€ 12,367.08
Madrid-Zoo (ES)	€ 11,984.86
Wien Zoo (AT)	€ 11,058.00
Duisburg (DE)	€ 11,000.00
Amneville (FR)	€ 10,951.03
Kobenhavn-Zoo (DK)	€ 10,638.53
Rotterdam (NL)	€ 10,534.49
Genova (IT)	€ 10,190.00
Koln (DE)	€ 10,179.00
Bussolengo (IT)	€ 10,065.00
Chester (UK)	€ 10,000.00
Colchester (UK)	€ 10,000.00
London (UK)	€ 10,000.00
Marwell (UK)	€ 9,750.61
Lisboa-Zoo (PT)	€ 9,250.00
Bristol (UK)	€ 9,000.00
Romagne (FR)	€ 7,700.00
Lille (FR)	€ 7,669.59
Plzen (CZ)	€ 7,584.16
Kerkrade (NL)	€ 7,500.00
Barcelona-Zoo (ES)	€ 7,287.49
Zurich (CH)	€ 6,822.40
Twycross (UK)	€ 6,686.67
St-Aignan (FR)	€ 5,000.00
Burford (UK)	€ 4,932.27
Edinburgh (UK)	€ 4,911.90
Newquay (UK)	€ 4,269.00
Kessingland (UK)	€ 4,243.77
Besancon (FR)	€ 4,200.00
Thoiry (FR)	€ 4,029.00
Jersey (UK)	€ 4,007.28
Lignano (IT)	€ 4,000.00
Mulhouse (FR)	€ 4,000.00
Gelsenkirchen (DE)	€ 3,590.00
Paris-Zoo (FR)	€ 3,577.80
Karlsruhe (DE)	€ 3,465.97
Belfast (UK)	€ 3,427.90
Roma (IT)	€ 3,411.00
Chard (UK)	€ 3,338.20
Ballaugh (UK)	€ 3,023.57
Boissiere-Dore (FR)	€ 3,000.00
Lisieux (FR)	€ 3,000.00
Paignton (UK)	€ 2,870.51
Halle (DE)	€ 2,705.38
Aalborg (DK)	€ 2,696.29
Kristiansand (NO)	€ 2,539.79
Epe (NL)	€ 2,535.70
Heidelberg (DE)	€ 2,292.01
Alphen (NL)	€ 2,269.02
Emmen (NL)	€ 2,251.21
Falconara (IT)	€ 2,105.00
Dompierre (FR)	€ 2,078.55
Rhenen (NL)	€ 2,071.22
Chessington (UK)	€ 2,069.79
Augsburg (DE)	€ 2,000.00
Moskva (RU)	€ 2,000.00
Overloon (NL)	€ 1,971.25
Dortmund (DE)	€ 1,899.42
Pelissane (FR)	€ 1,764.00
Rheine (DE)	€ 1,600.00
Peaugres (FR)	€ 1,500.00
Pleugueneuc (FR)	€ 1,500.00
Banham (UK)	€ 1,497.01
Dvur-Kralove (CZ)	€ 1,400.00
Gavle (SE)	€ 1,314.00
Amsterdam (NL)	€ 1,296.56
Wien-Viv (AT)	€ 1,147.55
Dudley (UK)	€ 1,056.00
Alfriston (UK)	€ 1,048.00
Harderwijk (NL)	€ 1,001.39
Bettembourg (LU)	€ 1,000.00
Landau (DE)	€ 1,000.00
Leeuwarden (NL)	€ 970.20
Budapest (HU)	€ 909.28
Plaisance-Touche (FR)	€ 850.00
Herberstein (AT)	€ 773.37
Sables-Olonne (FR)	€ 735.01
Bewdley (UK)	€ 723.68
Frankfurt (DE)	€ 697.48
Nantwich (UK)	€ 654.50
Champrepus (FR)	€ 550.00
Eskilstuna (SE)	€ 530.37
Nyiregyhaza (HU)	€ 527.50
Mierlo (NL)	€ 500.00
Jurques (FR)	€ 487.00
Boras (SE)	€ 426.93
Wuppertal (DE)	€ 332.58
Avintes (PT)	€ 320.59
Ljubljana (SI)	€ 300.00
Krenglbach (AT)	€ 262.00
Dusseldorf (DE)	€ 252.54
FED-BDZ (DE)	€ 250.00
Wroclaw (PL)	€ 248.18
Colwyn-Bay (UK)	€ 218.45
Chomutov (CZ)	€ 206.00
La-Fleche (FR)	€ 127.00
Non-EAZA members	
Ravensden plc (UK)	€ 28,430.00
Beveridge Herp. Trust (UK)	€ 10,000.00
Blair-Drummond (UK)	€ 6,228.73
Prague Botanical Gardens (CZ)	€ 2,622.59
Isle of Wight Zoo (UK)	€ 2,180.14
Pistoia (IT)	€ 2,000.00
Tropical World Leeds (UK)	€ 1,982.06
Rare Species Conservation Centre (UK)	€ 1,750.00
Exmoor (UK)	€ 1,500.00
Galloway WP (UK)	€ 1,500.00
Asson (FR)	€ 1,487.00
Something Different (UK)	€ 1,019.00
Private donations	€ 1,000.37
Birmingham NC (UK)	€ 994.32
Zoolabyrinth Boekelo (NL)	€ 847.75
Jesperhus (DK)	€ 803.71
Kyiv (UA)	€ 500.00
Battersea (UK)	€ 443.39
Calviac (FR)	€ 150.00
TOTAL	**€ 595.008.96**

COURSE REPORT

ROTTERDAM AND ANTWERP ZOO was the scene of the very first Dutch Amphibian Management Course between 5 and 8 November, *writes Eugène Bruins*. It was organized by Henk Zwartepoorte and Louwerens Jan Nederlof (both Rotterdam Zoo), Ben van Dyck (Antwerp Zoo), Eugène Bruins and Robbert Kurpershoek (both Artis Royal Zoo, Amsterdam). The first four had taken the Amphibian Husbandry Course in February at Durrell, Jersey, a 'train the trainers course', while Robbert had taken a Durrell Amphibian Course in India. The course was financially supported by the Dutch Zoo Association, keeping the fee down to €300 per participant.

There was a good number of participants, 16 keepers in all, from eight different zoos. In addition to presentations from the organizers, the keepers were able to benefit from talks by specialists on a wide range of topics, including salamanders, caecelians, diseases, registration, water management, research and native amphibians. Another topic for discussion was the priority species list, and one of the themes under focus was whether some of the many poison frog exhibits should be replaced by Malagasy frog exhibits, to help keepers gain more experience in keeping and breeding these taxa?

The participants were also able to get out and about, with visits to the De Zegge nature reserve and specialized poison frog shop Terrafauna laid on. At the latter the owner, René Zwart, gave lessons in how to cut, drill and glue glass and terrarium design and decoration. At the end of it all, the participants received a 200-page specially written course book.

More courses are being planned for the future, too, including specialists' days on a range of subjects, including biosecurity, particular taxa, and aspects of husbandry and diseases.

LEARNING THROUGH PLAY

AT LA VALLÉE DES SINGES, *writes Majorie Vermeer*, we place a high value on nature education. We've long tried to educate our visitors through information-panels, talks and workshops to encourage young children to discover more about wildlife. In these times of climate change and pollution as well as mass consumption, we have been looking for ways of discussing these complex environmental problems with the children, too.

Now, we've found one. To make such difficult matters more comprehensible to a young public, we've developed a special 'eco-board-game'. During the game the children come in contact with environmental problems and possible solutions by means of different sets of cards, with either a question, some information or a mission. Through these cards the children learn how they can contribute at home or at school to a better environment.

Because the game is made up of simple cards (laminated cardboard), it is easy to make variations and modifications. New cards can simply be added to the play, while cards that do not appeal to the children can be removed. There are even different sets of cards for children of different ages.

Our experiences with this easily created board play are very good. During the debriefing at the end of the workshop the children are revealed to have gained a real grasp of its topics. Every child can even mention several 'eco-gestures' that he can now implement at home.

The board-game is a low-budget method of developing environmental education for children, but even adults will enjoy playing it.

THE RETURN OF THE SOCORRO DOVE

PARTNERS OF THE SOCORRO DOVE Project were able to announce the arrival of captive-bred Socorro doves at the Albuquerque Zoo in November, an important step toward their eventual reintroduction to the wild. The Socorro Dove Project is an international endeavour of more than 25 institutions in 12 countries whose common objective is to return this rare species, now extinct in the wild, to its ancestral home on Socorro Island in the Revillagigedo Archipelago, Mexico.

The birds that arrived at Albuquerque Zoo were provided by two members of the EEP in the UK – Edinburgh and Paignton Zoos. EAZA's EEP manages the only population with a genetic make-up consistent with pure Socorro doves.

'We are thrilled that decades of caring for this species are soon going to result in its return to the wild', said Stefan G Stadler, EEP Co-coordinator from Frankfurt Zoo. 'Literally hundreds of scientists and aviculturists have made this possible through their painstaking efforts since the 1920s.'

BEAR WITH US

THE EAZA BEAR TAG offers advice on plans for new-build or renovation of old bear enclosures. Even if your zoo does have plans like this – perhaps at the very early stages – do contact us. From 13-15 March 2009 the EAZA Bear Tag will meet again for the annual midyear meeting and reserve an afternoon for your presentations and discussions about your plans. If you are interested please send a note to José Kok (jose.kok@ouwehand.nl) so that we can put you on our mailing list for the meeting and keep you informed.

ALPZA 2008 UPDATE

2008 was a good year for ALPZA. We have increased the number of members within the region and we hope to continue extending our representation in Latin America. We are continuously reinforcing our links with international organisations and together with EAZA we have successfully strengthened and promoted the cooperation between the two regions. ALPZA invites all European institutions interested in promoting the conservation of species and ecosystems in Latin America to get actively involved in our association as associated members of ALPZA.

The main activity ALPZA has focused on this year has been amphibian conservation: we have organised several workshops and training courses on amphibians and new courses have already been scheduled for next year. ALPZA launched the Amphibian campaign 'The Year of the Frog' in 2008 and we expect to continue with activities to promote the conservation of these species in captivity and in the wild in 2009.

We have continuously worked on updating the regional information system on our website: www.alpza.com. It is now possible to find data from our members and the conservation projects that they are involved in. We will continue updating the website and with technical support from ISIS we will soon have the animal inventories of all ALPZA members (including surplus) available on our website.

Currently we are organising the next ALPZA congress 'Zoos, Aquariums and Sustainability' on 25-29 of May 2009 in Panamá City, hosted by Summit National Park. The main subject during the ALPZA congress in 2009 will be the development and sustainable use of biodiversity and how zoos and aquariums can promote environmentally friendly initiatives. We expect to contribute to worldwide proposals and international conventions, particularly with the initiatives currently in force such as the Decade of Education for Sustainable Development (2005-2014) led by UNESCO. We look forward to have a great national and international audience and we invite all EAZA members to attend.

As for next year, we have many things planned. We will continue in making ALPZA a stronger association by increasing our representation on both regional and international level. We will also continue to support zoological institutions in Latin America to achieve their conservation, education and research objectives to guarantee the sustainability of this planet.

Diana Sarmiento-Parra,
ALPZA Executive Director

CALL FOR SUPPORT

In 2009 ALPZA wishes to set up a €5,000 Conservation Grant to support a conservation project in their region every two years. To fund this Grant ALPZA is asking EAZA institutions for their support. If your institution is interested in helping to fund this initiative or you wish to receive more information, please contact Diana Sarmiento (ALPZA Executive Director) at direccion.alpza@gmail.com.

PICTURE: MALENE THYSSEN, HTTP://COMMONS.WIKIMEDIA.ORG/WIKI/USER:MALENE

ELISA STRESS TEST

There's a new ELISA test, from CSL, which could go some way to measuring animal stress levels. The test measures the stress hormones cortisol and corticosterone and reproductive indicators such as progesterone found in faeces, saliva and urine.

CSL's Fiona Gladwell explains: 'We've recently expanded our services to cover zoo animals and game birds. With ELISA, hormones present in samples we take become linked to the immuno-absorbent assay, allowing us to determine the levels present.'

Different species range greatly in the cortisol levels they produce, and assay plates have to be validated for each in order to keep the results accurate and reliable. Recent work has been completed with Flamingo Land's rhinos, which appeared to become more stressed in summer when exposed to larger visitor numbers. CSL confirmed increased stress levels, and more camouflage was used in the enclosure to allow the animals cover when they needed it.

For further information on ELISA, contact Fiona Gladwell on f.gladwell@csl.gov.uk.

Hog in the limelight

Written by the Rare & Endangered Species Conservation Unit (RESCU), EcoSystems-India, on behalf of the Pygmy Hog Conservation Programme

The pygmy hog is reintroduced in Sonai Rupai, Assam, creating only the second wild population of this highly endangered species

Twelve years after six wild hogs (two males and four females) were captured from their last surviving population in Manas National Park of Assam, 16 captive bred hogs (seven males and nine females) belonging to three social groups are now being released in Sonai Rupai Wildlife Sanctuary, as the part of a proposed series of reintroduction projects in selected sites in Assam, conducted under the auspices of the Pygmy Hog Conservation Programme (PHCP). These hogs were bred at PHCP research and breeding centre in Basistha near Guwahati before being transferred to a specially constructed 'pre-release facility' in Potasali near Nameri National Park, where they were maintained for five months in large enclosures densely planted with tall grasses to simulate their natural habitat. Under the 'soft release' procedure, these hogs have now been transferred to final release enclosures in Sonai Rupai from which they will be released within the next two to three weeks. The new population/released hogs will be monitored using direct and indirect methods.

The pygmy hog programme acts as an umbrella for further extensive work

The pygmy hog, (*Porcula salvania*, earlier known to science as *Sus salvanius*), is the world's smallest and rarest wild hog and most threatened by extinction. It stands about 25 cm from the ground and weighs up to 9 kg. The species was originally found in the narrow belt of alluvial tall grass habitat that runs across the southern edge of the Himalayas in the Indian subcontinent. Tall alluvial grass habitats, being very rich in nutrients, are highly suitable for cultivation and therefore came under significant pressures from expanding human populations, agriculture and uncontrolled harvesting; all of which caused disappearance of this highly sensitive species.

William Oliver, IUCN-SSC PPHSG Chairman, who has been working to save the species from extinction over the last 30 years and had initiated the collaborative conservation programme, says: 'the practices of indiscriminate dry season annual burning and uncontrolled livestock grazing threaten the last population of pygmy hog in Manas. If continued, it may decimate other threatened and sensitive grassland species.'

According to John Fa, Director of Conservation Science for Durrell Wildlife: 'the Programme aimed to study the causes of decline in the species and establish a sustainable captive population for reintroduction in their restored native habitat. The conservation breeding has been extremely successful and although it has taken a long time we are now ready to release dozens of captive bred hogs back in to the wild every year.'

The breeding facility at Basistha currently holds 50 adults (22 males, 28 females) and four new litters (with 4 to 6 babies each) born in early May 2008. Four more pregnant females are likely to farrow soon. While all the hogs from the pre-release enclosures at Potasali have been shifted to Sonai Rupai, the holding enclosures there continue to house seven adults. Goutam Narayan, PHCP Project Director, pointed out that these are the only captive population of the species in the world.

The three family groups containing 16 individuals were prepared for independent survival in the wild in the three large pre-release enclosures that replicate the hogs' natural grassland habitat. The pre-release routine has allowed them to become used to the conditions they will face in the wild and reduces contact they have with humans. It is highly encouraging that the hogs have started showing naturalistic behaviour as in the wild.

Meanwhile PHCP continues to work closely with Sonai Rupai authorities to improve protection, management and control of annual dry season burning of grass. Frontline staff of the Sanctuary have also been trained in wildlife monitoring and habitat management under a Darwin Initiative training course conducted in collaboration with the Zoological Society of London.

The Chief Wildlife Warden of Assam, M C Malakar, is confident that these training programmes will help in better monitoring and management of state's Parks and Sanctuaries.

The pygmy hog is a highly sensitive indicator for its grassland habitat, which is crucial for the survival of a number of other endangered species such as the swamp deer, wild buffalo, hispid hare and Bengal florican.

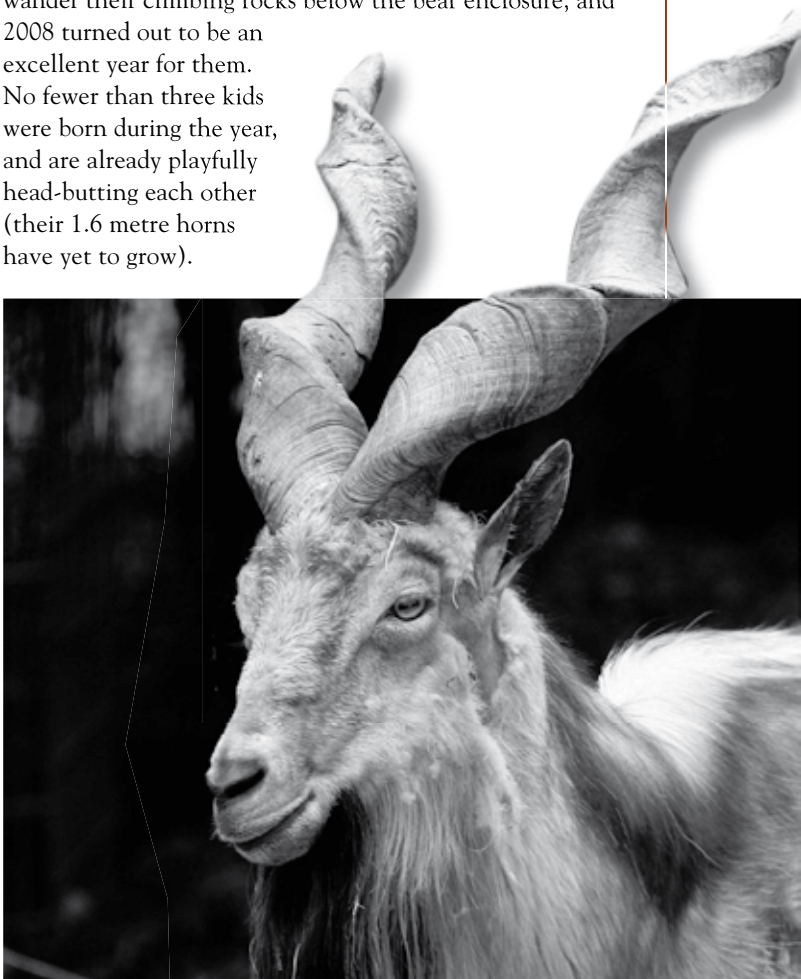
The Pygmy Hog Conservation Programme acts as an umbrella for extensive work within the habitats and also with their surrounding communities. It is hoped that through this project and the release of hogs, we can support local communities to sustainably manage their natural resources and protect their unique biodiversity.

The Pygmy Hog Conservation Programme is a collaborative project of Durrell Wildlife Conservation Trust (DWCT), Pigs Peccaries & Hippos Specialist Group (PPHSG) of World Conservation Union's Species Survival Commission (IUCN-SSC), Forest Department of the Government of Assam, and the Ministry of Environment & Forests of Government of India. The Programme is financially supported by DWCT and currently also by UK Government's Darwin Initiative. EcoSystems-India, the local partner organisation of DWCT and PPHSG is assisting PHCP implement its activities in Assam and is working closely with local communities and other stakeholders, including some NGOs such as Aaranyak and the Centre for Environment Education (CEE), to improve awareness about the species and the management of its grassland habitats.

Markhors make their mark

Their homelands are the high mountains of Uzbekistan, but whether the markhor will be living there long into the future is in doubt. Their range is continually decreasing, and now only 180 individuals survive, their peers having fallen to meat and trophy hunting.

Already labelled Critically Endangered on the Red List, their future looks bleak, not least because there are still too few captive collections of them for reintroduction to the wild. One such collection, however, can be found at Stuttgart's Wilhelma Zoo, where 14 head of markhor wander their climbing rocks below the bear enclosure, and 2008 turned out to be an excellent year for them. No fewer than three kids were born during the year, and are already playfully head-butting each other (their 1.6 metre horns have yet to grow).



Giant pandas return to Madrid Zoo

Taken from material provided by Madrid Zoo

The famous black and white bears are back in Madrid, and seem to be adapting quite well to the zoo's facilities and management conditions... including the availability of bamboo.

Since 8 September 2007 Madrid Zoo has once again been housing giant pandas. Both species of panda, both the red and the giant, have been linked to the institution since 1978 when the first giant pandas arrived in Spain as a present of China. Both species adapted well and proof of this is that since 1984 when the first red pandas arrived from Nepal, 73 animals have been born in Madrid Zoo and about 50 have been sent to other institutions all over the world.

The giant pandas Shang Shang and Shao Shao also bred at the Zoo and had their first baby in 1982. Chu Ling (male) was the first Artificial Inseminated (AI) panda born outside China. When he died prematurely at the age of 14 years old due to idiopathic diabetes Madrid Zoo immediately contacted the Chinese authorities to start talks aimed at having this species back. With friendly and efficient cooperation, Madrid Zoo and the Chinese Association of Zoological Gardens (CAZG) signed an agreement for cooperation in conservation research for the giant panda and that gave the zoo the opportunity to bring Hua Zui Ba (female, 5 years old) and Bing Xing (male, 8 years old) from the Chengdu Research Base of Giant Panda Breeding where they had been born. Madrid Zoo has now become only the third European Institution currently holding them with Berlin and Vienna Zoos being the other two. The agreement was authorised and supervised by the Spanish Ministry of Natural Environment.

Despite all efforts and monitoring concerning breeding (the zoo has collected and frozen sperm from Bing Xing and monitored oestrus cycle in Hua Zui Ba by urine and behaviour signs) 2008 was too soon for her. She did not have any oestrus activity during her first spring in Madrid presumably due to her early age and the transport/adaptation stress.

For Madrid Zoo, housing giant pandas has been about much more than just increasing visitation. More research resources have been required (in reproduction, nutrition, stress and behaviour research with different institutions), international cooperation, improvements in other bear enclosures that used to be in old style concrete conditions, modernising the way keepers work and much more.

The zoo has also developed what it calls its 'the bamboo cycle' with about 1,500 kilograms of bamboo material coming into the zoo once every 10 or 12 days. After being taken out of storage it is distributed on a daily basis to our pandas and what they leave is then given to other animals that love it and allows us to use a huge amount of browse and fibre we could hardly obtain before. Gorillas, chimpanzees, orangutans, Indian rhinos, elephants, lemurs and so on, clearly benefit from this. At the end the remains of the bamboo is used as bedding material and offered to the other bear species in the park such as the spectacled, Asian blacks and Malayans.

Giant pandas are supposed to be in Madrid for at least 10 years. The first year is almost complete and the whole experience so far has been very positive for everyone involved in the zoo... and most certainly for the more than one million visitors that have enjoyed seeing them!

Wanted: New holders for the wolverine EEP

Leif Blomqvist, EEP Coordinator for wolverines, Nordens Ark/Helsinki Zoo

Animals with small populations like the wolverine (*Gulo gulo*) are vulnerable to extinction, not only in captivity but also in the wild. Although the number of holders is slowly expanding and currently includes 31 facilities, new holders for the least known large carnivore of Europe are welcome.

The wolverine is the largest terrestrial member of the Mustelid family, existing in the northernmost parts of Europe with a total population of 900 animals in Norway, Sweden and Finland. The stronghold of the species lies in Sweden, where the wild population has tripled during the last 25 years, but wolverines are still strictly protected and classified as Endangered in all Nordic countries. In Europe wolverines have been managed on the highest level of management since 1994, and the current captive population stands at 79 animals, 90% of which participate in the breeding programme.

CAPTIVE ORIGINS

Although never a common species in captivity, wolverines have recently become more abundant in European collections. A total of 43 (19.24) immigrants from known locations in northern Europe (Norway, Sweden, Finland and Russia west of the Ural mountains), have arrived to the captive population and comprise the founder base of the current population. Today the species is exhibited in 13 countries with a total population of 32.45.2 animals. Five zoos with eight animals have not joined the programme, but they are nonetheless excellent at co-operating on the studbook level.

During the last three decades, 20 facilities have recorded reproductive success with 32 males and 37 females, producing 174 cubs in 84 litters. As 129 deaths have been reported, the captive population has grown from 24 animals in 1978, to the current population of 79. During the same time the breeding population has increased and the number of proven breeders alive in 2008 is 25 compared to only six animals 30 years ago. The co-ordinator suggests that the positive trend is due partly to available husbandry guidelines, but also to the increased attraction the species obtained after being upgraded to an EEP species. EEP species have a clear tendency to accumulate more interest than species without co-ordinated management.

WEAKENED POPULATION

Although 43 wild-caught animals have been added to the captive population, slightly less than half of them have produced offspring and contributed to the gene pool. As some of them have been extremely productive, while others have produced few pups only, we have a fairly skewed founder representation in the present population. A population with an unequal founder representation contains less genetic variability than a population with the same number of founders, where each wild-caught individual has made a more equal contribution. A large number of descendants also minimizes the loss of genetic variants in the population.

Another diversity eroding factor is the loss of founder alleles due to bottlenecks in the pedigree. The wolverine has lost 14% of its gene diversity which is comparable to the diversity found in only four animals randomly caught from the wild. Most managed populations have set a goal of maintaining a minimum of 90% diversity for 100 years. When the diversity drops below 90%, it is feared that reproduction will be compromised by smaller litter size and increased neonatal mortality. As 11 wild-caught animals are still alive in the population, we have an optimal potential to increase the diversity to 96%.

WHY WOLVERINES?

The wolverine is one of the rarest and least known large carnivores of our continent. From the European perspective, its remote distribution, low densities and shy lifestyle makes our 'northern hyena' a truly exotic species. With a historic range stretching from Fennoscandia to the Baltic republics and to northern Poland, the wolverine survives today only in the three Nordic countries and Russia. Although a recovery has been observed in all Nordic countries, the species is still classified as Endangered in Norway, Sweden and Finland. Its recovery has also been much slower than that of the brown bear, wolf and the lynx. Wolverines should therefore receive more attention. The 2009/10 EAZA campaign will focus on the carnivores from our own continent. The wolverine with its notorious reputation among Norwegian sheep herders and reindeer herders in northern Europe is without doubt one of the species which has suffered from conflicts with humans.

Like most of its relatives, the diurnal wolverine curiously investigates all items in its surroundings and gratefully appreciates all enrichment items provided. With spacious facilities allowing them to climb, dig and swim, the species is a most attractive animal for our visitors. Its ability to survive and reproduce during the coldest time of the year provides zoo-educators with plenty of educational material of how to survive in the harsh climate of northern Europe. The wolverine is one of the rarest large carnivores in our continent and we have to maintain and restore their viable populations, not only in the wild but also in captivity.

Yet in order to maintain a healthy stock of wolverines for a longer period of time, a population significantly larger than the current one is needed. One of the major issues facing the wolverine's survival in captivity is its potential competition with other taxa for space. An active participation in the breeding programme is therefore necessary.

Let's go for the wolverine!

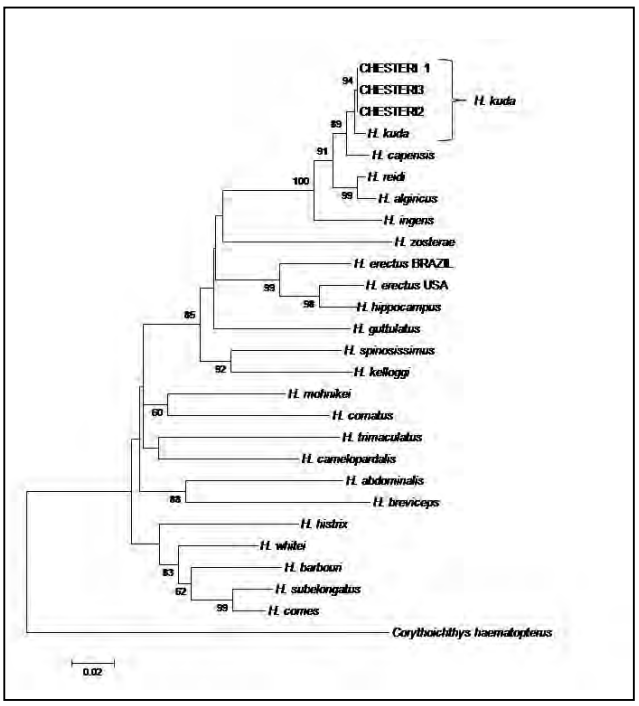
PHOTO, TOP: LEIF BLOMQVIST; PHOTO, RIGHT: TOM SVENSSON

Seahorse identification: new techniques to the rescue

Lucy Woodall, Paul Shaw and Heather Koldewey, Royal Holloway, University of London and Zoological Society of London

A seahorse population has been maintained and bred successfully for many years at Chester Zoo (UK); it has supplied the founding population for aquariums throughout the world. Unfortunately, the species identity of this population has been unclear, with suggestions that it could be *Hippocampus kuda, H.fuscus, H.whitei* or a hybrid. Within the aquarium community it is commonly called '*Chesteri*' (Fig. 1). DNA technology has now been utilised to uncover the true identity of this seahorse species.

ABOVE: PHOTOGRAPH OF A TYPICAL 'CHESTERI' SPECIMEN. BELOW: NEIGHBOUR-JOINING TREE (1000) USING CYTOCHROME B GENE, AND ROOTED WITH CORYTHOICHTHYS HAEMATOPTERUS. OPPOSITE: NEIGHBOUR-JOINING TREE (1000) USING MITOCHONDRIAL CONTROL REGION, UNROOTED.



In order to manage the large and potentially damaging global trade in seahorses, all species were added to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix II listing in May 2004 (Foster & Vincent 2005). CITES listing is to ensure that international export is sustainable and is not detrimental to wild populations. In order to comply with Appendix II listing, traded specimens require permits which include details on species name, geographic origin and whether the specimen is wild caught or captive bred. As the seahorse population called '*Chesteri*' bred at Chester Zoo is commonly held and bred in public aquariums internationally and is frequently moved between collections, identifying the species is important for management purposes. In addition, breeding programmes need to be confident of the species identification.

MOLECULAR STUDIES

In the *Hippocampus* genus, intra-species morphology can vary greatly between individuals from different locations. The '*Chesteri*' population originated from a small number of animals and were bred for many generations in captivity which may have further affected morphology. These geographically-dependent characteristics mean that species identification on morphometric features alone is difficult. In this study molecular techniques were applied to determine species identification and indicate geographic origin of this unidentified seahorse species.

Tissue was sampled using a non-destructive technique, fin-clipping (Lourie 2003) from seahorse specimens that were offspring of the breeding stock at Chester Zoo. DNA was extracted and two mitochondrial genes (cytochrome B and control region) were amplified and sequenced using standard methodologies (see author for details). '*Chesteri*' Cytochrome B gene sequences were then compared with sequences from 23 species different Hippocampus reference sequences (Casey et al. 2004) and the pipefish *Corythoichthys haematopterus*, using MEGA, a molecular analysis program, to produce a neighbour joining tree revealing genetic similarity between species.

The phylogenetic tree shows that the unidentified seahorse species '*Chesteri*' lies within the *Hippocampus kuda* group, with high statistical support (bootstrap value of 86%). From 476 base pair sequence of cytochrome B sequence the three '*Chesteri*' samples differed by just one position (0.02%). The '*Chesteri*' sequences were most similar to *H. kuda* (average 0.08% difference) compared to 1.9%, 3.1% and 3.6% sequence difference from the other three species within the same clade (*H. capensis, H. reidi* and *H. algiricus* respectively). A DNA sequence difference of 0.08% indicates that '*Chesteri*' is the same species as *H. kuda*.

GEOGRAPHIC ORIGIN

Hippocampus kuda has a wide Indo-Pacific distribution (Lourie et al, 2004); therefore further investigation was needed to locate likely geographic origin of the '*Chesteri*' population. '*Chesteri*' control region sequences were compared with geographic reference samples of *H. kuda* (Teske et al 2005). The resulting phylogenetic tree shows '*Chesteri*' samples clustered with *H. kuda* from Indonesia, although Indonesia samples are ubiquitous across the tree. This suggests that the breeding stock originally came from Indonesia, which is unsurprising as Indonesia exports more wild-caught seahorses than most other countries (www.unep-wcmc.org).

In conclusion we suggest that molecular genetic methods successfully helped elucidate the correct taxonomy and geographic origin of breeding stock known as '*Chesteri*'. We recommend that '*Chesteri*' be referred to now as *H. kuda* that originated from an Indonesian wild population. This study gives an example of the invaluable application of modern molecular techniques in the management of species in public aquaria, in this case providing taxonomic clarification.

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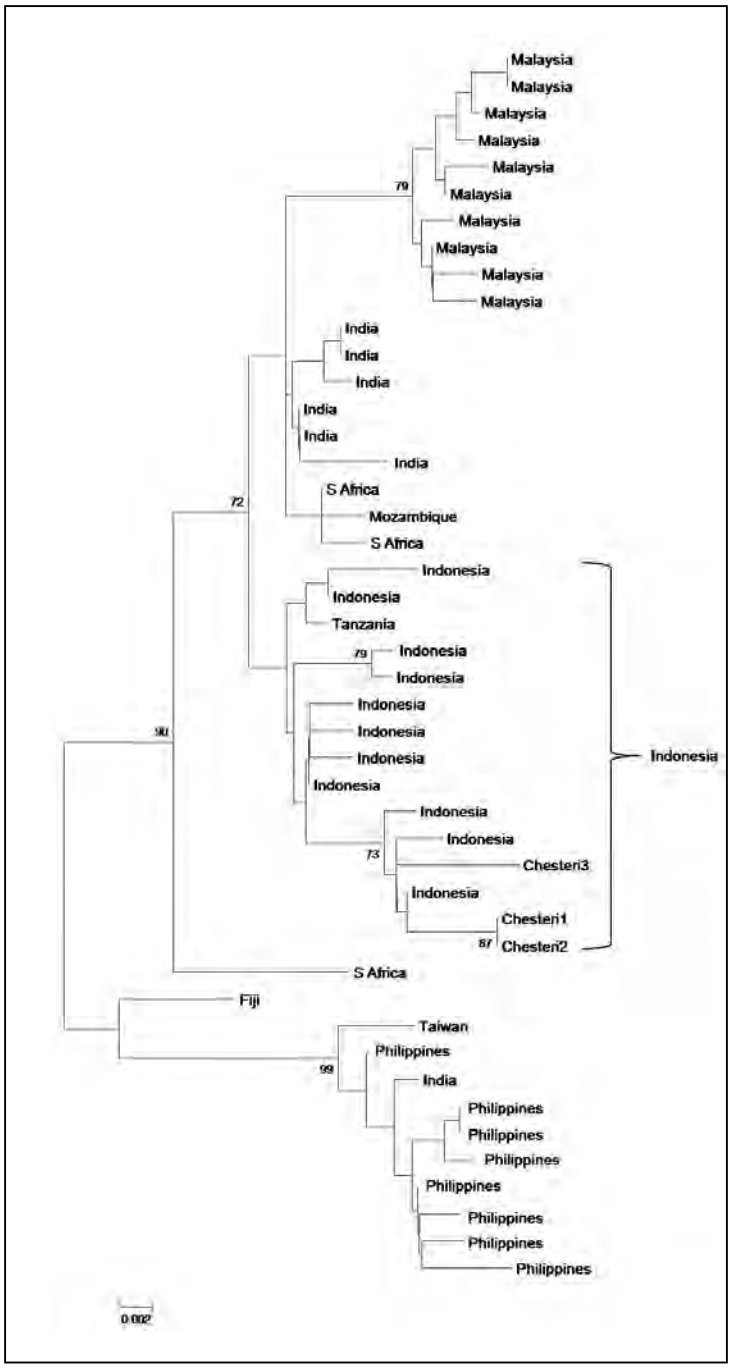


Barbary lions: a viable population?

Pete Thompson, Wildlink International, United Kingdom

Since Hemmer's key 1978 paper on the Barbary, or Atlas, lion was published, three decades have passed. What is the current level of genetic diversity of this cat in the wild? New research aims to find out, with important conclusions for collections.

The scientific case for Barbary/Atlas lion (*Panthera leo leo*) preservation is based upon the undetermined existence of genetic diversity already lost in the wild. Zoos and private collections in Europe and other regions have expressed strong interest in taking part in the urgent population assessment currently underway. The outcome will be known approximately 4 – 5 months after samples are received for DNA testing and analysis.

There is a pressing need to use recently published genetic research to establish whether the remaining population is still viable. Recent peer-reviewed research papers provide the methodological basis using knowledge gained from mitochondrial genome analysis. Testing of the hypervariable region I (HVR I) and cytochrome b sequences is sufficient for the identification of the maternal Barbary line. This provides a robust and scientifically valid method of identifying living animals that carry the genes of the Barbary subspecies, as distinct from other Asiatic and sub-Saharan lion subspecies.

The IUCN Conservation Breeding Specialist Group states: 'The DNA work and historical investigations to determine if there are legitimate (and genetically healthy) Barbary lions in captivity with a possibility for restoration…would be useful information.' Furthermore: 'CBSG endorses the need for more data to document the extent of divergence of the historical population of Barbary lions from other lion populations and the possibility that descendants from Barbary lions still carry their genes within captive programmes.'

Wildlink International is fortunate to have the expert assistance of Professor Helmut Hemmer (IUCN Cat Specialist Group Member) and Dr Joachim Burger of the University of Mainz in the testing and analysis of both the samples and extended taxon reports. Assuming a positive outcome, a managed ex situ breeding programme will also keep the door open for a bona fide reintroduction to a protected area in future should this ever be possible.

FURTHER READING

- 'If animals contain the genes of extinct populations, they should prove crucial for preserving the overall genetic diversity of the species. And…even though the Moroccan King's lions are unlikely to be maternally Barbary, it would be worthwhile maintaining the collection for the purpose of preserving overall lion genetic diversity.' Barnett R, Yamaguchi N, Barnes I, Cooper A (2006). Lost population and preserving genetic diversity in the lion Panthera leo: implications for its ex situ conservation. Conservation Genetics 7: 507–514.
- 'Panthera leo leo…joins the Asian lion clade, though…clearly separated from its Asian sister.' They have genes 'not found in sub-Saharan African lions'… 'This demonstrates on the mtDNA level the unique nature of the relic zoo population of the Barbary lion' Burger J, Hemmer H (2006). Urgent call for further breeding of the relic zoo population of the critically endangered Barbary lion. [Panthera leo leo (Linnaeus 1758)]. European Journal of Wildlife Research. 2006, 52: 54-58

ONE OF THE LAST ATLAS LIONESSES AT THE END OF THE 19TH CENTURY; TAKEN AT THE TOP OF THE PASS ON THE BÜNE-DUVIVIER ROAD IN ALGERIA (HEMMER, 1978).

Taking the trail

Budongo Trail, the new chimpanzee facility at Edinburgh zoo combines all the different roles of a modern zoo: high levels of animal management, education, conservation and research.

Joanne Richardson, Head Keeper of Budongo Trail

BUDONGO TRAIL: THE MAIN ENTRANCE AND A VIEW OF THE OUTSIDE OF ONE OF THE THREE INSIDE ENCLOSURES FOR THE CHIMPS

Budongo Trail is the new home for the Edinburgh chimp group of 11 individuals. We believe it's a ground-breaking facility that provides a environment for the chimpanzees that stimulates and gives them the opportunity to show and use many natural behaviours. Yet that's not all. It also gives the chimpanzees the opportunity to demonstrate their group and social dynamics that would be naturally observed in a chimpanzee community.

The facility also allows the keepers to conduct training with the chimps. This involves training the individual chimp's maintenance behaviours, ie when a chimp is trained to present a certain body part that allows the keeper to health check the animal and if need be administer veterinary treatment. This in turn minimises the need to carry out veterinary procedures or administer veterinary treatment via anaesthetic. This has a very positive impact on both the daily management of the chimps for the keepers and also for the chimps themselves.

EDUCATION

As an exhibit, Budongo Trail gives visitors the opportunity to experience and learn about all the different roles the zoo has. It informs them about chimpanzees and their close relation to humans. The interpretation includes an area that informs visitors on the Budongo conservation field station and the work the RZSS is involved with in Uganda. This includes video screens with footage of the Budongo forest, the research that is conducted and some footage on chimp behaviour. It also has interactive areas for children to learn

BUDONGO TRAIL CHIMPANZEES: IN ONE OF THE THREE INSIDE ENCLOSURES

BUDONGO TRAIL RESEARCH: BUDONGO TRAIL KEEPER C

more about chimpanzee behaviour including a video screen which is an interactive game for children called 'Eddie says' which allows visitors to learn about chimpanzee physical locomotion and facial expressions.

There is also a lecture theatre in Budongo Trail in which we show a 10-minute documentary about the Budongo conservation field station, Uganda.

CONSERVATION

Budongo Trail has strong links with the Budongo conservation field station in Uganda. The Royal Zoological Society of Scotland has funded the field station since 2005. This project carries out both the conservation and study of the Budongo forest and its inhabitants which includes a population of 600 to 700 chimpanzees. The project mainly studies a community of about 70 chimpanzees that are known as the Sonso group. The project also works closely with the local communities of the Budongo forest in working together to protect this environment.

RESEARCH

A major part of our work at Budongo Trail will involve research. The research will be conducted by researchers from institutions such as universities that want to be involved in cognitive research of chimpanzees. Budongo Trail is also very proactive in that it offers the keepers that work there and any other staff at Edinburgh Zoo the chance to conduct their own research projects into the chimpanzees' behaviour and their environment.

BUDONGO FOREST, UGANDA: ZINTA ADULT FEMALE AND ZAK HER SON TWO MEMBERS OF THE SONSO GROUP.

COLLECTING DATA ON STUDYING THE NESTING BEHAVIOUR OF THE EDINBURGH GROUP.

BUDONGO TRAIL INTERPRETATION: THIS INTERPRETATION LETS VISITORS LEARN MORE ABOUT CHIMPANZEE BEHAVIOUR AND THEIR CLOSE LINK AND RELATION TO HUMANS

Breeding the Beira

Catrin Hammer, Curator of Mammals, Al Wabra Wildlife Preservation

PICTURES: CATRIN HAMMER

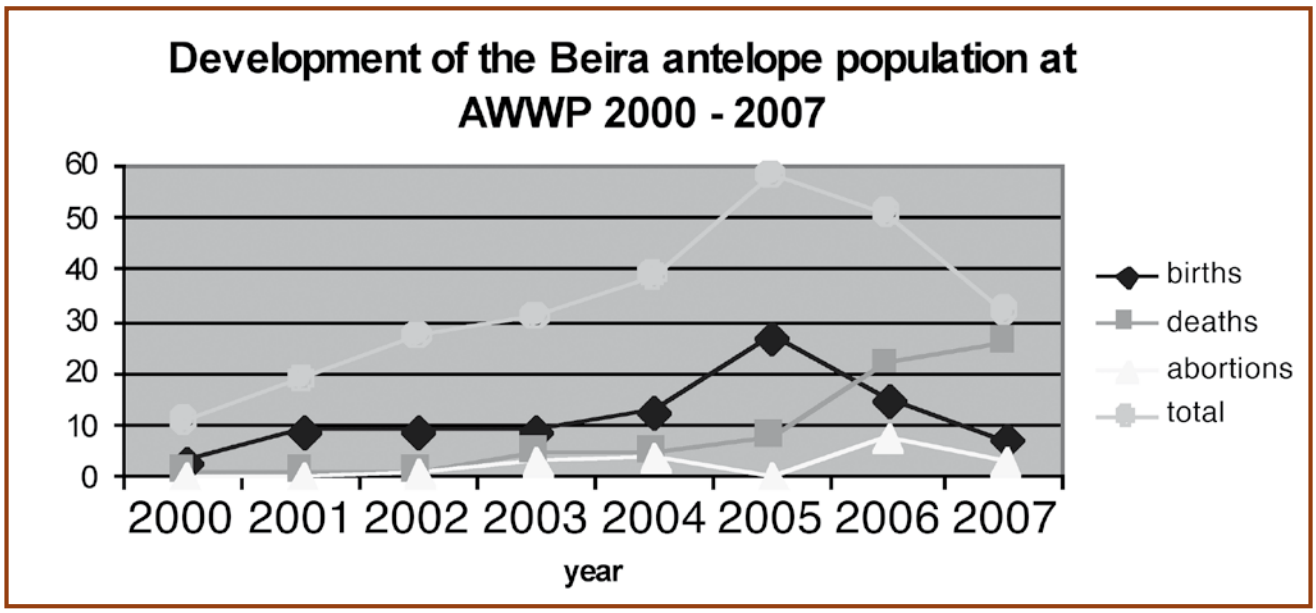
The history of the Beira Antelope (*Dorcatragus megalotis*) at Qatar's Al Wabra Wildlife Preservation in Qatar

The Beira Antelope is the only representative of the sub-family Neotraginiae. The scientific name *Dorcatragus megalotis*, originating from Greek, translates as: 'Antelope with the large ears', referring to the most conspicuous characteristic of this remarkable species. The homeland of the Beira Antelope lies in the extreme east of Africa. Its range extends along the south coast of the gulf, east of Aden, to the point of the 'Horn of Africa' and toward the west until the border region between Somalia, Ethiopia and Djibouti, as well as the Marmar mountains in the north-east of Ethiopia. The habitat of *Dorcatragus megalotis* is the arid and vegetation-poor mountains. The animals are found in altitudes up to 2000m living in small, territorial groups. Due to long lasting political unrest, only limited access to its distribution area is possible. Thus, in Somalia and Ethiopia the current status of the Beira can only be speculated. The IUCN classifies the Beira as Vulnerable (1996).

Since the 1980s there have been repeated attempts to establish a captive population of the Beira Antelope at Al Wabra Wildlife Preservation (AWWP) – a private breeding centre for threatened wildlife species located in Qatar, owned by Sheikh Saoud Bin Mohd Bin Ali Al-Thani – with little success. Most animals died as a consequence of poor nutrition, heat, as well as parasitic and bacterial diseases. Previous to 1999 there are no exact records on when or how many animals arrived from East Africa. In March 1999, 25 Beira Antelopes were wild-caught in Somalia (the area around Hargesa) and were airlifted to Qatar. At that time another 1.3 animals from preceding expeditions were already present at AWWP. By July 1999 only eight adult animals were still alive. These 2.6 animals became the founder population of the AWWP breeding programme. AWWP is the only institution worldwide which holds and breeds this threatened antelope species.

The founder stock of Beira Antelope population at AWWP was formed, as initially mentioned, by 2.6 wild caught animals, of which 2.3 were already mature at the time of arrival in 1999. The population developed very well in the initial years. Three fawns were born in 2000 and all survived. In the following year all of the wild caught animals had reached sexual maturity and the six females produced nine offspring. It was not known until then that Beira Antelopes may breed twice a year. All young from 2001 were female. In 2002, another nine fawns from six females were born, among them three males. Again in 2003 there were nine births, among them the first two of the second generation. In the same year, five animals died, among them three animals that were less than 30 days old as well as a pair of the original wild caught animals.

In 2004, 13 live births were registered. Six of the females born in 2001/2002 had their first offspring. Three of the wild caught females died including the only female, which arrived in AWWP prior to 1999. One of them died only two days after giving birth and this young male became the first hand-reared Beira Antelope at AWWP. With 27 births 2005 remains to date the richest year in terms of births. The



first 3rd generation young was born and we had the 2nd hand-rearing, this time a female, which was not accepted by her mother. 2006 turned out to be an apocalyptical year in regards to the Beira Antelope population at AWWP. At the beginning of the year a respiratory infection caused by Mycoplasma spp. producing a Fibrinous-Pleuro-Pneumonia seized the population and consequently 20 animals died, among them the last of the wild caught females.

The absence of these reproductively strong animals is also reflected in the breeding statistics. Only 13 fawns were born and eight abortions were registered, the latter figure probably also related to the infection. The female, which did not accept her fawn in 2005, repeated this practice with her second offspring producing the 3rd hand-reared Beira Antelope fawn.

Meanwhile the Fibrinous-Pleuro-Pneumonia-Syndrome (FPPS) claimed even more victims in 2007: 25 animals died. Out of 14 born in 2006, 10 did not survive their first year of life. The lack of mature males, the loss of experienced breeding females and a general decrease in fertility, most probably also due to the mycoplasma infection; led to only seven births in 2007. For epidemiological management reasons it was decided to hand rear most of the offspring born in that year. It was hoped that by avoiding neither direct nor indirect contact with the adults, these fawns would not succumb to FPPS. Unfortunately, even these isolated, hand-reared animals showed symptoms of lung infection at some point or another. However, treating hand reared animals was much easier, which increased their survival chance significantly.

A non hand reared female fawn born in January 2007 lost her mother at the age of 26 days. The attempt to get her accustomed to the bottle failed, so it was decided just to leave her within the group. The little female developed normally, even without milk. In 2007 the last remaining wild caught male died.

Research on the causative agent(s) of FPPS is continuing. Many different laboratories, specialized in mycoplasma and pneumonia in ruminants, have been involved worldwide and a lot of money has been invested in identifying the agent. Since it has not been possible to isolate the etiological agent yet; it is still impossible to vaccinate the animals prophylactically. Treatments continue to be symptomatic and supportive.

Project Penguin

Increasing wild African penguin (*Spheniscus demersus*) populations through captive rearing and release

Christoph Schwitzer and Nigel Simpson, Bristol Zoo Gardens, United Kingdom

SUMMARY

The African penguin is declining rapidly in South Africa and Namibia, with an estimated loss of 50% of the total population over the last four years. The IUCN has recommended a strategy of releasing chicks hand-reared in captivity in order to increase the numbers of penguins in existing colonies, and to help with recolonisation of previously used and of new areas.

It is vital that this is carried out, and Bristol Zoo, working in partnership with the Penguin TAG and the African penguin EEP, is helping to develop such a programme in collaboration with the South African authorities. We are asking the EEP participants and TAG members to support this important project, which offers an excellent opportunity for collections with African penguins to contribute directly to their conservation.

BACKGROUND

The African penguin *(Spheniscus demersus)* population decreased substantially in the 20th century. There were an estimated 1.45 million birds in adult plumage at Dassen Island alone in 1910, but in 1990 the population on the island had declined to about 30,000 – a loss of 98% (Shannon and Crawford 1999, Hockey *et al.* 2005). The population on Dyer Island also decreased catastrophically by 94%, from around 25,000 breeding pairs in the 1970s to just 1,513 pairs in 2007. This decline led to the species classification as Vulnerable by the IUCN (The World Conservation Union) (Barnes 2000, BirdLife International 2000). The species' population trend is noted as still declining in the IUCN's Red List (www.redlist.org) and currently there are estimated to be fewer than 31,000 breeding pairs left (ADU 2007).

The decrease is likely due to a number of factors. Penguins are known to be seriously affected by oiling both from accidental spills and washing of tanks by oil tankers that frequent the route around the Cape of Good Hope. The main issue, however, is now thought to be a lack of food due to overfishing and movement of fish stocks away from the remaining nesting beaches (ADU 2007). The latter is probably a consequence of a change of the currents around the South African Cape, which itself may be due to global climate change (Griffin 2004). As a result, the penguins cannot reach their main food resources, anchovy and sardine, while nesting, as breeding penguins cannot search for food much further than 20km away from their colonies. This has thus impacted significantly on the ability of parent birds to raise viable offspring. Population decline has been accelerated in the recent past, with an estimated 50% loss of

FAR LEFT: AFRICAN PENGUINS *(SPHENISCUS DEMERSUS)* ON ROBBEN ISLAND, SOUTH AFRICA.

LEFT: AN OLD PHOTOGRAPH SHOWING AN AFRICAN PENGUIN COLONY IN 1931. THE POPULATION HAS SINCE DECLINED DRAMATICALLY, AND ONLY A HANDFUL OF COLONIES ARE STILL VIABLE IN THE LONG TERM.

BELOW: THE AFRICAN PENGUIN IS THREATENED BY A LACK OF FOOD RESOURCES, OVERABUNDANCE OF PREDATORS (ESPECIALLY SOUTH AFRICAN FUR SEALS) AND BY A LACK OF SUITABLE HABITAT FOR NEST SITES.

population over four years (2004–2007). The remaining 31,000 breeding pairs left in the wild are distributed in 27 colonies (ADU 2007), but only a handful of these colonies seem to be viable in the long term. It is clear that unless drastic action is taken there is a substantial risk that the species will become extinct.

Evidence from recent research suggests that the (re)introduction of fledgling chicks can have a significant impact on conserving wild penguin populations (Barham *et al* 2008); chicks that have been hand-reared and released have shown higher survivorship to breeding age and higher fecundity than other birds. This therefore suggests that increasing the number of fledgling birds using hand-rearing as a tool to aid wild populations could help arrest the decline in overall numbers. We do not currently know which factors lead to the establishment of new penguin colonies through birds dispersing from existing ones. African penguins show a marked site fidelity, but it is unknown at which point exactly in a penguin's life history this is determined. If we learn which factors lead to site fidelity and to the colonisation of previously unpopulated areas, this will give us a powerful tool to artificially establish new colonies of African penguins in places closer to their main food resources in the future, if this becomes a necessity.

Investigation of this strategy has been recommended by the most recent Penguin Conservation Assessment and Management Plan (IUCN Workshop held in Ushuaia, Argentina in 2004; Griffin 2004) and by the Ecosystem Approach to Fisheries Working Group of Marine and Coastal Management, a branch of South Africa's Department of Environmental Affairs and Tourism (MCM, 2004).

On several islands including Dyer and Robben Islands, chicks that hatch late in the season (September onwards) are frequently abandoned by their parents when the weather gets too hot and as food supplies diminish. The chicks present in late summer on these islands would be unlikely to survive if left in the wild, as these are 'end of season' birds, when many die through a lack of food or unfavourable conditions. It is proposed that penguin chicks that are at least half grown are collected at the end of the breeding season. By bringing them under local captive conditions these chicks will have a very high survival rate. The fledglings would then be re-introduced to the wild at the beginning of the following February or March, when conditions are most suitable for survival. These birds would be banded and released into their colonies of origin or into different extant colonies, and then closely monitored.

Bristol Zoo Gardens has been invited by the South African authorities responsible for the conservation of penguins and other sea birds to lead a project drawing on the expertise and resources of zoos holding African penguins to develop and implement this reintroduction project. ▶

The reintroduction of fledglings can impact conservation of wild penguin populations

We propose to export eggs laid by European captive penguins to South Africa

PROJECT OUTLINE

The project – undertaken by a partnership between Bristol Zoo, the EAZA Penguin TAG and African penguin EEP, the Dyer Island Conservation Trust, the International Fund for Animal Welfare, the Department of Marine and Coastal Management (Government of RSA), the Avian Demographic Unit (University of Cape Town) and the Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) – is planned to cover five years, three years of penguin rearing and release and five years of follow up research on mortality, survival rate, fecundity and site fidelity. It will be coordinated from Bristol Zoo Gardens by Dr Christoph Schwitzer, Head of Research, and we will recruit different positions in South Africa to support and carry out the project. Three hundred 'end of season' chicks (those that are normally abandoned) will be reared and released each year for the initial three years. The rearing process will be carried out at the SANCCOB (Southern African Foundation for the Conservation of Coastal Birds) headquarters in Table View (Cape Town), where the existing infrastructure and logistics allow for such a major operation. During the first phase of the project, all chicks will be collected and later released on Dyer Island. In a second phase, chicks originating from Dyer will be released on Dassen Island and vice versa.

Furthermore, pending approval of the African penguin EEP, it is proposed to export eggs laid by European captive penguins to South Africa, hand-rear the chicks from the eggs and release them on the two islands. All released penguins will be banded, with a number of chicks also being fitted with satellite transmitters to enable us to track their movements and thus investigate factors that determine site fidelity and dispersal patterns. The new silicon flipper bands being used have been developed by the University of Bristol and Bristol Zoo and will be available from the Penguin TAG to purchase for EAZA zoos to use on their own penguins with all profits going to the project.

HOW YOU CAN HELP

We are currently looking for potential partners and supporters for this project and would like to invite EAZA institutions to become involved. We require an additional €20,000 to complete phase one in 2008/2009 and €50,000 per annum afterwards. If each African penguin holder were to commit €1,000 each year of the project, these costs would be met. In addition to funding, there might be the opportunity for zoos to provide eggs in due course, and for staff experienced in handling penguins to get directly involved with the rearing, release and monitoring of birds in South Africa, and with training South Africans in the techniques necessary for success.

CONTACT DETAILS

If your organisation would like to get involved, please contact either Dr Christoph Schwitzer (project coordinator) cschwitzer@bristolzoo.org.uk or Nigel Simpson (Curator of Birds) nsimpson@bristolzoo.org.uk.

ACKNOWLEDGEMENTS

The authors would like to thank Prof. Peter Barham (University of Bristol), Barbara Barham, Prof. Les Underhill (University of Cape Town) and Dr Rob Crawford (MCM South Africa) for their continuing support of this project.

HANDLING RESCUED AFRICAN PENGUINS AT SANCCOB.

The project has the endorsement of both the EAZA Penguin Taxon Advisory Group and the EEP coordinator for African penguins, Janos Szantho.

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Thinking big

Lech Banach, Director of Poznań Zoo

Lech Banach reveals the thinking behind the new elephant building and exposition at Poznań Zoo.

Elephants are animals which have always evoked a huge interest amongst visitors and are often the focal point of each visit to a Zoological Garden. After the death of Kinga, our old Asian female elephant, the people of Poznań were immediately interested in having a new elephant, perhaps even a group.

Because the elephant building, almost 120 years old, couldn't fulfil its original purpose any longer, it was logical that a new building and expo had to be built. The location chosen was the New Zoo (Poznań has two Zoological Gardens: The Old Zoo and The New Zoo). That same year the Association for Friends of the Zoological Garden was established as well, its primary purpose being to build a new elephant habitat in Poznań. Two architects Rafał Mysiak and Piotr Poniatowski offered to prepare an initial design of the new complex for free. They got to work immediately, keeping in close contact with the directors of the Zoo, Lech Banach and Radosław Ratajszczak.

The main aim of the project was to ensure only the best conditions for elephants. Therefore, during the planning phase the architects took suggestions from many experienced elephant keepers into consideration. Since this was the first time the architects had ever designed such a complex the Association for Friends of the Zoological Garden organised trips to many different European Zoos. This gave them the chance to see and learn about such habitats (Wuppertal, Koln, Tierpark, Berlin, Warsaw, Emmen, Rotterdam, Amneville, Munster).

In the beginning of 2005, the Association for Friends of the Zoological Garden donated to the city a completed concept design as well as a part of a construction design which was 1/3 of the cost of the entire project. This design encorporated enough room for 5-6 female elephants and their young as well as one male elephant.

At first the City Council of Poznań was rather taken back by the idea of building such a large complex in the Poznań Zoo. However, the unique and original architectural sphere that was presented in the project had a huge influence on the Council's change of heart. Finally in June 2007 construction began.

Since the elephants must be kept indoors for periods of time each year do to harsh climate, it was decided that most of the building will be devoted to the animals themselves. Part of it has been designed to simply house the elephants. Within the building itself the largest indoor exhibit is accessible to the entire group. The male's stable and individual enclosures for the females will remain hidden from the public. With the technology provided it is possible to vertically close off the females' area to create eight individual enclosures.

The vast majority of visitors come to the New Zoo from spring to autumn which is why there is relatively little space inside for viewing. We do believe that most of the year the majority of people will observe the elephants outdoors. There are two chief structures: the main area (2.5 ha) and an additional area (6ha). Such large structures were created to ensure the proper care of the elephants' skin and feet. In addition, in order to limit severe damage to the ground and to allow the elephants to behave naturally, we plan to use each area of the facility alternately. This will allow the previous area used to be replenished.

We wanted to make sure there was something for the visitors too, so an African Village with restaurants and coffee shops was built next to the main exposition area. During the winter months people will be able to view the elephants indoors. A platform 3 metres above ground level was built for the visitors. The main hall used for educational purposes is located here as well. From the platform two ramps will exit from each side along the walls, one of which leads to another exit at ground level.

All empty areas within the pavillion will be used for educational purposes, including many posters and billboards (some interactive).

The grand opening was in October 2008, and the entire complex will be ready by 2009.

Founding a foundation

The conservation and scientific work conducted by zoological societies is vital to the future of wildlife and the societies themselves. Here we take a look at the background to a new operation that recognises that need: the Bristol Conservation and Science Foundation

Dr Bryan Carroll, Deputy Director, Bristol Zoo Gardens

For more than a decade we have gradually been developing and increasing both the field conservation programmes and the scientific work of the Bristol, Clifton and West of England Zoological Society carried out through Bristol Zoo. In 2008 we decided to acknowledge and highlight the importance of that work by launching on 30th October a new operating unit of the Society, the Bristol Conservation and Science Foundation.

It is now accepted that we are in the midst of an extinction event that is the greatest since the end of the age of the dinosaurs. This is a man-made crisis brought about through unsustainable use of the natural resources of the planet and we believe strongly that zoos have a great role to play in helping to fight this extinction event. We need to communicate the enormity of the problems facing the natural world, as well as researching the threats faced by wildlife, and by working on the ground to overcome those threats.

Over the last 10 years Bristol Zoo and the Society have become recognised for the amount of field conservation and science that we carry out. This has been made possible by employing staff dedicated to this purpose. In 2001 we employed Neil Maddison as our Head of Field Conservation Programmes and in 2006 the appointment of Dr Christoph Schwitzer as our Head of Research was made.

It has been our strategy to try to link each of our major exhibit areas within the zoo to a field programme in the wild. The level of support for field programmes has varied considerably from simply providing funding (one example is the Okapi Conservation Project) through giving financial and logistical support to other organisations (such as our work with orphaned gorillas and chimpanzees in collaboration with Cameroon Wildlife Aid Fund), to managing our own projects overseas and in the UK.

We believe, as well, that the living collections of the zoo are an important research resource which help us to increase our understanding of the animals and plants that we hold. Our research strategy has been to focus on the effects of altered habitats, whether that is degraded or fragmented habitat in the wild, or the altered habitat of a captive environment, which has another set of challenges both for the animals and their carers. In the zoo, our research work encompasses veterinary care, animal welfare, breeding biology and we have a particular focus on nutrition and diets.

In order to grow further, to attract more funding and to be clear about the costs and benefits of this work to the Society we decided to create the Bristol Conservation and Science Foundation, an umbrella unit for our conservation and science, and to launch it with a one-day symposium on evidence-based conservation.

The first session of the symposium was dedicated to one of our own programmes, based in the Republic of the Comoros. We have worked in the Comoros since receiving the Critically Endangered Livingstone's fruit bat (*Pteropus livingstonii*) into the collection in the late 1990s. We recently expanded the project to work with local communities to prevent forest loss that affects both roosting and feeding areas for the bats. In 2007 we employed a co-ordinator of the project, Hugh Doulton, and we now have six local people working with villagers to reduce forest exploitation by helping them find alternative livelihoods. As well having Hugh at the symposium to talk about the progress of the project, we were also extremely fortunate to have two Comorian speakers; Said Mohammed, from the Government of the Comoros, and Mohammed Moutui who is leading our field team on the island of Anjouan. It was clear that they not only welcome our efforts, but they also feel tremendous pride in being involved with the project.

The next two sessions had speakers from across the UK talking about the importance of evidence-based conservation programmes. In the past too many projects have been based on a 'feeling' about what is needed to address the issues, and there has been little emphasis on measuring the effects of those interventions and reporting on their success or failure. Sometimes it is basic information on the species or ecological community that is lacking, while in other cases it might be evidence on the effectiveness of a technique. We heard examples ranging from Indonesian fish communities to African bushbabies, but the consistent message was to use scientific evidence as the basis for developing conservation measures, and then to use evidence from evaluation to assess and refine those measures. Dr Val Kapos of the Cambridge Conservation Forum gave a presentation on the approach being developed by them to measure the effectiveness of conservation programmes through looking at outcomes rather than short-term outputs. We all acknowledge that this is both extremely important and extremely difficult to achieve. We also know that the true value of some conservation initiatives may not be truly measurable for many years as we work to long timescales.

The day summed up how we see the future of the Foundation. This is an operating unit of the Bristol Clifton and West of England Zoological Society, important in its own right, which uses evidence to develop and refine its programmes. It is inextricably linked with the work of Bristol Zoo Gardens through the field programme links to exhibits and through the research work that crosses the boundary between the wild and captivity. The Foundation brings together science and community efforts in the search for solutions to the great challenges that lie ahead for the planet's wildlife.

Crossing the Atlantic

John Regan discusses the prospects of US money for European zoos and aquaria

Let me pose a question. Is it possible for zoo organisations based in Europe to receive donations from US foundations? It's actually an easy question to answer, because, contrary to many people's assumptions, US grant-making foundations give huge amounts of money outside the USA. Recent research shows a record figure in the region of $3.8 billion deployed beyond the USA frontiers. Europe's leading zoos, aquariums and similar organisations may well wish to consider this area as a source of significant income.

Topics such as environmentalism, research, and animal protection do figure amongst this giving. However, Europe's zoos should also consider their ambitions and needs in terms of:

1 education
2 culture
3 national patrimony and heritage
4 socio-economic development in cities, regions and countries
5 international development and work with indigenous peoples as part of your projects abroad
6 scientific research.

It is particularly important not to be discouraged at the lack of explicit reference to zoos in foundation literature: it is the work you do that matters, not the type of organisation that you are. Zoo decision-makers should think laterally and flexibly as to how their project might fit a given foundation's priorities. Organisations in countries recently joining the Europe Union as well as Candidate, Pre-Candidate and New Neighbourhood nations might be valued as relatively unusual and therefore desirable applicants, extending the geographic reach to which a given foundation can point. The availability of very considerable EU 'Structural Funds', Pre-Accession Instrument and New Neighbourhood funding as matching funds may be an added inducement.

Some foundations only support specific countries (eg the Lincy Foundation funds projects in Armenia). If a US funder already supports cultural institutions in your country, especially museums, why not the major zoo, as well as part of the overall cultural landscape..? In other cases, a foundation may not be especially interested in your home country, but be willing to support your zoo's in situ projects in the developing world.

It is worth noting that most large and medium sized zoos in the USA would have at least one member of staff solely devoted to writing grant applications to foundations.

What exactly are 'US grant making foundations'?

In the USA grant making foundations are legal entities that exist purely to support 'good causes' or charitable organisations in one way or another. Some will give to a very wide range of causes, other are very specific. For instance the Lubee Foundation (http://www.lubee.org/) only makes small grants for the conservation of fruit-eating bats. Some will have been set up by very wealthy individuals or families, others by corporations. There are approximately 50,000 such organisations obliged by US law to donate a proportion of their funds every year to appropriate causes. Nearly all foundations provide information on what they will and will not support.

Obviously such organisations receive far more requests for funds than they can actually support. However many applications are turned down simply because they are inappropriate or badly presented. So first a clear and credible project should be drawn up.

The next step is to identify an initial 'long list' of foundations whose aims seem to generally meet your project. You can do this through various literature available, through the internet, personal contact or through a research agency.

Then contact the organisation and request their specific grant making guidelines. Some foundations will ask for an initial letter of enquiry; others a full application.

Many foundations will only make a grant to or through something called a 501(c)(3). This is basically the official legal designation of a USA charity. An organisation outside the US has therefore two main options:

1 It can set up a 501(c)(3) that support it. For example, Sofia Zoo in Bulgaria might set up a 501(c)(3) called 'American Friends of Sofia Zoo'.
2 It can be supported by an existing 501(c)(3). Some 501(c)(3)s welcome the opportunity to support innovative projects outside the USA.

European zoos should follow the specific instructions precisely when actually applying for a grant. It is wise to have an American citizen or someone who knows a good deal about US foundations to review your application to ensure it is fully comprehensible in appropriate American English. If you receive a grant, you should follow the reporting and monitoring requirement exactly.

Whether or not you receive a grant you should thank the foundation, ask for feedback and for suggestions as to any other foundations who might be interested in your project.

WHAT KIND OF PROJECTS?

As above, each foundation has different priorities and policies. However, in very general terms, many US foundations are looking for ground breaking projects which can act as models to be replicated elsewhere. Thus if you can make a case that your zoo or aquarium is doing something that no -one else has tried before (at least within its context), this may well be an advantage.

In a similar way many foundations are now looking not only to respond to problems, but to actively influence policy on the part of regional, national and international authorities as well as to influence the 'public mind' or social attitudes as a whole. Awareness raising, education, or information provision campaigns run by a zoo or a network of zoos might therefore attract interest

In the past most foundations might have only wanted to support specific, time limited projects. Today however some funders are looking to help build the long term capacity of a recipient organisation so that it can ultimately become self sufficient in the good work it carries out. This could be especially relevant for struggling zoos in parts of Europe who might be able to transform themselves, become entirely self sufficient and expand their good work with sufficient investment into their infrastructure.

John Regan helps zoos, botanic gardens and similar organisations attract major transformational funding. For further information, contact John at John@Johnreganassociates.com, 00 44 (0)161 434 1681; mob 07534 379309.

FAMOUS FIVE The US foundations that have recently donated the most money outside of the USA.

FOUNDATION NAME	INTERNATIONAL GRANT DOLLAR	No OF INTERNATIONAL GRANTS	PRIMARY FOCUS OF INTEREST
1. BILL & MELINDA GATES FOUNDATION	1,233,160,002	134	Supports efforts to improve equity in global health through the prevention and treatment of infectious diseases in developing countries; and to bridge the global digital divide by providing access to knowledge through public libraries.
2. FORD FOUNDATION	258,502,0431	328	Seeks to strengthen democratic values, reduce poverty and injustice, promote international cooperation, and advance human achievement through programs in asset building and community development; education, media, sexuality, religion, arts and culture; and peace and social justice
3. GORDON AND BETTY MOORE	83,184,068	79	Seeks to preserve the biodiversity and health of the environment in the Andes-Amazon region and the North Pacific, and supports scientific research through marine microbiology and conservation
4. JOHN D. AND CATHERINE T. MACARTHUR FOUNDATION	73,138,000	223	Seeks to promote conservation and sustainable development, human rights and international justice, international peace and security, and reproductive health.
5. ROCKEFELLER FOUNDATION	72,306,649	329	Seeks to improve the lives of poor people worldwide through programs in the areas of food security, creativity and culture, global health equity, global inclusion, higher education in Africa, and regional programs in Southeast Asia.

Source: The Foundation Center, International Grantmaking Update, 2006. Based on a sample of all grants of $10,000 or more awarded by a sample of 1,172 larger foundations.

EAZA at the dawn of a new era

In this special article Science and Conservation Director of ZooParc de Beauval Eric Bairrão Ruivo, the former EAZA Secretary and member of the Executive Committee, sets out EAZA's new challenges, missions and goals for the coming decade

EAZA is at the dawn of a new era. Many changes have taken place during the past couple of years that open new perspectives, new challenges and new responsibilities. A new Constitution was approved in 2006, a new Executive Director (Lesley Dickie) was hired, and new Council and Committee chairs will be elected in September 2009. EAZA Executive Office now has new comfortable and well equipped premises, and is in a restructuring process in order to better fulfil its tasks, and better serve EAZA members. All these important changes have clear effects on our association, and are why it is important, at this time of change, to briefly review what are the main challenges, missions and goals that EAZA faces during the next few years.

ORGANISATION

A new constitution was approved in 2006. This new constitution was very necessary, especially for a fairer distribution of seats in Council, to allow new countries that are not technically in the European geographical region to enter EAZA (eg Israel and UAE), and to better reflect the present reality of EAZA and the work and responsibilities of its different committees.

On the other hand, for the first time in its existence, EAZA is now fully responsible for its organisation and for the Executive Office. EAZA no longer contracts the Executive Office to a third party, but is now fully in charge of its management and organisation. This is a major change for EAZA and a much more transparent situation than the previous one, and this will enable the EAZA Council and Executive Committee to better define strategies for the future.

Parallel to this main change in EAZA's organisation, Amsterdam Zoo offered EAZA new office space. This was badly needed as the former office had a number of structural problems that meant staff did not have the best possible working conditions.

But for EAZA to improve it is not enough to have a better organisation, a better structure or a better office. We cannot improve EAZA if our members do not improve themselves also. Many EAZA members have never been inspected and many others were evaluated a long time ago. Therefore, the Membership and Ethics Committee has found an easy and simple way that will not only enable us to have a better picture and evaluation of most of our members, but will also allow each EAZA member to make a self evaluation of and find out what needs to be done and improved.

This is the voluntary self-assessment questionnaire that all EAZA full members are asked to answer on an annual basis. And it is important that each EAZA member takes this task seriously as a means to improve and drive further towards our individual and common goals on education, conservation and research.

CONSERVATION

EAZA faces some very interesting and important challenges in global conservation. The first is the implementation and global use of the EAZA Conservation Database. For the first time there is a conservation database that can be used by anyone in the world that's involved in conservation, and which is also an important PR tool. Other regions of the world were waiting for EAZA to make this tool available for them and ZIMS. But the success of this database depends mainly now on the input from EAZA members. Effectively, we need all our members to supply information regarding their in situ conservation initiatives and support, to enable us to have a clear and real picture of the conservation efforts achieved by our region.

This is also true for the already mentioned ISIS and ZIMS, another big challenge that EAZA faces in the near future. EAZA is the only regional zoo and aquarium organisation that has made, through a Council decision, the use of ISIS programs, and especially ZIMS, mandatory by all of its members, and defined a time frame for this. It is of the utmost importance that we all understand

For the first time in its existence, EAZA is now fully responsible for its own organisation

that sharing information regarding the animals we keep and kept, and using a single program to do so, is the only way that we can move towards bigger and better conservation work. Collection planning, programme coordination, studbook keeping, and strategic conservation decisions, will all be more easily and more successfully managed if we all share the same information system. This is why it is so important for EAZA that the implementation of ZIMS is done correctly, quickly and by all our members. It is one of the biggest challenges we face in the near future and it potentially also has a huge impact on many conservation problems and challenges that EAZA presently faces. For example:

- The already mentioned evaluation of EEPs and, later, TAGs and ESBs will certainly be an easier task if we all share the same information system;
- The EU ban on the import of wild caught birds which, although being a positive conservation measure, has potentially huge consequences on our birds Regional Collection Plans and breeding programmes. We urgently need to have a clear picture of what we have in Europe, the genetic profile of our bird populations and what we are able to breed in a sustainable way and what requires additional efforts and better husbandry;
- The implementation of EAZA Regional Collection Plans (RCPs) and the establishment of Institutional Collection Plans based on these RCPs. Effectively, the new EAZA RCPs will be in a single format to facilitate their use and implementation, but will also have a scientific, conservation and educational background in all choices made in these RCPs. This will certainly help all EAZA members in developing truly important conservation goals;
- Re-introductions of animals in the wild which is occasionally an important part of our activity. In this case it will be of the utmost importance to look at all captive and wild populations as meta-populations and to have them all recorded using the same information and analysis system;
- The full integration of aquaria into EAZA, as one of the main difficulties that we have been experiencing in this field is the lack of a common information and analytical tool that can be used not only by zoos, as ISIS programs such as ARKS and SPARKS are, but also by aquaria to not only record their animals but also to manage their breeding programs and studbooks.

Last, but definitely not least, IUCN recently made a huge step in the recognition of zoos and aquaria as important players in the global conservation scene, when it made an appeal to zoos and aquaria, through their world regional Associations, to help address the Amphibian extinction crisis caused by a chytrid fungus that is spreading fast around the world. According to the Amphibian Conservation Action Plan of IUCN, intensive captive breeding in bio-secure facilities is needed in order not only to preserve species from extinction, but also to produce animals that might be released to the wild when a solution to this fungus problem is found. This appeal from IUCN is so important for our institutions, for EAZA and for their global recognition as real conservation bodies that we cannot fail in our response to this challenge. This is certainly one of our main missions and challenges for the next decade.

ETHICS AND EDUCATION

Another sign of EAZA's maturity is the increasing number of ethical issues that have been put forward for discussion among our membership. Issues such as flight restraint, research, artificial selection, the use of animals in shows and animal demonstrations, among many other ethical themes, have been discussed recently at different levels of EAZA. No doubt this is a sign of more concern from our members regarding the ethics of our profession and of our business, and this raises important questions

I want to make an appeal to all members to join forces towards our common goals

and challenges that will need to be addressed by EAZA and its members in the near future. An update of EAZA's present Code of Ethics was therefore inevitable, and is already being done.

Sustainability will play an important role in current and future discussions. We cannot be seen to be a real conservation movement if our institutions and regional organisation do not lead the fight for a global sustainable use of natural resources.

One of the main tools we have for this purpose is our education departments, but this implies that we need somehow to change the message that we have been forwarding to our visitors. Effectively, as Bert de Boer has stated, although EAZA has been successful in implementing ex-situ and in-situ conservation activity among its members, our education message has not been very successful. Therefore, a main change in the education message that we need to set up is to put humanity at the centre of our educational message; humanity and its short, medium and long-term survival. We need to clearly explain to our public and visitors that Nature does not need us but we need Nature to survive.

TRAINING

Training is one of the most efficient ways to improve the quality of our members and to develop our profession. For many years EAZA has run some targeted training sessions, however these are only occasional events and not part of a real strategy of continuous training and of developing standards and capacities among our members. But the will is there and ideas are being developed in order to create a real 'EAZA Training Academy'. This will be of the utmost importance to improve our organisation and our members, but also to develop skills and capacities in other regions.

Following the signature of a MoU between EAZA and ALPZA (Latin American Zoo and Aquarium Association), EAZA has had a major input in developing ALPZA and its members and helping them to become important players in the conservation of the biodiversity of their region. Following this success, many other regions such as the Pan African Zoo and Aquarium organisation (PAAZAB), South East Asian Zoo Association (SEAZA), and even China have been starting contact with EAZA in order to help them to develop their zoo organisations and consequently improve the quality of their members. We believe that the future EAZA Academy will be an important tool for this goal.

CONCLUSION

In this article, I have tried to explain and describe what are, in my opinion, the major challenges, goals and missions that EAZA faces for the future of our organisation and for the future of our members. These are very real and difficult challenges and goals that can only be achieved with the cooperation of all of us, from EAZA members, to the EAZA Executive Office, EAZA Committees, and EAZA Council. Therefore I want to make here an appeal to all members to join forces, take your share of work for our common goals and help us to reach our goals, overcome our challenges and achieve our mission.

The full version of this article appears on our website. If you'd like to respond to Eric's thoughts, do contact EAZA News by emailing Malcolm.Tait@eaza.net

DARWIN200

What is Darwin200?

Darwin200 plans to celebrate the impact that Darwin's ideas about evolution, as well as his approach to the understanding of the natural world and his outstanding example as a scientist, continue to have on our lives. Many events took place on 12 February, Darwin's birthday, but Darwin200 events will build up to November 2009, which is the 150th anniversary of the publication of *On the Origin of Species by Means of Natural Selection*.

Darwin's theory – that life has evolved by natural selection over millions of years – revolutionised our understanding of the world and our place within it, making us see ourselves as an integral part of nature. Medicine, agriculture, politics and art are just a few of the areas that have been profoundly influenced by his idea. Today, evolution is at the heart of some of our hottest issues, from bird flu and MRSA to equality and how we educate our children.

DARWIN200

To find out more about Darwin200 go to **www.darwin200.org**

On the official website you will find links to partner organizations and materials which can help you develop Darwin celebration materials including links to image libraries and other resources. The Darwin200 logo is available for use from the EAZA Executive Office.

EAZA would like to hear how members are celebrating the life of Darwin through their institutions in 2009. Please send details to Lesley Dickie (**lesley.dickie@eaza.net**), who can also provide you with the Darwin200 logo.