

Briefly

INTERNATIONAL

Big is bad if you are a hungry carnivore

An investigation into the relationship between body mass and prey abundance as observed in 199 populations of 11 carnivores has shown that relative decreases in prey abundance have a worse effect on large carnivores compared to their smaller relatives, with the larger species showing a five- to six-fold decrease in density compared to smaller species. The reasons for this disproportionate decrease in larger carnivore density in such situations are not clear, and further research is recommended, but the study's authors speculate that interactions between predator size, energetics and population processes may play a role. The implications of this study for carnivore conservation are significant, however, in that this work makes clear the vulnerability of larger carnivore species to changes in the abundance of their prey.

Source: *Biology Letters* (2010), <http://dx.doi.org/10.1098/rsbl.2010.0996>

Herbaria harbour new species

Botanists working on reclassifying varieties of *Strobilanthes*, a plant native to Asia, have found that many of the 60 species they were working on had been collected years earlier. Further research indicated that only 16% of new species records published between 1970 and 2010 involved species that had been collected within the last 5 years or less, suggesting a sizeable time lag between the date on which a species is collected for the first time and its subsequent description. Of the remaining 84% nearly one quarter of new species descriptions were of specimens > 50 years old. Extrapolating from their findings, the researchers hypothesize that c. 50% of the estimated 70,000 plant species still awaiting discovery may already have been collected and are currently awaiting attention in herbaria.

Source: *Proceedings of the National Academy of Sciences of the USA* (2010), <http://dx.doi.org/10.1073/pnas.1011841108>, and *Nature* (2010), 468(7326), 870

Biodiversity loss is complex

An analysis of two large datasets, one of local population sizes of vertebrates since 1970 and the other focusing on the distributions of Galliform birds over 1728–2008, has shown that the story of biodiversity loss is more complex than headline figures

suggest. Both datasets indicated that only a few species show large changes in range size or abundance over time, with the majority of species' populations remaining stable while others are on the increase. Further investigation found only weak evidence for ecological and biological traits acting as predictors of local declines in range or abundance, and instead pointed to extrinsic factors, such as anthropogenic effects and changing environments, as contributing more to range and population change in the studied species. These findings will be of interest to conservation practitioners, as they indicate that averaged species trends are an oversimplification.

Source: *Philosophical Transactions of the Royal Society B* (2010), <http://dx.doi.org/10.1098/rstb.2010.0264>

Epic journey tracked by satellite

The migratory routes of leatherback turtles have been revealed for the first time using satellite tracking. In a 5-year study researchers tracked the movement of 25 female leatherback turtles as they made their epic journeys across the South Atlantic. Three migratory routes were identified between the world's largest leatherback breeding colony in Gabon to feeding grounds in the south-west and south-east Atlantic and off the coast of Central Africa. The longest recorded journey was 7,563 km straight across the South Atlantic from Africa to South America. All three migratory routes take the leatherback turtles through areas where they are at risk from fisheries but it is hoped the increased knowledge of their migratory patterns and routes will inform conservation strategies for the future protection of the species.

Source: *Proceedings of the Royal Society B* (2011), <http://dx.doi.org/10.1098/rspb.2010.2467>, and *ScienceDaily* (2011), <http://www.sciencedaily.com/releases/2011/01/110104193045.htm>

Another ecosystem service?

Similarities between the banking system and ecological models may not be immediately obvious but a study carried out by a banker from the Bank of England and an ecological theorist has unearthed parallels. Specifically, the study draws analogies between the dynamics within ecological food webs and the relationship between complexity and stability in models of financial networks. Work on ecological dynamics since the 1970s has resulted in a shift from

the idea that the more complex an ecosystem the more stable it is towards the realization that complex systems contain critical points where, for example, the removal of one species can have a disproportionate effect on the ecosystem as a whole. This study implies that the global financial system may behave in a similar way but the authors suggest that current thinking about the dynamics within the financial system is comparable to ideas about ecological dynamics from the 1960s.

Source: *Nature* (2011), 469(7330), 351–355, and *New Scientist* (2011), 209(2796), 6

Fisheries quotas not extensive enough

An international meeting to determine fishing quotas for the Atlantic and Mediterranean has received a mixed reception from conservationists. Some of the meeting's outcomes have been commended, such as the moves to protect oceanic white-tip and hammerhead sharks in the Atlantic, but the decisions regarding quotas for bluefin tuna have been widely criticized. The body responsible for setting fishing quotas for bluefin tuna catches in the Atlantic, the International Commission for the Conservation of Atlantic Tunas, agreed to reduce the amount of tuna caught annually from 13,500 to 12,900 t, a reduction of 4%. Conservationists had hoped for a far more sizeable reduction in quota size, or even a suspension of tuna fishing, on the grounds that illegal fishing is a big problem in the Mediterranean.

Source: *The Guardian* (2010), <http://www.guardian.co.uk/environment/2010/nov/29/iccat-conservation-conference-fishing-quotas>

Biodiversity guards against disease

The role of biodiversity in disease transmission is not entirely clear: whereas high biodiversity may increase the potential source of novel pathogens it may also reduce pathogen transmission. Although questions remain on this issue there is increasing evidence that the preservation of intact ecosystems and their attendant biodiversity reduces the prevalence of infectious diseases. In some cases biodiversity loss appears to be correlated with an increase in pathogen transmission and disease incidence, a phenomenon observed across different ecological systems and involving different pathogens, hosts and transmission methods. The study's authors also speculate that changes in microbial fauna

may also be linked to changes in disease transmission, with some experiments indicating that greater microbial diversity can protect against infection.

Source: *Nature* (2010), 468(7324), 647–651

Shark conservation in the soup

An international pledge to support the conservation of sharks has yet to be fully implemented, according to recent analysis by TRAFFIC and the Pew Environment Group that identified the top 20 shark-catching countries and assessed whether they have acted on conservation measures agreed in 2001 by members of the Food and Agriculture Organization of the UN. The report found just 13 of the top shark-catching countries had developed national plans for shark conservation and, with shark populations in decline, the effectiveness of those plans had yet to be monitored. Thirty percent of all shark species are at risk of extinction and up to 73 million sharks are killed annually, primarily for their fins, which are used in shark-fin soup.

Source: *The Future of Sharks: A Review of Action and Inaction* (2011), <http://www.traffic.org/home/2011/1/27/shark-populations-dwindle-as-top-catchers-delay-on-conservat.html>, and *BBC News* (2011), <http://www.bbc.co.uk/news/science-environment-12297191>

Urgent action needed to avert global hunger

An interdisciplinary study on food security calls for urgent action to avert global hunger. The Foresight Report commissioned by the UK government is the result of a 2-year study involving 400 experts from 35 countries and provides compelling evidence that policy makers must act immediately. The report calls for radical changes to the food production system to ensure not only increased yields but also sustainability. To meet the needs of an increasingly urbanized global population over the next 20 years policy-makers must coordinate efforts to tackle the impact of population growth, climate change and diminishing resources for food production rather than dealing with each in isolation. The report urges the protection of the poorest people from sharp price increases, through government intervention and greater liberalization of the trade in food to offset market volatility. Furthermore it emphasizes the importance of introducing objective measures to ensure food-producer and government accountability.

Source: *BBC News* (2011), <http://www.bbc.co.uk/news/science-environment-12249909>

Musselling in to river beds

A study that examined the effects of mussel abundance on gravel erosion in artificially-constructed freshwater streams has provided an example of the effects of biodiversity on physical processes, a subject that has been little-studied in the past. Variations in mussel traits, such as size, shell morphology and burrowing behaviour, mean that different species have different effects on gravel-bed erosion. The study found that mussel species richness increased erosion at both high and low densities. At high densities some combinations of species had non-additive effects on erosion, suggesting that the effects of biodiversity on these ecosystem processes can be influenced by organism abundance.

Source: *Ecology* (2011), <http://dx.doi.org/10.1890/10-0219.1>, and *Nature* (2011), 469(7331), 446

Nabokov proved right

A theory by the author Vladimir Nabokov about the origins of Neotropical *Polyommatus* blue butterflies has been proved correct more than 60 years after it was first proposed. Analysis of molecular phylogeny, historical biogeography and palaeoecology support Nabokov's idea that New World *Polyommatus* butterflies arose from at least five colonization events across Beringia. A novel method of estimating ancestral temperature tolerances using distribution range limits of extant organisms also indicated that each of the five colonizing ancestors of the modern blues was thermally adapted to the climatic conditions in Beringia at the time of their dispersal, suggesting that climate fluctuations at the time influenced which species of butterfly could colonize the New World. Despite not having access to molecular data, this research proves that Nabokov was correct in his descriptions of the relationships between New World *Polyommatus* species as well as the historical ordering of five key events in their evolution.

Source: *Proceedings of the Royal Society B* (2011), <http://dx.doi.org/10.1098/rspb.2010.2213>

Sacrificing one species in a food web may save the rest

A study has shown that removing or suppressing one or more species in a food web after another species in the same web has gone extinct may prevent trophic cascades. Researchers used model food webs, as well as two examples based on real data, to illustrate their findings. One of the examples is the case of the island foxes on California's Channel Islands; the introduction of feral pigs to the islands attracted golden eagles

that preyed on both the pigs and the native foxes. Prior to the removal of the pigs the eagles were caught and translocated to avoid further decreases in fox populations caused by their becoming the eagles' main food source. The researchers recognize that more complex ecosystems present a greater challenge in working out which species require suppression/removal to ensure a steadying of the food web but modelling may be one way of doing this.

Source: *Nature News* (2011), <http://www.nature.com/news/2011/110125/full/news.2011.42.html>, and *Nature Communications* (2011), <http://dx.doi.org/10.1038/ncomms1163>

Mozambican mistletoe, parsley ferns and a huge genome...

A list of new plants discovered by botanists at Kew Gardens makes fascinating reading, not just for the romance of some of the places where plants are collected but also for the some of the techniques used by botanists in the field. A British fungus, the bird's-eye primrose smut, had not been seen for 106 years before a 2-hour primrose ovary-squeezing session resulted in its rediscovery. The botanist responsible for transporting the Ascension parsley from the near vertical slopes of Ascension Island's dominant volcano faced a tricky journey hanging on to both fern and safety rope, and it was a butterfly ecologist who spotted a new species of Mozambican mistletoe near the summit of Mount Mabu. As for the giant genome, 50 times the size of the human genome, this belongs to *Paris japonica*, a subalpine plant endemic to Honshu, Japan.

Source: *Kew* (2010), <http://www.kew.org/news/new-discoveries-from-kew-2010.htm>

Demand for fish keeps rising

A report by the UN Food and Agriculture Organization has revealed that 115 million tonnes of fish were supplied for the human food market in 2008, equivalent to an estimated apparent per capita supply of c. 17 kg (live weight equivalent). A total of 142 million tonnes of fish were harvested from capture fisheries and aquaculture in 2008, with aquaculture accounting for 46% of the total food fish supply. The report underlines the importance of fish in the diets of many people, with fish making up almost 20% of 1.5 billion people's average per capita intake of animal protein, and supplying another 3.0 billion people with at least 15% of their animal protein intake. Demand for fish continues to take its toll on fish stocks, however, with 32% of marine fish stocks calculated to be overexploited,

depleted or recovering, an increase from 10% in 1974.

Source: *The State of the World's Fisheries* (2010), <http://www.fao.org/docrep/013/i1820e/i1820e.pdf>

EUROPE

Organic trade-offs

While organic farming is deemed more wildlife-friendly than conventional agricultural methods, its benefits to wildlife may be reduced if it requires a larger land area than non-organic farming because it decreases the amount of land available for nature reserves. Now a study of butterfly population densities in three British land types—organic farms, conventional farms and grassland nature reserves—has provided a blueprint for the optimum land balance between these three land types. The researchers found that when the organic yield per ha falls below 87% of conventional yield it is better to farm conventionally and to create nature reserves in the spare land. However, if the spared land exists only as extra field margins an organic yield of only 35% that of conventional yield is sufficient to make organic farming the best strategy for biodiversity conservation.

Source: *Ecology Letters* (2010), <http://dx.doi.org/10.1111/j.1461-0248.2010.01528.x>, and *Nature* (2010), 467(7313), 254

Mediterranean monk seals take refuge at secret location

A population of Critically Endangered Mediterranean monk seals has been discovered at an undisclosed island location in Greece. Researchers are hoping to keep the remote location secret because human disturbance in other coastal areas have forced the seals to retreat into caves rather than remaining on the open beaches. Researchers have studied the seals remotely using cameras, and the numbers of pups recorded annually as surviving into adulthood on the tiny Aegean island is much higher than in other areas of the Mediterranean. Seals born in caves are more likely to die during storms and fewer than 600 Mediterranean monk seals, the world's most threatened seal, are known to remain. Researchers from the Mom/Hellenic Society for the Study and Protection of the Monk Seal have appealed to the Greek government to make the area of the island where the colony of monk seals has been found a marine protected area.

Source: *BBC News* (2010), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9317000/9317582.stm

Rare spider turns up again

A spider that had not been seen for 10 years has been discovered at a wetland in

Cambridgeshire. Rosser's sac spider was first discovered in the 1950s at a fen in Suffolk but the lack of recent records was of concern to conservationists, who speculated that changes in agricultural practice since the 1940s, as well as the draining of the fens, might have driven it to extinction in the UK. A further search of Chippenham Fen unearthed 10 Rosser's sac spiders, suggesting that the population on the site is healthy. The species does not spin webs to catch prey, hunting actively instead. When not chasing after its food, the spider lurks in silken tubes, described as being like a sleeping bag.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/uk-england-11806723>

Illegal bird trapping reaches crisis point

Data collected between 31 August and 8 November 2010 have shown a dramatic rise in illegal bird trapping in Cyprus. Trapping levels have been monitored by BirdLife Cyprus over the past 9 years and surveyors recorded an alarming 75% increase in mist-net use and an 89% increase in limestick setting compared to 2009 levels. Considered a delicacy, the sale of *ambelopoulia* (pickled or steamed songbirds) by local restaurants provides the economic impetus for trapping. Targets include songbirds such as migrant blackcaps but owls, flycatchers and endemic species such as the Cyprus warbler and Cyprus wheatear also fall victim to the indiscriminate traps. Trapping now represents a significant threat to the future of Cyprus' rich avian biodiversity and a failure of this EU Member State to uphold its obligations under the EU Birds Directive to protect birds and in particular migratory species.

Source: *BirdLife International* (2011), <http://www.birdlife.org/community/2011/01/crisis-in-cyprus/>

Dogs sniff their way to success

A pilot scheme initiated by WWF-Germany and TRAFFIC using sniffer dogs to detect smuggled wildlife products is to be extended to all major European airports, seaports and main postal distribution centres. During the highly successful trial at Frankfurt airport sniffer dogs uncovered smuggled body parts of threatened animal species such as elephant ivory, marine turtle shells, reptile skins and leather goods. The Wildlife Detector Dog Project, which has been in progress since September 2008, is funded by the European Commission Directorate-General for Home Affairs. It is hoped the expanded sniffer dog programme will serve as a powerful deterrent to discourage would-be smugglers at Europe's

borders, and also raise public awareness of wildlife trade laws and regulations.

Source: *TRAFFIC* (2011), <http://www.traffic.org/home/2011/1/26/bigger-bite-of-the-action-for-eu-sniffer-dog-programme.html>

Tunisian NGOs unite

Following the recent political instability in Tunisia environment and development NGOs have joined forces to tackle the persecution of animals and degradation of plants and habitats in the country's protected areas. Since early 2011 reports of verbal and physical attacks on staff and local people working to protect the reserves have also been received. At a meeting held in February 2011 eight NGOs agreed to assess and report on the situation through field visits and to request an urgent meeting with the Minister for Agriculture and the Environment to facilitate rapid government intervention. Furthermore, the NGOs agreed to organize public awareness campaigns aimed at local communities in and around protected areas to ensure the successful implementation of protection measures.

Source: *BirdLife International* (2011), <http://www.birdlife.org/community/2011/02/tunisian-ngos-unite-to-tackle-urgent-threats-to-protected-areas/>

Farmland found to harbour rarities

A study that examined every single species that occurs in south-east England's Breckland has revealed that 28% of the UK's rare species can be found there despite it being one of the first places to have been settled, and thus farmed, in England. In the course of the study, believed to be the first of its kind, over 200 researchers collated nearly 1 million records of 12,500 species, of which > 2,000 are of national conservation concern. This is despite breckland covering a mere 0.4% of land in the UK. Furthermore, the researchers found that the light cultivation of the breckland's dry soil was one of the reasons for the high diversity found in the area. The study also examined potential techniques to manage the breckland habitat and thus preserve the unique biodiversity of the area.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/uk-england-11874171>

Invasion effects still to come

An assessment of alien species in 28 European countries has found that current numbers of alien species established in the wild are more closely related to indicators of socio-economic activity from 1900 than 2000, despite the fact that the second half of the 20th century has seen the majority of species introductions. The study's authors

call this an invasion debt, and suggest that it arises from a time-lag between a species' first invasion and that species' establishment. Socio-economic conditions are known to correlate positively with the number of alien plants and animals in a region, possibly because they are surrogate measures of human pressure on natural systems. The findings of this study suggest that the relationship between current levels of socio-economic activity and biological invasions may not be fully appreciated until several decades' time.

Source: *Proceedings of the National Academy of Sciences of the USA* (2010), <http://dx.doi.org/10.1073/pnas.1011728108>

Farmland transformation project receives national award

The Great Fen Project, an ambitious arable reclamation project that aims to link two nature reserves in the east of England, has won the UK's top planning prize. Awarded by the Royal Town Planning Institute, the Silver Jubilee Cup was awarded to the Great Fen Project for being the most outstanding planning project of the past 12 months. The Project, which is already underway, will create a resilient, multi-purpose fenland landscape, with opportunities for farming, conservation and recreation, instead of the intensive, mechanized landscape that exists in the area at present. Furthermore, the wetland currently being constructed on the ex-arable land will act both as a carbon sink and as a major new area for flood water retention.

Source: *RTPi news* (2011), <http://www.rtpi.org.uk/item/4380/23/5/3>

Winter sports prove stressful for birds

Researchers examining the levels of stress hormones in the droppings of capercaillie at varying distances from recreational winter sports areas in Europe have found that birds in areas of low recreation intensity had lower levels of stress hormones in their droppings compared to birds in areas of moderate or high recreation intensity. Furthermore capercaillie were found to avoid disturbed parts of their home ranges. One reason for the susceptibility of capercaillie to disturbance during the winter may relate to their reliance on conifer needles during the winter months; these needles have a low nutrient content and are difficult to digest, resulting in a tight energy budget for the birds. The study's authors recommend that access to capercaillie winter habitats should be prevented, and that recreation activities should avoid core capercaillie wintering areas, particularly during sub-zero temperature conditions.

Source: *Ibis* (2010), <http://dx.doi.org/10.1111/j.1474-919X.2010.01083.x>

Wolf hunt gets Sweden into trouble with the EU

Sweden's decision to allow 20 wolves to be shot during 2011 has resulted in the threat of legal action by the European Commission for breach of EU law. Wolf-hunting was reintroduced in Sweden in 2010 following a ban that had been in place since 1964. Hunters claim the wolf population in Sweden is on the increase and that the animals now pose a threat to livestock and dogs. The EU's Environment Commissioner, however, states that wolves in Sweden have an unfavourable conservation status, while conservationists claim that the wolf population in Scandinavia as a whole has a narrow genetic base. The total number of wolves in Sweden is thought to be c. 200, and this constitutes the majority of Scandinavia's wolf population.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/world-europe-12214397>

NORTH AFRICA AND MIDDLE EAST

Regeneration of Iraq's Mesopotamian marshes

Large areas of the Mesopotamian marshlands have been restored in a project led by Nature Iraq. During the 1990s the marshes were drained in an act of retribution by Saddam Hussein's regime against the indigenous Marsh Arab tribes. Previously one of the most extensive wetland ecosystems in western Eurasia, covering 15,000 km², the marshes were reduced to < 10% of their original size. Since the re-flooding of the area surveys have shown that many species of breeding bird are now increasing. Populations of both the Endangered Basra reed warbler and the endemic Iraq babbler have increased their range in the marshes. Furthermore, Nature Iraq recorded 46,000 Vulnerable marble teal in the marshes in 2010. Most recently high levels of salinity in the area have hampered the reclamation of the marshes but the project continues to work towards solutions with a focus on the interconnection between the people of the region and the marshland environment.

Source: *BirdLife International* (2011), <http://www.birdlife.org/community/2011/01/miracle-in-the-marshes-of-iraq/>

Iranian cheetahs confirmed as unique subspecies

The Critically Endangered Iranian cheetah has been confirmed as a unique subspecies, *Acinonyx jubatus venaticus*. Researchers analysed the DNA of cheetahs from a wide geographical and historical range and

showed that current Iranian cheetahs share a similar genetic profile to that of a specimen originating from north-western Iran in 800–900 CE. Until recently it had been thought that cheetahs had low genetic variability and it was unclear whether populations in west Africa, north-east Africa, and north Africa and Iran were genetically different enough to warrant their status as a subspecies. The current population of the Iranian cheetah is under threat from habitat degradation and poaching and is thought to consist of just 60–100 individuals, with fewer than half of mature breeding age.

Source: *BBC News* (2011), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9365000/9365567.stm, and *Molecular Ecology* (2011), <http://dx.doi.org/10.1111/j.1365-294X.2010.04986.x>

SUB-SAHARAN AFRICA

Rhinoceros poaching increases in South Africa

By September 2010 the number of white and black rhinoceroses killed in South Africa had already exceeded the number killed in 2009, itself the worst year for rhino poaching in 2 decades. Conservationists blame the surge in poaching on a variety of factors, including the availability of mobile phones, the use of the internet, which enables criminals to act anonymously, and the rise of Asian organized crime in Africa. The use of helicopters to track and shoot rhinos, with tranquillizing darts, means that a horn can be removed in as little as 10 minutes. However, enforcement of anti-poaching laws in South Africa has resulted in a number of arrests, with 11 people appearing in court in late September on suspicion of being part of an organized poaching racket.

Source: *TRAFFIC Bulletin* (2010), 23, 3

African vultures in decline

A comparison of vulture numbers in and around Masai Mara National Reserve in Kenya in 1976 and 1988 with numbers from the same areas from 2003–2005 has found seven of the eight species have undergone severe declines over this period. Changes in land use around the Reserve, particularly the substantial increase in the number of farmers, are likely to be causing the decline in vulture numbers. Farmers are known to leave carcasses laced with carbamate poisons in the area in an attempt to poison hyenas and lions but the communal feeding habits of vultures means that even a few poisoned carcasses can have a serious effect on vulture populations. The authors recommend that at the very least African

white-backed, Rüppell's and hooded vultures should be categorized as Vulnerable, as well as urging the introduction of a country-wide ban on carbamate poisons. *Source: Biological Conservation* (2010), <http://dx.doi.org/10.1016/j.biocon.2010.10.024>, and *New Scientist* (2011), 209(2794), 7

The elephant in the savannah (and forest)

In an attempt to clarify the relationships between extant elephant species and the extinct American mastodon and woolly mammoth, and the taxonomic relationship within the genus *Loxodonta*, researchers have examined the nuclear DNA sequences at 375 loci for the mastodon, woolly mammoth, African savannah and forest elephants, and the Asian elephant. The results indicate that the extinct mammoths were more closely related to Asian elephants than African elephants, despite previously suggestions to the contrary. Furthermore, the researchers found that the population divergence between forest and savannah elephants is comparable to the divergence of Asian elephants and mammoths, suggesting that African savannah and forest elephants warrant classification as two distinct species. *Source: PLoS Biology* (2010), <http://dx.doi.org/10.1371/journal.pbio.1000564>

Amboseli reprieve

Conservationists in Kenya are celebrating a decision by the High Court to overturn the de-gazetting of Amboseli National Park, a move the Court declared to be illegal. The downgrading of the National Park to a game reserve was ordered by Kenya's president in advance of Kenya's first Constitutional Referendum in 2005, and was viewed by many as an attempt to garner support from the Maasai community. Amboseli lies on Kenya's border with Tanzania, and is surrounded by six communally-owned ranches into which some of Amboseli's wildlife disperses during the wet season, and the management of these areas thus has a direct effect on the Park. It is estimated that the Park brings in c. USD 3.3 million a year from tourism, which goes towards the administration of Amboseli and other parks in Kenya.

Source: BirdLife International (2010), <http://www.birdlife.org/community/2010/11/kenyan-important-bird-area-keeps-national-park-status/>

Prince Ruspoli's turaco lives on in Ethiopia

Recent surveys in the range of Prince Ruspoli's turaco have found high densities of this Vulnerable species but also gathered

evidence of rapid change within the northern part of its range. This striking species, which sports scarlet and navy-blue wings, was first collected by Prince Ruspoli but the Prince was crushed to death by an elephant in 1893 before he was able to label the specimen, which was found among his personal effects. It was only 50 years later that an individual was spotted in the wild in southern Ethiopia. The species' population was estimated at 10,000 pairs in 1995 but high rates of habitat destruction within its range were feared to pose a serious threat to its continued existence. The most recent survey has found that intact forests within the central parts of this bird's range still harbour high densities but that illegal logging and agricultural expansion are on the increase in the area.

Source: BirdLife International (2010), <http://www.birdlife.org/community/2010/11/ethiopian-surveys-find-high-densities-of-prince-ruspoli-turaco-but-highlight-threats/>

Bypass plans look hopeful

Controversial plans announced by the government of Tanzania for a commercial highway running east to west through the Serengeti met with worldwide concern in 2010 (see *Oryx*, 44, 478–479). Fears abound that the proposed 53-km route across the Serengeti, a UNESCO World Heritage Site and Tanzania's oldest park, could lead to the collapse of the mass migration of wildebeest and its supporting ecosystems. Now in a new initiative the World Bank has indicated it is willing to work with the Tanzanian government, and a proposal for an alternative route could be included in the World Bank's Country Assistance Strategy for Tanzania. The alternative southern route would bypass the Serengeti as well as the land of the last 400 Hadza, Africa's last true hunter gatherers.

Source: BirdLife International (2011), <http://www.birdlife.org/community/2011/02/serengeti-highway-plans-shift-towards-bypass/>

Gorilla twins born in the wild

On 3 February 2011 male mountain gorilla twins were born in the Volcanoes National Park in Rwanda. The last twin birth was recorded in 2004 and the new arrivals are only the fifth set of twins ever recorded in the history of Rwanda's mountain gorillas. Mountain gorillas are categorized as Critically Endangered but the world population is now more than 730 and is believed to have increased significantly in the last 30 years. Most of the world's mountain gorillas live in the Virunga Massif which includes three contiguous national parks: Parc National des Virunga in the Demo-

cratic Republic of Congo, Volcanoes National Park in Rwanda and Mgahinga Gorilla National Park in Uganda. A recent survey carried out in the Virunga Massif revealed 480 mountain gorillas living in 36 groups and an earlier census conducted in Bwindi in 2006 recorded 302 individuals. *Source: BBC News* (2011), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9265000/9265917.stm

New species of fork-marked lemur found

Fifteen years after its presence was first noted in a protected area in north-east Madagascar an expedition has succeeded in capturing what is believed by some to be a previously undescribed lemur species. The squirrel-sized creature is a fork-marked lemur, so called after the distinctive black Y-shaped marks that start above each eye and join together to form a single line at the top of its head. So far only four fork-marked lemurs, which belong to the *Phaner* genus of lemurs, are known to science. This newly-captured species showed some behavioural and morphological features that indicate it may be a separate species, something that will be determined by genetic analysis.

Source: BBC News (2010), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9267000/9267996.stm

Sahara cheetah caught on camera

Researchers working in the deserts of Termit, Niger, have succeeded in capturing a photograph of a Saharan cheetah, after a year-long search for the species. Very little is known about this race of cheetahs apart from the fact that they can survive extremely high temperatures without access to a permanent source of water. Sahara cheetahs appear to differ from cheetahs in other parts of Africa, with different colouration and spot patterns. However, the elusive nature of these animals means that the relationship between African, Saharan and Asiatic cheetahs is not known. Saharan cheetahs are thought to occur in Algeria, Burkina Faso, Benin, Mali, Niger and Togo but their total population may number fewer than 250 mature individuals.

Source: BBC News (2010), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9306000/9306399.stm

Cape rock lobster over-harvesting results in landmark ruling

Three individuals convicted of over-harvesting Cape rock lobsters off the south and west coasts of South Africa and smuggling these lobsters to the USA have been ordered by the US Court of Appeal to pay

restitution to the South African government. The three men all hold US or joint US-South African citizenship, allowing their prosecution under the US Lacey Act, which prohibits the import, sale or trade of illegally-harvested products into the USA. The men were convicted in 2004 for their roles in the smuggling of Cape rock lobsters and have served jail sentences of between 1 and 4 years, as well as paying fines of c. USD 13.3 million. The new ruling by the US Court of Appeals will result in the men having to pay between USD 39.7 and 54.9 million, according to how the market value of the over-harvested lobsters is calculated. *Source: TRAFFIC* (2011), <http://www.traffic.org/home/2011/1/10/landmark-court-ruling-on-fisheries-over-harvesting.html>

SOUTH AND SOUTH-EAST ASIA

Tiger monitoring techniques tested

An investigation of the efficacy of different techniques to study tiger density has found that estimating tiger numbers using indices of tiger abundance in the form of pug-marks and scats can provide an accurate assessment of tiger density. This study was carried out at 21 sites in Central and North India, a country thought to contain over half the world's remaining tigers. The researchers used pug-marks and scats to estimate tiger abundance in these sites and then compared their findings to results from camera-trapping surveys in the same areas. They found that a model including pug-mark and scat encounters was able to explain 95% of the variation in tiger densities. Furthermore, the cost of monitoring these indices of tiger abundance is 7% of the costs of carrying out a camera-trap study.

Source: Journal of Applied Ecology (2010), <http://dx.doi.org/10.1111/j.1365-2664.2010.01901.x>, and *BBC News* (2010), <http://www.bbc.co.uk/news/science-environment-11787325>

Conservation strategy has potential to triple Asian tiger numbers

A study has found that the commitment made at the November 2010 tiger summit to double the wild tiger population across Asia by 2022 is not only possible but has the potential to be exceeded. As few as 3,200 tigers remain in the wild distributed in small, isolated pockets across 13 Asian countries but if tiger reserves are managed as large-scale landscapes they could support more than 10,000 wild tigers. Historical examples demonstrate that the

existence of habitat corridors facilitates the recovery of wild tiger populations from the effects of poaching and civil conflict. Over the next decade, however, wild tiger populations may come under threat from infrastructure projects in Asia. The authors of the study insist that conservation and governmental intervention are essential to ensure that projects consider not only protected areas but also large-scale landscapes, including current and potential forest corridors, to mitigate impact on tiger populations.

Source: Conservation Letters (2011), <http://dx.doi.org/10.1111/j.1755-263X.2010.00162.x>

Breeding gharials give hope for species' survival

Conservationists in India are celebrating the discovery of a breeding population of Critically Endangered gharial crocodiles, 2 years after the species was first seen in the India's Hooghly River. Thought to have been extinct in eastern India for over 60 years, the most recent count in the area suggested that the Hooghly population may number c. 180, although the presence of newly hatched gharials means that this figure may be an underestimate. The IUCN estimates that the world population of breeding gharials is < 200, so this new discovery is particularly significant. Unrestricted fishing in their original habitat, the Ganges and other rivers in Bangladesh, as well as destruction of their breeding habitat as a result of cultivation of river banks, are the main factors for the decline in gharial numbers.

Source: The Times of India (2010), <http://timesofindia.indiatimes.com/city/kolkata-/Wildlife-experts-cheer-gharials-return-to-Hooghly/articleshow/7007088.cms#ixzz16cfBczfZ>

Deeply diverse orang-utans

An analysis of the genome of the two orang-utan species, the Critically Endangered Sumatran and the Endangered Bornean orang-utan, has revealed that both species have deeply diverse genomes, although Sumatran orang-utans are more diverse than their Bornean counterparts and display more species-specific variation. This is despite the fact that Sumatran orang-utans have a smaller population size, estimated to be 7,000–7,500, than Bornean orang-utans (40,000–50,000). Despite their genomic diversity both orang-utans remain threatened by continued habitat loss and population fragmentation (see *Oryx*, 42, 329–339). Although evidence from other species indicates that fragmentation is not necessarily fatal for diversity, the low reproduction rates of orang-utans and their

arboreal lifestyle leave them particularly vulnerable to rapid changes in their habitat. *Source: Nature* (2011), 469(7331), 529–533

Launch of South Asian network brings hope in fight against illegal wildlife trade

The South Asia Wildlife Enforcement Network was formally launched at the end of January 2011 at an inter-governmental meeting hosted by the Royal Government of Bhutan. Eight countries in South Asia have joined together to form the Network, which aims to tackle the trans-national illegal trade in wildlife. As well as tigers, elephants and rhinos, plants, marine species, birds and reptiles in South Asia are also threatened with illegal exploitation and trafficking. The South Asia Wildlife Enforcement Network represents a new chapter of regional cooperation in South Asia and establishes a network for strengthening wildlife law enforcement. The Network's secretariat will be based in Nepal.

Source: TRAFFIC (2011), <http://www.traffic.org/home/2011/1/30/south-asia-wildlife-enforcement-network-sawen-formally-launc.html>

Good news for Sumatra's tigers

The first high resolution map of tiger distribution in Sumatra has revealed that tigers are present in > 97% of suitable habitat on the island, although only 29% of the areas in which they occur are protected. The map was compiled through interviews and a review of major published studies on Sumatran tigers. The study also identified the key factors that have led to the decline of the tiger in Sumatra; these include forest habitat fragmentation, killing of tigers and their prey, and retaliatory killing as a result of conflict with villagers. The authors of the study use their findings to call for the re-evaluation of the designations of certain areas of Sumatra for tiger conservation, as previous research into tiger populations on Sumatra appear to have underestimated their numbers.

Source: Integrative Zoology (2010), <http://dx.doi.org/10.1111/j.1749-4877.2010.00219.x>

Chinese crested tern spotted outside China

A Chinese crested tern has been photographed in Pulau Lusaolate, north Seram, Indonesia, the first time that this Critically Endangered species has been seen outside the breeding season for 70 years. The Chinese crested tern was seen feeding with a group of greater crested terns, prompting calls for birdwatchers to pay close attention to groups of greater crested terns in the area

in case a Chinese crest could be lurking in their midst. Largely presumed extinct until 2000, the crested tern is now known from its breeding grounds on islands off China's eastern coast but the population is thought to number no more than 50 individuals (see *Oryx*, 43, 209–212). The greatest threat to the species is the harvesting of their eggs for food by Chinese fishermen, an ongoing practice despite the birds' breeding sites being located in protected areas.

Source: *BirdLife International* (2010), <http://www.birdlife.org/community/2010/12/chinas-rarest-bird-discovered-wintering-in-indonesia/>

New sarus crane reserve declared

More than 6 years after the commencement of consultative and bureaucratic processes to secure one of the most globally important non-breeding sites of the sarus crane in Cambodia the government has finally designated Kampong Trach Important Bird Area as a reserve. The new reserve is the third protected area for the sarus crane in Cambodia, and covers 217 ha of seasonally inundated grassland. In March 2010 the area held > 270 sarus cranes, more than 30% of the global population. The birds generally arrive in November and remain until early May, at which point they migrate to their breeding sites in wetlands in northern and eastern Cambodia. Kampong Trach Important Bird Area is close to the Vietnamese frontier, where recent rapid economic development has pushed up land prices, the main reason for the length of time it took to secure the reserve's designation.

Source: *BirdLife International* (2011), <http://www.birdlife.org/community/2011/01/government-of-cambodia-declares-new-sarus-crane-reserve/>

Sunda clouded leopard splits in two

Research into the clouded leopards from the Sunda Islands of Borneo and Sumatra has found evidence to suggest that these leopards may consist of two species. Although they look alike, with similar patterns on their coats, molecular, craniomandibular and dental analyses all indicate the presence of two subspecies, *Neofelis diardi diardi* on Sumatra and *Neofelis diardi borneensis* on Borneo. The researchers speculate that a super-eruption of Sumatra's Toba volcano may be linked to the separation of the two subspecies of *N. diardi*, as both events occurred around 73,500 years ago. Until 2006 all clouded leopards were considered to belong to the same species.

Source: *Molecular Phylogenetics and Evolution* (2011), <http://dx.doi.org/10.1016/j.ympev.2010.11.007>

Philippine crocodiles released into the wild

An NGO from the Philippines, the Mabuwaya Foundation, has released 19 Critically Endangered Philippine crocodiles into a national park in the north of the country, one of only two natural habitats remaining for the species. Should the 18-month-old crocodiles survive they will increase the number of known Philippine crocodiles in the wild by one fifth. The Philippine crocodile is the rarest crocodile in the world, with fewer than 100 adults remaining in the wild, and conservationists fear that the species could be extinct in 10 years without conservation actions such as those of the Mabuwaya Foundation. The main threats to the species are habitat destruction, dynamite fishing and killing by people, despite crocodile-killing being prohibited by law.

Source: *The Independent* (2011), <http://www.independent.co.uk/environment/philippine-crocodiles-released-to-fight-extinction-2196948.html>

EAST ASIA

Old-growth forests important for pandas

An examination of a number of ecological variables associated with panda presence has found that, other than bamboo, pandas are associated with old-growth forest more than any other ecological variable. This is in contrast to previous studies that have found topographic slope to be important, a difference explained by authors as resulting from the fact that the new study's research was carried out over a larger ecological scale. One explanation for the panda's reliance on old-growth forest is that veteran trees in these forests may provide suitable cavities for maternity dens. This research is particularly relevant as the Chinese government is currently deciding whether or not to lift the moratorium on old-growth logging imposed over 10 years ago.

Source: *Biology Letters* (2011), <http://dx.doi.org/10.1098/rsbl.2010.1081>

Tighter rules on whaling introduced in South Korea

The South Korean government has announced a tightening of rules surrounding the trade in whale meat following concerns that fishermen were exploiting a loophole in the law that permitted the trading of whales found dead. Fishermen are now required to report the discovery of dead whales either in their nets or washed ashore. Samples will be taken from all dead

whales to ascertain the cause of their death, and their meat will only be sold following a full investigation. Furthermore, any dead whales will only be allowed to be processed and sold at state-designated facilities. Whaling used to be permitted in South Korea but was outlawed in the country with the onset of the global moratorium on whaling in 1986.

Source: *BBC News* (2011), <http://www.bbc.co.uk/news/world-asia-pacific-12106125>

NORTH AMERICA

Short-tailed albatross hatches on Midway Atoll Wildlife Refuge

For the first time in recorded history a Vulnerable short-tailed albatross has hatched outside Japan. The main breeding grounds of the short-tailed albatross, on Japan's Torishima Island, are regularly threatened by volcanic activity, so the establishment of a new breeding ground for the species is significant. The chick hatched while its natal island, Eastern Island in the Midway Atoll Wildlife Refuge, was being lashed by a major storm. The chick weathered this storm thanks to the care of its parents but during its lifetime it will face other forms of risk, such as the threats of contamination at sea and from plastic ingestion and the danger of bycatch from commercial fisheries. Conservation efforts have seen the population of the short-tailed albatross rise from 10 pairs in 1939 to c. 2,400 individuals—still very different from the > 5 million adults thought to have made up the population at its peak.

Source: *US Fish and Wildlife Service* (2011), <http://www.fws.gov/pacific/news/news.cfm?id=2144374679>

Temperature change affects amphibian breeding

A long-term study of the reproductive timing of 10 amphibian species in a south-eastern US wetland has shown that four of the species have undergone significant changes in their median arrival date since 1979. Two autumn-breeding species, *Eurycea quadridigitata* and *Ambystoma opacum*, arrived significantly later at the wetland in more recent years, while two winter-breeding species, *Ambystoma tigrinum* and *Pseudacris ornata*, arrived significantly earlier. These four species were found to have shifted their reproductive timing an estimated 15.3–76.4 days in the past 30 years. The changes in reproductive timing are correlated with warmer temperatures, with the overnight minima between

September and February having increased by an estimated 1.2°C between 1979 and 2008. This is the first recorded evidence of delays in reproductive timing in amphibians, as well as representing some of the greatest rates of change in ecological phenomena reported to date.

Source: *Proceedings of the Royal Society B* (2010), <http://dx.doi.org/10.1098/rspb.2010.1768>

Constructed wetlands and amphibian conservation

Previous research has shown that while artificial wetlands do not adequately replace natural wetland habitat, where significant losses of natural wetlands have occurred constructed wetlands may play a vital role in providing a breeding habitat for amphibians. Researchers surveyed 49 constructed wetland habitats throughout northern Missouri to assess the relationship between wetland construction and amphibian abundance. Models incorporating design features of open water ponds best explained abundances of most commonly encountered species such as cricket frogs, bullfrogs and leopard frogs and each occurred in over 80% of surveyed wetlands. Salamanders and hylid frogs were found to respond negatively to fish abundance and anthropogenic disturbance-related features in the landscape but positively to aquatic vegetative cover. Researchers concluded that as a tool for amphibian conservation, the most effective constructed wetlands should be fish-free, heavily vegetated, include shallows, and be located within areas of low anthropogenic disturbance.

Source: *Wetlands* (2010), <http://dx.doi.org/10.1007/s13157-010-0069-z>

Bye-bye bumblebees

Declines in bumblebee numbers are of concern worldwide, particularly given the importance of these species as pollinators. Now a 3-year interdisciplinary study in the USA that examined current and historical distributions of eight bumblebee species has found that the relative abundance of four species has declined by up to 96%, while their surveyed geographic ranges have shrunk by 23–87%. The four declining bumblebee species have significantly higher infection rates by the microsporidian pathogen *Nosema bombi* as well as lower genetic diversity compared to non-declining bumblebee populations. Low genetic diversity and higher rates of infection are thus predictors of patterns of decline in American bumblebees.

Source: *Proceedings of the Academy of Sciences of the USA* (2011), <http://dx.doi.org/10.1073/pnas.1014743108>

Polar bliss

The US Fish and Wildlife Service has designated > 484,300 km² of land as critical habitat for polar bears under the auspices of the Endangered Species Act. The designated area contains three types of habitat: barrier island, sea ice and terrestrial denning habitat. Barrier island habitat, used by the bears for denning, refuge, access to maternal dens, feeding habitat and for movement along the coast, includes coastal barrier islands along Alaska's coast, while the terrestrial denning habitat includes land within 32 km of Alaska's northern coast. Circa 96% of the designated area is sea ice habitat, which is located over the continental shelf, and includes ice over water extending to the outer limits of the US Exclusive Economic Zone, 321 km from shore. Polar bears are entirely dependent on Arctic sea ice for survival, using it as a platform both to hunt from and to move across and on which to seek mates and breed.

Source: *US Fish and Wildlife Service* (2010), http://us.vocuspr.com/Newsroom/Query.aspx?SiteName=fws&Entity=PRASSET&SF_PRASSET_PRASSETID_EQ=112197&XSL=PressRelease&Cache=True

A small shrimp in a big lake can wreak havoc

The effects of an introduction of opossum shrimp into the largest freshwater lake in the western United States have been documented in a study that examined the food web structure and dynamics in this lake over a 120-year period. Although lake trout had been introduced into Flathead Lake 80 years before the invasion of the shrimp, these fish remained at low densities until the opossum shrimp became established, at which point the population of lake trout boomed. As a result of the increase in piscivorous lake trout one formerly abundant fish species, the kokanee, has disappeared from the lake, while native bull and westslope cutthroat trout are also threatened with extirpation. The shrimp's introduction also affected the community structure of the shrimp's prey items, zooplankton and phytoplankton.

Source: *Proceedings of the National Academy of Sciences of the USA* (2011), <http://dx.doi.org/10.1073/pnas.1013006108>

Mercury poisoning affects pairing behaviour in white ibises

Exposure to mercury is known to have detrimental effects on wildlife and now a new study has shed light on one of the mechanisms by which it may do so. White ibises exposed to environmentally relevant doses of methylmercury in their diet

showed an increase in male–male pairing behaviour and were also observed to undergo significant declines in key courtship behaviours, meaning they were approached less by female ibises. Although the mechanism that links methylmercury exposure is not clear, it is thought that it may be mediated through behavioural and endocrine processes as methylmercury is a known endocrine disruptor in vertebrates. Species in upper trophic levels in aquatic habitats, such as the white ibises in Florida's Everglades, are considered to be at high risk of exposure to methylmercury because of the bioaccumulative potential in these areas.

Source: *Proceedings of the Royal Society B* (2010), <http://dx.doi.org/10.1098/rspb.2010.2189>

Bright future for Maguire daisy

Following 25 years of conservation efforts the US Fish and Wildlife Service has announced the removal of the Maguire daisy from the Endangered Species Act. This is the 21st species to be removed from the list of threatened and endangered species under the Act. The daisy was added to the list in 1985, at which point it numbered seven plants. Today the species, which is found in south-eastern Utah, occurs in 10 populations and numbers 163,000 individuals. Circa 99% of Maguire daisies, a perennial herb with white or pink flowers, occur on federal lands, many of which now have protective measures in place to ensure the daisy's long-term persistence. In addition to conservation measures, the species' recovery was aided by the work of taxonomists, who merged two varieties of the species into one, thus providing an instant boost in daisy numbers.

Source: *US Fish and Wildlife Service* (2011), <http://www.fws.gov/mountain-prairie/pressrel/doi-01182011.html>, and *Nature* (2011), 469(7331), 449

Happy trout

Researchers at the University of Montreal have found traces of antidepressants in the livers, brains and muscles of brook trout after the fish were exposed to effluent from Montreal's sewers for 3 months. Furthermore, in vitro exposure of fish tissue to selected serotonin reuptake inhibitors, the chemical name for these antidepressants, revealed a reduction in activity of brain Na/K-ATPase activity. Although the quantities of the chemicals found were small, the researchers expressed their concern that their presence in the fish tissues could affect the trout's behaviour and ecology over time. It is estimated that c. 500 million antidepressant pills are purchased annually

in Montreal, a level thought likely to be similar to levels in other large cities.

Source: *New Scientist* (2011), 209(2797), 5, and *Chemosphere* (2011), <http://dx.doi.org/10.1016/j.chemosphere.2010.12.026>

Florida Keys are suspected in amphibian invasion

Investigations into the origins of two successful amphibian invaders of Florida, the greenhouse frog and the Cuban tree frog, have traced their origins to a number of sites in Cuba. Through the use of nucleotide sequence data the greenhouse frog's origins were traced to a small area in western Cuba, and at least one of the original sites for the Cuban tree frog appears to be a remote peninsula also in western Cuba. The colonization of temperate Florida from tropical Cuba may have been aided by the subtropical Florida Keys, which may have provided a stepping stone for these amphibians. Subsequent dispersal of the two frog species to peninsula Florida is thought to have occurred through anthropological means.

Source: *Biology Letters* (2011), <http://dx.doi.org/10.1098/rsbl.2010.1131>

Whales turn up in ex-whaling grounds

A passive acoustic survey carried out for 1 year in and around the Cape Farewell Ground, c. 500 km east of southern Greenland, has recorded the presence of the Endangered North Atlantic right whale in this former whaling area. Over 2,000 calls were recorded, mainly in July–November, with most of the calls recorded to the north-west of the former whaling ground, indicating that the species occupies a larger range than previously thought. Little is known about the movements of northern right whales, and the discovery of these whales in the Cape Farewell Ground will aid in the design of strategies for their conservation.

Source: *Biology Letters* (2011), <http://dx.doi.org/10.1098/rsbl.2010.1191>, and *Nature* (2011), 470(7332), 9

SOUTH AMERICA

Sterilized tortoises act as lawnmowers in the Galapagos

Lonesome George's natal island of Pinta is now resounding to the footsteps of a new cohort of giant tortoises that have been introduced to regulate the native vegetation on the island. Feral goats, blamed for the demise of Pinta's endemic tortoises through their destruction of the island's native flora, were eradicated from Pinta in

2003, allowing the native vegetation to thrive. It is hoped that the introduction of the 39 tortoises in May 2010 will create clearings for native plants to flourish, and the first impressions suggest that the tortoises are doing their job well. All 39 tortoises were sterilized to avoid the island being overrun by this introduced species of giant tortoise, as the ultimate intention is to repopulate the island with the Española tortoises that are most closely related to Lonesome George.

Source: *New Scientist* (2011), 209(2796), 7

Deforestation slows in Brazil

Between August 2009 and July 2010 c. 6,450 km² of rainforest were cleared in the Brazilian Amazon, a decrease of 14% compared to the area deforested in the preceding 12 months, and the lowest deforestation rate in the area for 22 years. The Brazilian space research institute (INPE) that released the figures cites coordinated action as playing a major role in the deforestation decline, including greater control of illegal logging by the country's environment ministry and police. In addition, the government has been promoting extractive reserves in which local people are able to harvest products from the forest without destroying it. The Brazilian government aims to reduce Amazonian deforestation to an annual rate of 5,000 km² by 2017, and this new figure has bolstered confidence in their ability to do so.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/world-latin-america-11888875>

Whiskered owl sightings

An Endangered bird species, first described in 1976, has recently been spotted by a number of birdwatchers in the Abra Patricia Reserve in northern Peru. Restricted to a 189-km² area, the long-whiskered owl is so elusive that 26 years once passed without a single confirmed sighting. The owl, whose genus, *Xenoglaux*, means strange owl, is one of the smallest owls in the world, with long bristles around its beak and feathers that extend outwards from its face to form whiskers. The owl is mainly found in the mountains around Abra Patricia, where its chief threat is habitat loss as a result of deforestation.

Source: *American Bird Conservancy* (2010), <http://www.abcbirds.org/newsandreports/releases/101130.html>

World's third largest dam gets the go-ahead

Brazil's environment agency, IBAMA, has given its approval for 238 ha of forest to be cleared in preparation for the construction of a hydroelectric dam on a tributary of the

Amazon River. The government claims that the Belo Monte dam is vital for development but conservation groups believe it will put the survival of indigenous groups at risk and make c. 50,000 people homeless as a result of the 500 km² of land that will be flooded once the dam is complete. The idea of constructing a dam on the Xingu River in Para state was first mooted in the 1990s but abandoned after international criticism. The current proposal has been subject to a number of legal challenges and more may follow. Licences for the actual building of the plant, the cost of which is between USD 11 and 17 billion, are yet to be awarded.

Source: *BBC News* (2011), <http://www.bbc.co.uk/news/world-latin-america-12295662>

Dietary aid developed for Pantanal

The Royal Zoological Society of Scotland and Embrace Pantanal (a Brazilian government research institute) have developed a piece of software that allows researchers in Brazil's Pantanal wetland to examine the diets of plant-eating animals. Six years in the making, *DeltaDiet* enables the rapid identification of faecal samples, enabling researchers to understand the nutritional needs and foraging strategies of animals in the wetlands. The tool has been welcomed by practitioners in the field, who aim to use the results generated by *DeltaDiet* to develop a strategy to conserve the Pantanal, which is currently suffering from an intensification of cattle ranching activities. The *DeltaDiet* database is freely available to researchers and will be updated with new data at regular intervals.

Source: *Royal Zoological Society of Scotland press release* (1 February 2011)

PACIFIC

Seven Fijian islands officially rat-free

Two years after the commencement of a rat eradication programme on the Ringgold Islands, north-east of Taveuni, these islands have now been confirmed as rat free. Surveys of these islands in mid November 2010 indicate that bird populations are already starting to recover, with significant breeding populations of a number of sea birds, including lesser frigatebird, black noddy and brown booby, recorded on the islands. In addition, bridled terns were also recorded on two of the islands, the first time the species has been seen in the area. Significant numbers of turtle nests, as well as increased skink activity, indicate that the Ringgold Island reptiles are also benefiting

from the rat-free situation. Work is continuing with local people to develop steps to avoid the re-infestation of the islands by rats, and visitors to the islands are urged to be vigilant to ensure that their boats and equipment do not reintroduce rats to the Ringgold Islands.

Source: *BirdLife International* (2010), <http://www.birdlife.org/community/2010/12/the-magnificent-seven-rat-free-fijian-islands/>?

AUSTRALIA/ANTARCTICA/ NEW ZEALAND

Use of flipper bands on penguins may be unethical

A study carried out over a period of 10 years has shown the use of flipper bands for scientific monitoring is affecting the survival and reproduction rates of penguins. Researchers studying a colony of king penguins on Possession Island off the Antarctic coast found that those birds that had been banded produced 39% fewer chicks and lived shorter lives than those tracked by transponder implants. Banded birds had a survival rate 16% lower than their non-banded peers, ultimately affecting the population's growth rate. The study raises concerns about the ethics of using flipper bands and the possibility that some research results such as the impact of climate change on the marine

ecosystem may be invalidated or distorted by their use. Although implants represent an alternative research tool, unlike the bands, they are not able to provide visual identification of individual penguins from a distance.

Source: *Nature* (2011), 469(7329), 203–206

Mangroves may benefit from floods

Evidence from the effects of cyclone Pancho that struck Exmouth Gulf, Western Australia in 2008 suggests that the mangroves around Moreton bay, Queensland, may benefit from the state's recent floods. Before cyclone Pancho hit Exmouth Gulf the mangroves' stems in the area grew > 25 cm per year. After the cyclone, when floodwaters carrying nutrients from agricultural products moved through the mangroves, some mangrove stems grew by as much as 65 cm per year. Floodwaters are already depositing sediment around mangroves by the bay, so it is suspected that a similar reaction may occur here too. Corals in Moreton bay are less fortunate, with fears that increased nutrients may increase algal growth to the detriment of the corals.

Source: *New Scientist* (2011), 209(2798), 5

Kokado chicks hatch following reintroduction

A pair of Endangered kokados, called Maurice and Kowhai, have hatched two chicks in Auckland's Ark in the Park open

sanctuary, the first time that the species has bred in the Waitakere Ranges for 80 years. Maurice and Kowhai were transferred to the Ark from Pureora Forest in the King Country in September 2010, along with another 12 conspecifics, bringing the number of kokado in the Ark to 22. The Ark in the Park aims to restore some of the native flora and fauna of the Waitakere Ranges and continued control of possums, rats, stoats and cats in the 2,300 ha sanctuary has already paid off. Nevertheless, stoats, rats and cats pose the greatest threat to the kokado chicks, so pest control around the nest is being intensified.

Source: *BirdLife International* (2010), <http://www.birdlife.org/community/2010/12/kokako-chicks-hatch-in-auckland%E2%80%99s-ark/>?

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