

CONSERVATION

Endangered gibbons in European zoos

Gibbons probably represent the most endangered primate taxa, with 15 out of the 16 recognised species listed as Endangered or Critically Endangered on the IUCN Red List. They include the sadly-titled 'rarest ape of them all', the Hainan gibbon (*Nomascus hainanus*), of which there are likely to be fewer than 20 individuals alive who are restricted to a small Chinese forest fragment, which itself is under threat. Tragically, other gibbon species are competing for this title, and in the current list of 25 Most Endangered Primates (2008–2010) the western hoolock (*Hoolock hoolock*) and the eastern black crested gibbon (*Nomascus nasutus*) are both listed. There can be no doubt that gibbon species need saving, and it is the hope of the FAZA Gibbon TAG that activities including *ex situ* captive management, raising awareness and links with *in situ* conservation will help conserve them and prevent extinction.

Eight gibbon species are currently managed in EAZA programmes, representing all but the *Hoolock* genus. All of these species are of considerable conservation value: for example, the northern white-cheeked gibbon (*N. leucogenys*) probably numbers only a couple of hundred in the wild. And surprisingly, given how common the species is in zoos, there are reports that a subspecies of lar gibbon, *Hylobates lar yunnanensis*, is probably extinct in its native range in China. So how do we intend to manage this group of primates?

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

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

Two familiar phrases come to mind: (i) we need more space, and (ii) more research is needed! We are all familiar with the space restrictions in zoos, and adding eight gibbon species to the list of animals which need more space is probably not going to get us very far. What can be done is to use the space we have more wisely. Reducing the larger lar and siamang populations will still enable them to reach desirable genetic goals, while hopefully freeing up much-needed space for other gibbon species. As for research, we truly know very little about this taxon, especially why so few of them breed in captivity.

Vicky Melfi (Chair, EAZA Gibbon TAG) in *Zooquaria* (formerly *EAZA News*) No. 71 (Autumn 2010)

New moves to safeguard Javan rhinos

An international partnership is racing against the clock to ensure the survival of the last viable population of Javan rhinos by carving out a safe haven in the dense jungles of Indonesia's Ujung Kulon National Park. In 1883, Ujung Kulon and the surrounding areas were devastated by the eruption of Krakatau, one of the most violent volcanic events in modern times. Anak Krakatau ('son of Krakatau') remains active in the area, causing great concern to conservationists.

Over the next two years, the rhinos' habitat at the park will undergo improvements to help protect the species from extinction caused by a single natural disaster or introduced disease. The International Rhino Foundation (IRF) and its partners – the Rhino Foundation of Indonesia, WWF, Save the Rhino and the Indonesian government – are creating 4,000 hectares of expanded habitat for the rhinos, which should encourage population growth.

Late last year, the partners also commissioned a habitat assessment to evaluate potential translocation sites in Java. This assessment's first recommendation was to create a Javan Rhino Study and Conservation Area in Gunung Honje area (in the eastern part of the park) so that rhinos could fully utilize the park's land. As a result, IRF has launched Operation Javan Rhino to help raise the remaining \$300,000 needed to complete this effort. Donations will be used to plant rhino food plants, create water sources and wallows, construct guard posts and patrol routes, and hire anti-poaching units to patrol the area. IRF will provide field updates on the efforts taking place in Ujung Kulon to make the new habitat suitable and safe for Javan rhinos. 'Our team on the ground is already beginning improvements to Gunung Honje's habitat to make more of the park suitable for the rhinos. We will construct an electric

fence, small bridges, and new patrol routes,' says Widodo Ramono, executive director of the Rhino Foundation of Indonesia. 'We will also improve the habitat by removing invasive plants and providing an improved and reliable water supply.'

Javan rhinos are difficult to find in their dense rainforest habitat, even for seasoned experts. Over the past 14 years, rhino protection units have kept track of the population daily, usually by following signs such as dung and footprints. This intense monitoring and protection has essentially eliminated losses from poaching. In collaboration with the park, WWF Indonesia has set up a number of video-camera traps, which are providing important information about the population. 'We are in the process of expanding intensive management of the Gunung Honje area,' says Agus Priambudi, director of Ujung Kulon National Park and active partner in the makeover. 'A number of encroachers were moved from within the park, and we are constructing new guard posts so that the Gunung Honje area is better protected.'

The camera trap work will be intensified with 60 cameras generously donated by the Aspinall Foundation in January. Even though poaching has been eradicated in Ujung Kulon, anti-poaching units remain watchful. Rhino poaching in Africa has reached a 16-year high, and the loss of a Javan rhino to poachers in Vietnam in May weighs heavily on the partners' minds. 'The data provided by the camera traps are helping us to determine how many rhinos are left in Ujung Kulon,' says Adhi Rachmat Hariyadi, site manager for WWF Indonesia's project in the park. 'So far, from the videos we have analyzed, we have identified 27 individual rhinos and extrapolated a maximum of 47 animals, which still needs to be confirmed by ground surveys.'

Rhino experts agree that expanding the usable habitat in Ujung Kulon is the important first step in saving Javan rhinos. The next key step will be trans-

locating animals from Ujung Kulon and establishing a second population elsewhere in Indonesia so that the species can be protected from natural and human-caused disasters, and ultimately from extinction.

Wildlife Extra News (www.wildlifeextra.com), 8 September 2010

Rescuing primates in Vietnam

The number of taxa kept at the Endangered Primate Rescue Center (EPRC) in Cuc Phuong National Park, Vietnam, has remained at 16 over the last couple of years. Since 2006, the number of individuals has also remained relatively stable at around 145 animals.

Arrival of new confiscated animals has dropped in recent years, partly because most wild primate populations in Vietnam have now collapsed due to excessive poaching. The other reason is a very counterproductive and absurd new law introduced in Vietnam in 2006 which allows authorities to sell confiscated wildlife back into the wildlife trade.

EPRC continues to have good breeding success – for example, over 100 langurs have been born since its inception, of which 70 survived to adulthood, with many of these now breeding themselves.

To accommodate these animals another 17 enclosures have been built. Additionally, in cooperation with Cologne Zoo, a very large (20-ha) reintroduction enclosure has been built at the Phong Nha-Ke-Bang National Park and a number of Hatinh langurs (*Trachypithecus laotum hatinhensis*) have been moved there. The plan is to release them into the national park. Staff numbers have also increased. There are now 20 Vietnamese keepers in addition to the ex-pat head keeper.

Much research has been carried out at the EPRC and several people have been trained. Notably, Vietnamese student Ha Thang Long completed his Ph.D. in Cambridge, and now heads conservation efforts in central Vietnam for the critically-endangered grey-shanked douc lan-

gur (*Pygathrix cinerea*) on behalf of Frankfurt Zoological Society.

English summary of article in German by Tilo Nadler, *ZGAP Mitteilungen* Vol. 26, No. 1 (2010)

Using genetics to fight illegal wildlife trade

A Darwin Initiative project, part-funded by the Royal Zoological Society of Scotland, is helping to fight one of the biggest threats to wildlife by using genetics to directly target the lucrative illegal black market trade in flora and fauna in South-east Asia.

Practical enforcement of wildlife trade legislation in the region is seriously hampered by lack of experience, coordination, expertise and capacity. As part of the three-year forensics project, genetics experts in Edinburgh are now sharing their skills and knowledge with enforcement agencies in ASEAN countries (Brunei, Cambodia, Indonesia, Laos, Malaysia, Burma, the Philippines, Singapore, Thailand and Vietnam). The first regional wildlife forensic workshop took place in Kuala Lumpur in August 2010, and the hope is that shared techniques will allow greater accuracy in the collecting and processing of forensic data which could help bring about more wildlife crime prosecutions.

Recently back from his trip to Malaysia, joint leader of the workshop Dr Rob Ogden said: 'The wildlife of South-east Asia is one of the richest in the world and as a result the region has one of the biggest battles with wildlife crime. In Europe, where resources and techniques have advanced significantly in DNA analysis and genetics, forensic analysis is now an established enforcement tool in fighting wildlife crime. In areas such as South-east Asia, where arguably these techniques could have the most benefit, organisations are overwhelmed by the sheer incident numbers and a lack of experience or knowledge in using these techniques to help their investigations.

We hope we can share our knowledge to help investigators collect data accurately to enable species identification as well as confirm their geographical origins. These two indicators are crucial in building evidence about what crime has occurred.'

As fellow project scientist Dr Ross McEwing explained, as science continues to develop enhanced investigative techniques it is hoped that the risk of being caught will act as more of a deterrent. 'If an animal is still recognisable then you can usually identify it without the need for DNA analysis. But even then, knowing where it has come from can have a huge impact on potential criminal leads and, if it is still alive, on its survival rate once it is returned. When an animal or even a plant can't be identified, this is when forensic techniques can seriously come into play. For instance, pangolins are endangered due to the popularity of wildlife trade for food and traditional medicine. Once seized – unless returned to their original habitat – they tend to die, so being able to tell where the animal is from is important in order to support its return. These forensic techniques can also help to identify whether indistinguishable meat is from these protected animals.'

As well as providing specialist training courses that will help develop the capacity for wildlife forensic investigations, the Scottish team is also giving guidance on laboratory systems to support forensic processing and web resources to help share best practice, tried and tested techniques and benchmark species' DNA guides. The training is part of a three-year project headed by TRACE Wildlife Forensics Network, an NGO based at Edinburgh Zoo.

Royal Zoological Society of Scotland press release, 15 September 2010

New carnivore discovered in Madagascar

A new species of small carnivore, known as Durrell's vonsira (*Salanoia durrelli*),

has been identified by researchers from the Durrell Wildlife Conservation Trust, the Natural History Museum, London, Nature Heritage, Jersey, and Conservation International. The cat-sized, speckled brown animal from the marshes of the Lac Alaotra wetlands in central eastern Madagascar weighs just over half a kilogramme and belongs to a family of carnivores only known from Madagascar. It is likely to be one of the most threatened carnivores in the world. The findings are outlined in the latest issue of the taxonomic journal *Systematics and Biodiversity* (Durbin *et al.*, 2010).

The carnivore was first seen swimming in a lake by Durrell researchers on a field trip surveying bamboo lemurs in 2004. After briefly examining the animal, the team suspected they had witnessed a new species and so took photographs. By examining brown-tailed vonsira (*S. concolor*) specimens in the Natural History Museum's collections, Museum zoologists confirmed the animal was a new species; it has been named in honour of the conservationist and writer Gerald Durrell, who died 15 years ago.

Fidimalala Bruno Ralainasolo, a conservation biologist working for Durrell who originally captured the new carnivore, commented, 'We have known for some time that a carnivore lives in the Lac Alaotra marshes, but we've always assumed it was a brown-tailed vonsira that is also found in the eastern rainforests. However, differences in its skull, teeth, and paws have shown that this animal is clearly a different species with adaptations to life in an aquatic environment. It is a very exciting discovery and we decided to honour our founder by naming this new species after him. However, the future of the species is very uncertain because the Lac Alaotra marshes are extremely threatened by agricultural expansion, burning and invasive plants and fish. It is a highly significant site for wildlife and the resources it provides people, and Durrell Wildlife Conservation Trust is working closely with local com-