

## CONSERVATION

### A glimmer of hope for Asian vultures

A team of scientists at the University of Pretoria, South Africa, reported in January that the drug meloxicam is an effective but harmless alternative to diclofenac, the veterinary drug whose use has had a devastating effect on the populations of three vulture species in south Asia [see *IZN* 51 (3), 170–171]. Publication of the findings was timely, as the Indian government had just convened an international meeting to decide how to save the endangered vultures. Removal of diclofenac from their food supply is a vital step, so the identification of an alternative drug may have come just in time. 'It is essential that the government of India acts quickly to make good use of this new information. Diclofenac must be replaced by meloxicam as soon as possible, and there are many things that government can do to speed this up,' said Dr Asad Rahmani, Director of the Bombay Natural History Society.

The vulture declines have had profound ecological and social consequences. Vultures play a vital role in environmental health by disposing of carcasses and reducing the risk of disease. The two key steps now necessary to save the birds from extinction are the removal of diclofenac from their food chain, and the establishment of conservation centres for captive breeding [see *IZN* 52 (3), 156–157] as a stop-gap measure until that is achieved.

*World Birdwatch* Vol. 28, No. 1 (March 2006)

### Establishing regional breeding facilities for cheetahs

The cheetah is a well-recognized flagship species which captures the attention of the public, the research community, and policy makers, all of whom can raise aware-

ness of conservation issues. While it is difficult to breed cheetahs *ex situ*, there is adequate genetic diversity in the captive cheetah population to prevent inbreeding depression and serve as a gene reservoir for the entire species.

The most successful cheetah breeding facilities (De Wildt, Wassenaar, White Oak Conservation Center) house large groups of individuals, are managed by experienced staff, and base their management on the following principles:

- Cheetahs need options for mates, and need compatible temperaments. Male and female cheetahs make choices among sexual partners, often based on an individual animal's temperament. This makes breeding based solely on genetic compatibility impossible, so successful breeders will have a sufficient number of genetically compatible individuals to provide the animals with choice.
- Experienced males are more likely to mate with inexperienced females, so facilities should have both.
- There should be off-exhibit areas in cheetah enclosures for private mating and the birth and rearing of young.
- Consistent disease monitoring and control programs help eliminate the transmission of pathogens and reduce stress concerns that accompany zoo-to-zoo animal shipment.

Regional breeding centers would share resources to ensure a genetically and demographically viable, self-sustaining cheetah population. Each center would need to meet the following criteria:

- Large breeding and holding spaces (20 to 30 cheetahs with an appropriate sex ratio) with large, naturalistic compounds, and separate holding areas for feeding, medical care, denning and research.
- Experienced staff with authority to make management decisions on breeding.
- Long-term institutional commitment, both fiscal and philosophical.

The Cheetah SSP Master Plan includes specific recommendations for placing breeding animals in each regional center. The centers and their partner zoos would make arrangements based on those recommendations, with two options: a center could either manage all reproduction for a specific female, from mating through cub development, or briefly house a female for mating, then returning the pregnant individual to her home institution to give birth or returning her with her cubs at an appropriate time. Partner zoos would be assured of exhibit animals to replace the breeder animals sent on loan to the center.

Three zoos in Ohio (Cincinnati, Columbus and Toledo) served as the first real test of the regional center concept. A male from Cincinnati and a female from Toledo bred at the Cincinnati Zoo breeding facility. In 2004, their first successful litter was born in Cincinnati. Once the cubs were old enough, they were moved with the dam back to Toledo Zoo. A second litter, born in October 2005 in Cincinnati – using a male from Cincinnati and a female from Columbus – is proof that this concept can work, and can enhance the long-term management of cheetahs in North America.

Abridged and adapted from Jack Grisham (Species Coordinator, Cheetah SSP) in *Communiqué* (American Zoo and Aquarium Association), December 2005

### Northern white rhino pushed to the brink by Yemen's demand for horn

Yemen remains the main recipient of rhino horn from Africa. The bulk of this horn imported into Yemen in 2005 came from the northern white rhino. The last population of this subspecies, in Garamba National Park in the Democratic Republic of Congo (DRC), was virtually obliterated in 2005 and may no longer be viable.

Since 2003 the wholesale price of rhino horn in Yemen's capital, Sana'a, has risen from c. US\$1,200 to 1,500 per kg. This suggests that demand has increased, with

Yemeni men willing to pay more for a *jambiya* (the traditional curved dagger still worn by most men in the northern part of the country) with a rhino-horn handle.

Sana'a traders indicate that Sudanese businessmen are buying the horns from southern Sudan and that the horns originate from the DRC. This information links up with the disastrous fate of Garamba's white rhino population in northern DRC, where in 2003 there were 30 remaining but now there are probably fewer than ten due to heavy poaching by Sudanese and Congolese entering the park. Only four (2.2) rhinos were counted in an intense aerial survey in August 2005.

The present trade route for horn out of Sudan is from Khartoum by air direct to Sana'a. Traders say they have no problem smuggling the horn out of Khartoum, but it is more difficult bringing it through the airport in Sana'a. Horn apparently also enters Yemen at Aden airport. The previous route was via Djibouti and across the Red Sea, but this sea route is no longer used because naval ships, especially from Western nations, are patrolling the Red Sea and the Somali coast searching for terrorist suspects and illicit consignments of weapons.

In the first half of 2005 c. 45 kg of horn, mostly of white rhino, were allegedly brought into Yemen. Normally the amount is less, with consignments reaching Yemen about five times per year in small quantities of 3–5 kg. (A white rhino's two horns weigh on average 5.5 kg in total and those of a black rhino c. 3 kg. Traders in Yemen say they have also recently received horn from Tanzania, but in small amounts. According to reliable sources in Yemen, most of the horn brought into Sana'a is purchased by one particular family. Some horn is apparently also brought into Yemen to be given as gifts to prominent families.

Jambiyas with new rhino-horn handles are for sale in Sana'a and Taiz. A new rhino horn, of c. 2.5 kg, was recently

spotted in the Sana'a souq, suggesting that craftsmen have little reason to hide them at the moment as government inspections are neither thorough nor sufficiently numerous. This illicit business still threatens central and eastern Africa's rhinos and as a result the northern white rhino is almost extinct. The government of Yemen needs to do more to curb the trade and reduce demand for horn, and DRC is not taking adequate action to save its rhinos.

Lucy Vigne and Esmond Martin in *Oryx* Vol. 40, No. 1 (January 2006)

### Time running out for Syrian ibises

Following their sensational discovery in April 2002 [see *IZN* 49 (7), 422], the handful of northern bald ibises or waldrapps (*Geronticus eremita*) in Syria bred successfully until 2004. But only one youngster returned to the colony, and now their situation is critical.

In 1989, the last wild bird disappeared from Eurasia's last known colony in Birecik, Turkey, leaving only captive individuals, and the species was considered regionally extinct in the wild. But in 2002 a wildlife survey in Syria found seven adults, including three breeding pairs. During 2002 and the two subsequent breeding seasons, trainees selected from the Ministry of Agriculture, local nomads and hunters provided round-the-clock protection of the breeding cliff and regular monitoring of feeding grounds, as part of an intensive community-based protection programme. The scheme was successful, and 14 chicks were raised for the loss of two adult birds. Several poaching parties were apprehended by the ibis team, and some even jailed by local authorities. The project was held up as an example of good conservation practice at the IUCN World Conservation Congress.

The main problem was recruitment of young to the colony. The peculiarity of the oriental race, of which the Syrian colony is the last known remnant, is its migratory

habit. (The only surviving western colony, in Morocco, is resident.) During 2002–2004 only one of the 14 juveniles returned to the breeding grounds.

The International Action Plan for Northern Bald Ibis, currently in publication, states that the single most important action to ensure survival of the tiny Syrian colony is identification of its wintering grounds. This information is crucial to assessing the threats the birds face during the seven months they spend outside Syria, and initiating appropriate conservation measures. Random sightings over the past 170 years suggest they winter around the Red Sea. Interestingly, elder Bedouin nomads say the birds depart for a mountainous part of Yemen – they use the name of this site as a symbol of remoteness. But attempts in 2003–2005 to fit the birds with satellite tags failed, and the UN-backed protection project ended in 2004.

BirdLife's Middle East office and the RSPB (BirdLife in the U.K.) have been keen to implement tagging and resume the protection programme, but in 2005 authorisations were not obtained in time. Although the Syrian authorities have mobilised human and technical resources, without the externally-supported programme protection efforts in 2005 were insufficient. Disturbance was higher than in previous seasons, and none of the chicks fledged.

If the ibises return in 2006, there are concerns they might change their breeding area. Assuming they return to the usual site, the survival of these genetically unique birds is dependent on resuming the community-based protection programme as a matter of urgency, and making a final attempt to tag them. All the expertise, local knowledge, human resources and even funding needed is ready and available. The last hopes depend on raising the profile of the project. National awareness is growing, and prospects for involving higher political circles were improved last spring when Syria's First Lady showed interest in the

destiny of the ibises. Her interest was stimulated by the recently established Syrian Society for the Conservation of Wildlife, a possible future BirdLife partner. The northern bald ibis, currently a symbol of the degradation of Syria's natural desert heritage, could instead become the flagship species for a national conservation movement.

Gianluca Serra in *World Birdwatch* Vol. 27, No. 4 (December 2005)

### A mobile environmental education project in Cambodia

Cambodia is being reborn after the many years of war and civil strife that destroyed much of its infrastructure, institutions and population. Despite these losses it retains 35% of its land as forest cover and provides vital habitat for over 70 threatened animal species including tiger, sun bear, Asian elephant and Siamese crocodile. The Cambodia Conservation Program of the San Francisco-based non-profit organization WildAid has been working since January 2000 with the Cambodian government to protect wildlife and habitats against poaching, illegal trade and uncontrolled logging. However, it has been recognized that the enforcement programme will have greater impact if it is combined with complementary education projects.

In 2002 Australia's Zoos Victoria agreed to provide an educator to support development and delivery of the Kouprey Express, WildAid's mobile conservation education unit. This uses a modified bus and is based on similar programmes from the Caribbean in the 1990s. The bus has been fitted out with a range of activity stations and painted outside with murals featuring Cambodia's wildlife. The programme's main objectives are to increase environmental awareness in communities living around national parks and protected forests, offer school children lessons on wildlife and conservation, and raise awareness of threats to wild-

life.

The unit commenced operation in October 2004 with technical support from Zoos Victoria and funding from several other organisations. The Zoos Victoria educator spent a month in Cambodia developing the teaching programmes, training local teachers and delivering funds for teaching tools and equipment. The Kouprey Express team spends three weeks out of each four visiting designated communities to deliver programmes to school children during the day and the broader community at night.

Major outcomes up to the end of October 2005 have been (1) lessons to more than 6,000 children living in communities surrounding 12 protected areas, (2) evening shows to 57 communities, (3) more than 35,000 villagers attending meetings on wildlife and forestry laws, (4) almost 5,000 postcards collected from children, to be sent to the King asking him to help stop wildlife poaching and killing, and (5) wide use of the Kouprey Express at public events to further promote wildlife conservation.

Abridged and adapted from Chris Banks (Coordinator of Conservation Partnerships, Zoos Victoria) in *Oryx* Vol. 40, No. 1 (January 2006)

### New reference source on invasive species

The Global Invasive Species Database ([www.issg.org/database](http://www.issg.org/database)) is a free, searchable source of information about species that negatively impact biodiversity. It contains comprehensive, authoritative (reviewed by experts) profiles of such species as the cane toad and the red-eared slider. The database aims to increase public awareness about invasive species and to facilitate effective prevention and management activities by disseminating specialized knowledge and experience to a broad audience. It uses a simple format to present key information in plain English.