

Sumatran ground cuckoo recorded near Kerinci Seblat National Park, Sumatra

On 18 May 2006 scientists from Fauna & Flora International's Indonesia Programme and the Indonesian Department of Forestry, supported by the Durrell Institute of Conservation and Ecology, recorded one of the rarest species of Indonesian bird; the Sumatran ground cuckoo *Carpococcyx viridis*. This record came from just outside the border of Kerinci Seblat National Park in Bungo district, central Sumatra. Previously this endemic and Critically Endangered species had only been recorded once since 1916, and then only from southern Sumatra in 1997.

This terrestrial, forest-dwelling cuckoo was once thought to occur in primary or little-disturbed hill-montane forest. However, although the new Bungo specimen was recorded in submontane forest at 1,120 m altitude and nearly 6 km from the forest edge it was in degraded forest located within an ex-logging concession. This find highlights the importance of locally-based monitoring because the ground cuckoo was photographed within a monitoring programme that had set camera traps for Sumatran tigers. In addition, the ground cuckoo was found in an area not considered to be typical ground cuckoo habitat and that therefore may not have been specifically surveyed for this little known bird.

The ground cuckoo, like most other forest dwelling species in Sumatra, is threatened by illegal and unsustainable logging activities. This gives greater urgency to protecting this area of Bungo district in Jambi province. Although the forest where the cuckoo was found abuts Kerinci Seblat National Park, it has no official conservation status. Consequently, the ground cuckoo is now being used as a flagship species for Bungo to generate local government interest to support plans to designate this forest as a new, locally gazetted protected area. This would add considerably to efforts underway elsewhere, which use the Sumatran tiger as a flagship species to prevent one of the most urgent issues facing the National Park and adjoining forest: a proposed road network that would carve up one of Indonesia's largest and most intact protected areas.

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Tigers Forever

The recent media coverage of tigers *Panthera tigris* and their conservation in India and across tiger range has been reported with little hope for the long-term future of the species (see *Oryx*, 40(2), 135). Amidst this tiger crisis the Wildlife Conservation Society (WCS) launched Tigers Forever, a project in collaboration with the Panthera Foundation, to serve as both a science-based action plan and business model to ensure that tigers live in the wild forever. Launched with an initial pledge of USD 10 million by WCS trustee Michael Cline and founder-Executive Chairman of Panthera, Tom Kaplan, the initiative has set clear biological goals based on rigorous science. In partnership with local governments and people it aims to increase tiger numbers at key WCS project sites by 50% in the next decade.

The initial field sites of Tigers Forever include the world's largest tiger reserve, the 21,756 km² Hukaung Valley in Myanmar, the Western Ghats in India, Thailand's Huai Khai Khaeng-Thung Yai protected areas, and other sites in Laos PDR, Cambodia, the Russian Far East and China covering approximately 260,000 km² of critical tiger habitat. Loss of prey, habitat degradation and killing of tigers are key threats to tigers across their range, and to date there have been few scientific studies estimating tiger and prey densities. Current estimates of the global tiger population are 3,000–5,000 over a range of 1,185,000 km², which is a mere 7% of the species' historical range.

While increasing tiger numbers is the primary goal of Tigers Forever, activities will indirectly benefit other globally threatened wildlife such as the far eastern leopard *Panthera pardus* ssp. *orientalis*, Asiatic wild dog *Cuon alpinus*, Malayan sun bear *Helarctos malayanus*, Asiatic elephant *Elephas maximus*, Sumatran rhinoceros *Dicerorhinus sumatrensis*, orang-utan *Pongo pygmaeus*, hoolock gibbon *Bunopithecus hoolock*, great hornbill *Buceros bicornis*, rufous-necked hornbill *Aceros nipalensis*, and white-winged duck *Cairina scutulata*.

Tigers Forever (<http://www.wcs.org/international/Asia/tigersforever>) will work closely with local governments and field partners on site-specific activities and interventions to mitigate key threats. Securing tiger populations will involve acquiring baseline knowledge of tigers and their prey, monitoring tiger and prey population dynamics, enhancing local capacity for protecting tigers, their prey and habitats, and fitting

this into an adaptive management framework with review cycles. Activities will focus initially on small, core areas, where tiger numbers can be increased, and will eventually be adapted to larger landscapes for a wider impact across the whole of the tiger's range.

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Reintroduced western gorillas reproduce again

On 21 September 2006 a newborn gorilla was seen in the Lefini Reserve, Republic of Congo, for only the second time in 50 years or more. The mother is a 9 year-old orphan of the illegal bushmeat trade released into the area 2 years earlier along with eight other orphans. The release was the second in a programme to reintroduce the Endangered western gorilla *Gorilla gorilla gorilla* to the Lefini Reserve, from where the species had been extirpated in the first half of the 20th century (although one adult male was apparently killed in the area in the 1980s). The first release took place in January 2003, and resulted in the first birth of the programme, in April 2004 (see *Oryx*, 38(3), 251–252). The first baby, a male named Téké after the unique Batéké Plateaux region of Central Africa where the Lefini Reserve is situated, is now 2.5 years old. His continued progress, and that of his now 19-year-old mother, is an encouraging indication of the success of the reintroduction. Following his birth one of the two males in his group gradually became solitary and greatly increased his ranging, resulting in him encountering the second released group. His long-running but ultimately unsuccessful attempt to dominate the second group eventually led to his transfer to a forested island in July 2006, partly to increase the female:male ratio of the released gorillas and partly to facilitate the release of three subadult females, aged 6–7.5 years, into the Reserve on 15 October 2006. This brings the total number of gorillas reintroduced to protected areas on the Batéké Plateaux in Congo and neighbouring Gabon since 1996 to 53. These release programmes are both funded and managed by the UK registered charity The John Aspinall Foundation in partnership with the respective national governments. The release stock consists of 43 wild-born orphans of the bushmeat trade, plus one *in situ* and nine *ex situ* captive born individuals abandoned by their

mothers. Discounting the three released in October, overall post release survival rate is 82%, although five adult males in the Congo project have now been returned to *in situ* semi-captivity.

On 29 September, just over a week after the second birth, another newborn baby was observed in the same group. The mother is almost 12 years old and the eldest gorilla of the second released group. A month later, on 23 October, yet another baby was observed in the group, this time to an 8.5 year old. Finally, on 16 November, one of the two remaining females in the group, a 10 year-old, was seen with a baby <1 day old. The identity of the father, or fathers, is debatable. The solitary 15 year-old silverback had occasionally spent a number of days with one or more of the females, separate from the rest of the group, although the females always returned to the group fairly rapidly. Of the four males in the group two, aged 11.5 and 9.5 years, have regularly been observed to mount the females, and none have shown aggressive behaviour towards the new-born babies or their mothers. This is in contrast to the 2004 birth in the first released group, when one of the two males immediately exhibited aggressive behaviour towards the mother and baby, apparently precipitating his departure from the group. Genetic paternity analysis will hopefully resolve this debate, and the results may have implications for theories on inbreeding avoidance and mate choice amongst gorillas, and on strategies for group formation during rehabilitation of gorillas destined for reintroduction.

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Elephants return to Majete Wildlife Reserve, Malawi

Seventeen years after the last of Majete's over 200 elephants *Loxodonta africana* was extirpated, 70 elephants in family groups were translocated from Liwonde National Park into Majete in July 2006. The translocation was funded by USAID but was only feasible because African Parks (Malawi) Ltd was granted a 25 year concession by the Malawi Government in March 2003 to take responsibility for the rehabilitation, development and management of Majete Wildlife Reserve. Prior to 2003 Majete's resources had been decimated and the Reserve was almost devoid of wildlife.

So far African Parks has translocated over 700 animals into Majete including black rhinoceros *Diceros bicornis*, buffalo *Syncerus caffer*, sable antelope *Hippotragus niger*, waterbuck *Kobus ellipsiprymnus*, impala *Aepyceros meiampus*, Burchell's zebra *Equus burchelli*, eland *Tragelaphus oryx*, Lichenstein's hartebeest *Alcelphus lichtensteini*, nyala *Tragelaphus angasi* and warthog *Phacochoerus aethiopicus*. Because of greatly increased protection from poachers the populations of all reintroduced animals have increased except Lichenstein's hartebeest whose numbers remain at three females and one male. All the translocated animals are held in a 1,400 ha fenced sanctuary except for two bull elephants that broke out of the sanctuary but, after some wandering, have now returned and remain in the unfenced area of the Reserve.

Majete Wildlife Reserve covers 691 km² of the Lower Shire Valley in southern Malawi. It is an area of undulating and hilly country covered in tall, deciduous woodland with grassy glades and occasional patches of thicket. To the east it is mixed acacia, leadwood and marula savannah with scattered baobab trees and patches of ilala palms. All the watercourses have a fringe of riverine thicket. The rugged western highlands are dominated by miombo woodland, and the Shire River runs along the eastern boundary of the park for 12 km. Thanks largely to the lobbying of the Nyasaland Fauna Preservation Society (now the Wildlife and Environmental Society of Malawi), the area was declared a Game Reserve in 1955 and extended in 1969 as far as the Shire and Mkurumadzi Rivers to allow animals access to those water sources. In 1976 the reserve was again slightly extended to cover the full width of the river.

Majete has historical connections with early explorers and missionaries, with David Livingstone visiting the area on various occasions and having his hopes of sailing up the Shire to Lake Malawi dashed by encountering the Kapachira Falls. He established a camp close to the southern boundary of Majete and in 1863 started to drive a mule cart track north to try and circumvent the rapids. Probably fortunately for Majete he was recalled by the British Government before he had completed more than a few kilometres. It could have developed as a major trading and transport link to the north if the Established Church of Scotland missionaries had not founded a mission at Blantyre in the Shire Highlands in 1876 and constructed a road east of the Falls.

As well as the animal translocations, African Parks has greatly improved infrastructure, constructing 80 km of new roads and maintaining 30 km of existing roads and building an operations office, workshop, volunteer accommodation and management houses. In case any of

the translocated elephants cross the Shire river a 16 km electric game fence has been constructed with a fence attendant's house along the east bank. Work should start shortly on fencing the whole reserve and there are plans to translocate another 50 elephants into Majete in 2008.

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Australia supports tree kangaroo conservation in Papua New Guinea

The Tenkile Conservation Programme in Papua New Guinea has received a significant funding boost from the Australian Government through the Regional Natural Heritage Program administered by the Department of the Environment & Heritage. The grant of AUD 130,709 was awarded to Zoos Victoria for establishing a gazetted area for biodiversity conservation in the Torricelli Mountain Range, Sandaun Province, Papua New Guinea. The grants for 2006–2007 were announced by Ian Campbell, Minister for Environment & Heritage, on 30 November 2006.

Zoos Victoria is the major partner for the Tenkile Conservation Program, which arose from a 1998 Conservation Assessment & Management Plan for Papua New Guinea tree kangaroos. The National Museum & Art Gallery (Port Moresby), Rainforest Habitat (Lae) and the Papua New Guinea Department of Conservation & Environment invited the Conservation Breeding Specialist Group of IUCN to collaborate with local agencies, stakeholders and international scientists in an assessment of all Papua New Guinea tree kangaroos. Zoos Victoria's support for this gathering marked the start of a long-term relationship with wildlife conservation in Papua New Guinea.

Two key outcomes from the workshop were that Scott's tree kangaroo *Dendrolagus scottae*, or *tenkile*, was recognized as the most threatened of all Papua New Guinea tree kangaroos, and that a Tenkile Recovery Team should be established as a priority. The Recovery Team subsequently became the Tenkile Conservation Alliance, which was established in 1999 and formally registered in Papua New Guinea as a non-governmental organization in 2001.

The *tenkile* was only described in 1989 and is restricted to damp forests above 900 m in the Torricelli mountains. Its estimated range is 50–100 km² and, at the time of the 1998 meeting, its population was thought to number <200 individuals. It is now categorized on the IUCN Red List as Endangered, with a proposal that it be upgraded to Critically Endangered. The primary threat to the species is hunting by villagers for food.

The conservation programme's original focus on conserving the *tenkile* has since been expanded to conserve the biodiversity of the Torricelli Mountain Range using tree kangaroos as flagship species. The programme is implemented by the Tenkile Conservation Alliance, with support from Australian Volunteers International, zoos in Australia and the United States, the Papua New Guinea and Australian Governments, and a range of community and individual donors in Australia. The programme's objectives are to: (1) facilitate effective short-term protection of tree kangaroos in the Torricelli mountains through hunting moratoriums by landowners, (2) develop alternative livelihood strategies in local communities to alleviate hunting pressure on wildlife and enable sustainable use of natural resources, (3) gazette the Torricelli Ranges as a 750 km² Conservation Area, and (4) implement a monitoring and evaluation programme to assess the effectiveness of these strategies. Significant progress has been achieved in all these objectives: hunting moratoriums have been signed and adopted by all villages, village-based rabbit farms are now producing rabbits for food, enthusiasm is evident among village communities for protecting the area's wildlife and forests, and analysis of the wildlife monitoring data indicates an increase in the *tenkile* population.

The activities supported by the new Australian Government grant target priorities agreed in a strategic planning workshop with Tenkile Conservation Alliance field staff in August 2006 that established a 3-year Action Plan for the programme.

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Rights of forest dwellers in India

In December 2006 the Indian parliament passed the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Bill, 2006, in an amended form, recognizing the rights of the forest dwelling communities. The bill provides tenurial rights that could not previously be recorded, and access rights to non-timber forest produce (NTFP) for sustainable use. However, the bill excludes the right to hunt or extract body parts of animal species. Communities who have been dwelling in forests will now be entitled to up to 4 ha of land that is either under cultivation or habitation within forest land, including protected areas. All communities dwelling in forests before 13 December 2005 are entitled to the new provisions.

The authority to initiate and limit rights is now vested with the *Gram Sabhas*, the local elected village councils, or traditional village institutions where such councils do not exist. *Gram Sabhas* also hold the power to withdraw rights and exact penalties in cases of breach of conditions. Sub-divisional, district and state level monitoring bodies consisting of government officials from revenue, forest and tribal affairs ministries will monitor the process of recognition of rights, and the Ministry of Tribal Affairs will be the agency for implementation.

Although the bill was passed with good intention there is concern over some ambiguities. The bill lacks definitions for key terms such as sustainable use, leaving it open to misinterpretations that could potentially lead to misuse, and also makes provision to convert forest villages to revenue villages and to give legal rights for developmental activities (another undefined term under the bill). This clause could be misused for destructive activities such as highway building and mining within protected areas, and could result in negative effects on the communities the bill intends to support.

Less than 4% of India's landscape lies within protected areas, and only about one quarter of these areas are inviolate and well protected. With a mean size of <300 km² the country's protected areas support c. 4.5 million people and are surrounded by high human densities (>300 people km⁻²). There is concern that protected areas will be occupied for mining, logging and other activities using forest dwelling communities as shields. The opening up of protected areas for commercial extraction would be detrimental to biodiversity in a country that is already wilting under unregulated developmental pressures.

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A model for ecological resilience: Changbaishan Reserve, China

China, with only five natural and four mixed World Heritage Sites, yet containing approximately 20% of global biodiversity, has much catching up to do before it can claim to be representative in this particular forum. Throughout 2006 the Ministry of Construction held a series of meetings to identify potential new sites for nomination. One candidate is Changbaishan in north-east China, straddling the border with North Korea and long revered as a sacred mountain by both cultures. I recently made two visits to the reserve to evaluate its

importance and found a site of unusual species richness and with high resilience to environmental change.

Changbaishan National Nature Reserve is an area of c. 200,000 ha in Jilin Province. It has been a Reserve since 1960 and a Man and Biosphere Reserve since 1979. The site's history as a focus of scientific research is even older. A scientific institute of the Chinese Academy of Sciences was established at the base of the mountain in 1950. The mountain is a volcano rising to 2,741 m and containing the highest and largest crater lake in north-east Asia, Tianchi, at 2,100 m. The national border cuts across the lake and the 132,000 ha portion of the mountain falling within North Korea is also a protected area under the name Mt Paekdu (Baekdu), and has been a Man and Biosphere Reserve since 1986.

The forests of Changbaishan are a mosaic of several distinct communities with a clear altitudinal zonation but are also influenced by aspect, local topography and drainage patterns. The zones include alpine tundra on the highest peaks, subalpine birch and larch forests, mixed conifer forests, swamps, and rich forests of broad-leaved trees mixed with Korean pine. These vegetation types contain an extraordinary wealth of species. Although the area was scoured by Pleistocene glaciers and blasted by volcanic eruptions and ash debris it has more species of plant and animal taxa than any other site of comparable climate (13 species of amphibian, 17 reptiles, 40 fish, 66 mammals, 285 birds and 105 butterflies). Amongst lower plants, the reserve is home to 119 species of fungi, 270 lichens, 350 mosses and liverworts, 127 ferns and 30 gymnosperms. Richness of flowering plants is even more impressive, with 2,300 recorded species. These figures are far higher than any comparable World Heritage Site in the USA or Europe.

Changbaishan remains the largest, best preserved and protected example of representative forest types in north-east China and has many huge, ancient trees. The Reserve also contains many economically important species. More than 800 species of the flora are used in traditional Chinese medicine, of which ginseng *Panax ginseng* and the roots of the orchid *Gastrodia elata* are the most precious and are now extensively farmed. Many food species are collected including fungi, fruits and ferns. Several timber species are now used extensively in silviculture forestry, e.g. species of *Larix*, *Populus*, *Quercus* and *Fraxinus*. The most valuable is the local race of pine *Pinus sylvestris* var. *sylovestriiformis*. Many of the rare orchids (*Cypripedium*), lilies (*Lilium*, *Hemerocallis*), *Aquilegia*, *Aster*, and *Iris* spp. and ornamental shrubs (10 species of *Rhododendron*) are of high horticultural value.

The large mammals of the Reserve, such as sable *Martes zibellina*, black bear *Selenarctos thibetinus* and sika deer *Cervus nippon*, are all reared on a commercial scale.

Siberian tigers, formerly found in the reserve, could still reach the area from Russia, across the Tumen river. Changbaishan is also the spawning area for many commercial fish, such as Manchurian trout *Brachymystax lenok*, being the upper catchment for three major river basins.

The richness of the Changbai massif is all the more surprising given the violent volcanic history of the area (extensive ash fields remain from eruptions in 1702). But there are reasons why Changbaishan remains both diverse and ecologically resilient, and these offer hope for the future and provide selection principles for the design of resilient protected areas that could preserve high biodiversity despite climate change and alien species invasions: (1) The altitudinal range (400–2,700 m) provides a variety of habitats and allows altitudinal migrants to adjust their vertical range with both season and climate change. (2) The broad habitat diversity and lithology provide additional habitat variation. (3) With humid conditions and warm summers there is no annual desiccation as in many other alpine regions, and the benign summers support a rich fauna including many migrants that fly south in winter. (4) The physical complexity resulting from tectonic and volcanic history has resulted in a complex topography with peaks, depressions and lakes, and deep valleys that serve as shelters and cloud and moisture traps, allowing many species to survive the cold winds. (5) The fan of watersheds draining from the massif provides species recruitment pathways covering a vast area of north-east Eurasia, and this provides access to a huge richness of freshwater fish and other aquatic organisms. (6) The long north-south axis ensures the reserve has a wide range of climatic conditions from warm temperate to cold temperate, and there are even a few subtropical elements in the lowland flora (e.g. species of *Lindera*, *Magnolia*, *Aristolochia* and *Ginkgo*). (7) The dynamic geological processes of volcanism and tectonic rifting has created a mosaic of climax and sub-climax habitats allowing frequent colonization events. (8) Although the tundra and alpine flora is recent, both the temperate hardwood forests and the mixed pine/broad-leaf forests show evidence of being ancient communities. (9) The flora survived the glacial scouring evident in the Da Hinggan and Xiao Hinggan ranges further north and maintained contact with the non-glaciated Korean woodlands to the south, allowing the original flora to survive the decimation of the Pleistocene extremes. (10) The Reserve is connected to the wider forests of north-east Asia and this has permitted a great range of potential colonizers to reach the site.

Changbaishan warrants early nomination as a World Heritage Site and it also has high potential as a transfrontier site. At the meeting of the World

Commission on Protected Areas East Asian Steering Committee on Jeju Island, Korea, in October 2006 a new regional action plan was approved including plans for the establishment of a Baekdu-Daegan ecological corridor of connected protected areas along the entire Korean Peninsula. Changbaishan would form the natural head of such a chain.

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New and improved internet resources

t4cd website launched

The Technologies for Conservation & Development project (t4cd), a partnership between FFI and the South African NGO ResourceAfrica have launched a new resource on the web (<http://www.t4cd.org>). The t4cd website, funded by Microsoft UK and the Vodaphone Group Foundation, aims to highlight the potential of technologies to enhance conservation and development work and to link the needs of conservationists with solutions offered by technology. The website hosts information about a range of information and communications technologies such as wildlife tracking devices and global information systems, and offers a searchable database to enable those working in conservation to identify appropriate technological tools to suit their particular needs. The website also provides information about case studies that are already using technology in the field, including some of t4cd's own initiatives. Future developments on the site will include interactive features such as discussion fora, blogs and private project collaboration areas. For more information about the t4cd project contact Zoë Cullen at zoe.cullen@t4cd.org

Global Invasive Species Database

People around the world can now access information about harmful introduced species more easily with the launch in September 2006 of a new website for the Global Invasive Species Database (<http://www.issg.org/database>). This is a source of free, authoritative information about introduced species that threaten native biodiversity and livelihoods. Although only a small proportion of the living organisms that are moved around the world by human activity and global trade actually cause harm, those that do so can be devastating. Such introduced species are now considered one of the biggest causes of biodiversity loss and extinction. However, it is possible to fight back provided communities and decision makers are aware of the threats and have access to information on what they can do about it. The Database is also available on CD-ROM. For more information contact Michael Browne at issg@auckland.ac.nz

United Nations Environment Programme: The Billion Tree Campaign

The UN Environment Programme has launched a worldwide tree planting campaign, Plant for the Planet: Billion Tree Campaign. One major component of their outreach efforts is a website (<http://www.unep.org/billiontreecampaign/>) that includes sections such as Facts and Figures, Trees and Humanity, and How to Plant a Tree. Visitors to the site have the option to pledge their support for the project in a variety of ways. The Facts and Figures section contains answers to a number of basic questions such as Where are Forests Found, and some more specific information on the importance of this project.