

Briefly

INTERNATIONAL

Ground-layer plants are cool under dense tree canopies

Research has shown that forests with dense canopies create a microclimate that protects a variety of cold-adapted plant species from warming air temperatures. Using data from 1,409 vegetation plots in European and North American temperate forests, each surveyed at least twice over 12–67 years, the research documents significant thermophilization (the increasing dominance of warm-adapted species) of ground-layer plant communities. Plants that favour cooler conditions fared better under dense canopies than under more open canopies. There has been a sizeable turnover, with about one-third of the species present in the original survey being replaced by other plants. The thermophilization of vegetation was lowest in forests where canopies had become denser. These results suggest that recent forest canopy closure in northern hemisphere temperate forests has buffered the impacts of macroclimate warming on ground-layer plant communities, slowing changes in community composition.

Source: *Proceedings of the National Academy of Sciences* (2013) [dx.doi.org/10.1073/pnas.1311901110](https://doi.org/10.1073/pnas.1311901110), and *BBC News* (2013) www.bbc.co.uk/news/science-environment-24761801

Sustainable industry for farmed salmon

Fifteen farmed-salmon producers, representing 70% of global farmed production, have jointly committed to a shared sustainability initiative and announced a pledge to certify their farms to the Aquaculture Stewardship Council (ASC) standard. The Global Salmon Initiative unites the companies in a commitment that 100% of their production will be certified to the ASC standard by 2020. The rapid expansion of global aquaculture to meet increased demand for salmon in Europe and Japan has not occurred without consequences. Poorly managed salmon farms can spread disease and parasites, overuse of chemicals and fish waste can affect ocean ecosystems, and the use of marine organisms for feed diminishes natural resources. It is hoped the shared initiative will measurably reduce the effect of farmed salmon production on

some of the world's most ecologically important regions.

Source: *The Guardian* (2013) www.theguardian.com/sustainable-business/salmon-collaboration-certification-fishing-ecological-impacts

Dark future for Arctic ice

Every summer more and more Arctic sea ice melts, leaving greater areas of the dark waters of the ocean uncovered. The process not only reduces the amount of solar radiation reflected, accelerating global warming, but the remaining ice is also becoming darker and less reflective. For the first time a detailed analysis of 30 years of satellite data for the Arctic Ocean has quantified how much the albedo, or reflectivity, of the ice is diminishing. It is estimated that the Ocean's albedo at the end of summer is c. 15% weaker today than it was 3 decades ago. The findings of the study may help explain the speed of Arctic ice loss, which far exceeds the predictions of existing climate models, including those used in the 2007 climate assessment of the Intergovernmental Panel on Climate Change.

Source: *Nature Climate Change* (2013) [dx.doi.org/10.1038/nclimate1963](https://doi.org/10.1038/nclimate1963), and *New Scientist* (2013) www.newscientist.com/article/dn23994-arctic-ice-grows-darker-and-less-reflective.html#.UjBK33_4u0U

Stowaway insects

The problem of invasive ants may be worse than previously thought. Research has found that larger than expected numbers are being unwittingly shipped around the world. Many are establishing colonies in their new habitats and could pose a threat to the environment, infrastructure and human health. The research looked at the numbers of exotic ants in the Netherlands, the United States and New Zealand, and estimated that 768 exotic ant species could have been introduced around the world. Although not all animals that move to a new region pose a threat, some can wreak havoc. In Europe Argentine ants have been building mega-colonies and are out-competing local ants. In the USA the invasion of South America's Rasberry crazy ants has caused problems as the insects swarm inside electrical equipment.

Source: *Biology Letters* (2013) [10.1098/rsbl.2013.0540](https://doi.org/10.1098/rsbl.2013.0540), and *BBC News* (2013) www.bbc.co.uk/news/science-environment-23684879

United for Wildlife

The Duke of Cambridge will be President of a new partnership between seven conservation organizations and the Foundation of the Duke and Duchess of Cambridge and Prince Harry. The collaboration, United for Wildlife, represents a long-term commitment to tackle the global challenges of the world's natural resources so that they can be safeguarded for future generations. The seven partner organizations are Conservation International, Fauna & Flora International, IUCN, The Nature Conservancy, Wildlife Conservation Society, WWF-UK and the Zoological Society of London. The first action of the collaboration has been to commission research by TRAFFIC on the illegal wildlife trade. United for Wildlife has also commissioned a global mapping exercise to evaluate the availability of resources and support to young conservationists around the world.

Source: TRAFFIC (2013) www.traffic.org/home/2013/9/12/united-for-wildlife-the-duke-of-cambridge-brings-conservatio.html

Multiple timepieces

Some marine invertebrates have at least two internal clocks, which follow different times and have different mechanisms, according to two recent studies. Investigations of the speckled sea louse *Eurydice pulchra* and the bristle worm *Platynereis dumerilii* showed that they have biological rhythms that are influenced by the moon, as well as possessing the more familiar circadian clock that follows the daily cycle of sunlight and darkness. Whereas circadian rhythms are synchronized to the 24-hour day and are found in every kingdom of life, a non-circadian rhythm, known as the circatidal rhythm (in time with the tides) repeats every 12.4 hours and is found in coastal species such as the speckled sea louse. Another type of rhythm, circalunar (following the waxing and waning of the Moon), is found in a wide range of species, such as the bristle worm and, possibly, humans.

Source: *Nature* (2013) [dx.doi.org/10.1038/nature.2013.13833](https://doi.org/10.1038/nature.2013.13833)

First INTERPOL notice for illegal fishing

Close cooperation between INTERPOL and the Norwegian Directorate of Fisheries has led to the publication of the first Purple Notice for a vessel believed to be engaged in

illegal fishing activities. Issued to law enforcement in all 190 INTERPOL member countries, the Purple Notice seeks information on the fishing vessel Snake, which has changed its name and registration multiple times in past years to avoid detection. According to the Purple Notice the vessel has operated under 12 different names in the past 10 years and has been registered under the flag of at least eight countries. It is suspected of continuing to fish illegally in the South Atlantic Ocean off the coast of Southern and Central Africa. Project Scale, a global initiative to detect, suppress and combat fisheries crimes, was launched by INTERPOL in 2013.

Source: INTERPOL (2013) www.interpol.int/News-and-media/News-media-releases/2013/PR104

Marmosets make polite conversation

Researchers have found that vocal exchanges between marmosets mimic the patterns of human conversation, taking it in turn to talk and listen. The researchers recorded the vocal communication of marmosets and found that there was a delay of c. 5 seconds between call and response. There are two hypotheses for why they use this pattern of communication: firstly, it enables them to know when they have established contact with another individual and, secondly, they may be exchanging information, which they need time to process before responding. Unlike chimpanzees, who communicate predominantly through body language and gestures, marmosets are very vocal, making them ideal candidates for research into the evolutionary development of cooperative vocal communication and why conversation sometimes breaks down. The researchers are now hoping that they will be able to shed light on human conversation disorders by studying early-life experiences in marmosets, including vocal interactions between parents and infants.

Source: *Current Biology* (2013) [dx.doi.org/10.1016/j.cub.2013.09.005](https://doi.org/10.1016/j.cub.2013.09.005), and *BBC News* (2013) www.bbc.co.uk/news/science-environment-24566083

Seahorse app tool for citizen scientists

Seahorses are enigmatic animals and there are relatively few scientific data available on this group of organisms. To enlist the help of citizen scientists in learning more about these creatures the Zoological Society of London's Project Seahorse has launched the iSeahorse Explore app, which enables anyone with a smartphone to log a sighting

when they encounter a seahorse in the wild. Seahorses are known to be threatened by overfishing, loss of habitat, and destructive fishing practices, and marine conservationists hope that this new tool will help them to identify populations and habitats that are a high priority for conservation action. The app was developed by scientists from the Zoological Society of London, the University of British Columbia, John G. Shedd Aquarium and iNaturalist, and the next phase of the iSeahorse website and app will include tools for population monitoring and advocacy as well as social media.

Source: *Zoological Society of London* (2013) www.zsl.org/conservation/news/see-a-seahorse,1132,NS.html

How gardeners can give bees a helping hand

Researchers have studied 32 varieties of popular garden plants in an experimental garden to investigate which ones are the most pollinator-friendly. They counted the number of insects visiting each plant and found that some plants attracted c. 100 times more insects than others. The study revealed that insect-friendly plants are just as pretty and easy to grow as less pollinator-friendly varieties and are no more expensive, offering great potential for making parks and gardens more attractive to insects. The plants that are most attractive to pollinators included borage, lavender, marjoram and open-flower dahlias, and the least attractive flowering plant was the geranium. Marjoram attracted the greatest variety of insects, including honey bees, bumble bees, other bees, hover flies and butterflies. The study highlights the importance of choosing the right plants to create pollinator-friendly gardens in light of the ongoing global decline of bee populations.

Source: *BBC News* (2013) www.bbc.co.uk/news/science-environment-24555853

Sir David Attenborough marks Fauna & Flora International's 110th anniversary

At an event at the Royal Geographical Society, London, to mark the 110th anniversary of Fauna & Flora International, Sir David Attenborough reflected on some of the highlights of his career as a wildlife film-maker and on some of the challenges and threats now facing the natural world, in particular climate change and overpopulation. He challenged the idea that we have the right to manipulate nature, destroying some parts of it and only choosing to protect the things that directly benefit us.

Rather, we are the stewards of the planet and, as such, it is our duty to protect it. Sir David was elected vice president of Fauna & Flora International in 1979 and has been a member of the organization for 60 years.

Source: *The Guardian* (2013) www.theguardian.com/environment/2013/oct/16/attenborough-poorer-countries-concerned-environment

Ships banned from discharging high-viscosity pollutant at sea

The International Maritime Organisation, which is responsible for shipping safety and the prevention of marine pollution by ships, has agreed a worldwide ban on dumping the chemical polyisobutene (PIB) at sea. The high-viscosity lubricant is used in ships' engines and until now it has been legal for ships to wash out their tanks and discharge PIB residues into the marine environment as long as they were > 12 nautical miles from land. More than 4,000 seabirds, mainly gullmots, were killed or injured by the chemical in two separate incidents off the coast of Britain in 2013. When discharged into the sea the lubricant becomes glue-like and covers birds' feathers, restricting their movement and ability to feed. Contaminated birds eventually die of starvation or hypothermia. Following these incidents wildlife charities in Britain campaigned for the ban, with considerable support from the public and a number of politicians from the coastal areas affected.

Source: *BBC News* (2013) www.bbc.co.uk/news/uk-england-24617697

Yachtsman raises awareness of the plight of the Pacific Ocean

An Australian sailor was shocked by what he witnessed during a 27,000 km yacht race between Australia and Japan. According to Ivan MacFadyen, when he completed the same journey 10 years ago he caught a fish every day but this time he caught nothing. He has described the absence of dolphins, sharks, turtles and seabirds, which one would expect to see in the course of such a journey. Instead of marine life, the sailor reports seeing vast amounts of rubbish, including ships' fenders, balls of fishing net and barnacle-encrusted telegraph poles. He is now trying to raise awareness of the problems of marine pollution and overfishing. Although quotas have been placed on many species of fish, overfishing remains a huge problem globally. In Australia the bluefin tuna and school shark are dangerously overfished and the Australian Marine Conservation Society's guide to sustainable

seafood lists 26 threatened species, including snapper and tiger prawns.

Source: *The Guardian* (2013)

www.theguardian.com/environment/2013/oct/21/yachtsman-describes-horror-at-dead-rubbish-strewn-pacific-ocean

First venomous crustacean discovered

None of the 70,000 known species of crustaceans was previously known to be venomous but the remipede, which uses a venom similar to that found in a rattlesnake's fangs, has recently been discovered. The centipede-like crustacean is blind and has been documented in underwater caves in the Caribbean, the Canary Islands and Western Australia. It feeds on other crustaceans, using its venomous cocktail of toxins, including enzymes and a paralyzing agent, to liquefy their body tissues before sucking the liquid meal from the exoskeleton. Crustaceans are the only one of the four major groups of arthropods that are not commonly venomous, and this latest finding marks a significant addition to the roster of known venomous animals.

Source: *BBC News* (2013) www.bbc.co.uk/news/science-environment-24625424

EUROPE

European wildlife makes a comeback

Although global biodiversity continues to fall, Europe's wildlife is showing signs of recovery following several centuries of decline as a result of hunting, habitat loss and pollution. A report commissioned by the conservation organization Rewilding Europe attests that key species, including wolves, lynx, bears, vultures and eagles, have increased in numbers over the past 50 years. Of 18 mammals and 19 bird species studied across Europe, all except the Iberian lynx had increased in numbers since the 1960s. The factors driving this recovery include legal protection of habitats and species in the European Union, conservation programmes, and controls on hunting. European wildlife still faces many challenges, however; for example, the recovery of large predators raises concerns among farmers whose livestock are at risk. An awareness of such challenges as well as the opportunities for ecotourism will be important in future conservation planning and action.

Source: *BBC News* (2013) www.bbc.co.uk/news/science-environment-24230765

Norway makes commitment to ocean protection

Norway's new government has committed to protecting areas of ocean along its

coastline from exploratory drilling for oil and gas. This prioritization of nature over profit is a significant step for one of the world's largest oil and gas developers, whose economy is largely dependent on the oil industry. In the run up to the recent election, WWF-Norway campaigned for protection of the coasts of Lofoten, Vesterålen and Senja amid fears that the new government would yield to industry pressure to open up the area to oil drilling. Minority parties also campaigned for a permanent ban on oil drilling in these areas. The government's decision is good news for nature and will ensure protection for the world's largest cod stock, the world's largest cold-water coral reef and the biggest seabird colony in mainland Europe.

Source: *WWF* (2013) wwf.panda.org/wwf_news/?211092/Cod-coral-and-sea-birds-protected-from-the-threat-of-oil

Wild birds continue to decline in the UK

Data collected since the 1970s show that Britain's wild bird populations have been declining for the past 40 years. There has been a 50% decrease in the number of farmland birds and a 17% decrease in the number of woodland birds during that time. Although it is bad news for species such as turtle doves, lapwings, corn buntings and skylarks, not all species have declined. There has been a 140% increase in jackdaw numbers, with a similar increase for the common woodpigeon. Intensive agriculture poses a threat to farmland birds, whose habitat is reduced by cutting back trees and hedges and whose prey is reduced by pesticide use. Although there are government-sponsored schemes to promote wildlife-friendly practices on farms, conservationists are calling on the government to provide more funding from the EU's common agricultural policy to restore birds and other wildlife to the countryside.

Source: *The Guardian* (2013) www.theguardian.com/environment/2013/oct/17/wild-birds-uk-decline

Only one in five children connected to nature

A 3-year project by the RSPB has found that only 21% of children in Britain aged 8–12 were connected to nature. Girls were more likely than boys to be exposed to the outdoors, and children in Wales had the lowest score across the UK. After defining what 'connected to nature' means, a questionnaire was developed to assess the level of connection with nature among children. Some 1,200 children from across the UK were asked to agree or disagree with 16 statements. Only 21% of children in the UK

had a level of connection with wildlife and the natural world that the RSPB believes should be realistic and achievable for all youngsters. The RSPB hopes that its study will be taken up by government as one of the indicators on the state of children's well-being.

Source: *BBC News* (2013) www.bbc.co.uk/news/science-environment-24532638

UK's rarest lizards return to sand dunes

Rare sand lizards have been released on sand dunes in North Wales in a bid to revive ailing populations. Seventy juveniles have been released on the Flintshire coast and a total of 400 will be reintroduced to sites in Merseyside, Surrey, Hampshire and Dorset. The sand lizards were bred at specialist breeding centres over the summer. The species has suffered dramatic declines as a result of habitat loss. Native populations now remain only in Merseyside, Surrey and Dorset but even in these areas populations have declined by 90% or more. The reintroductions are coordinated by the Amphibian and Reptile Conservation Trust as part of a recovery programme that has been running since 1994. Sand lizards only live on coastal dunes and heathland habitats, both of which have become increasingly fragmented as a result of agriculture, housing and leisure developments.

Source: *BBC News* (2013) www.bbc.co.uk/nature/24022952

Health threat carried in the wind

Particle matter suspended in the atmosphere, such as soot and other pollutants, may pose health risks, and a recent study of atmospheric shifts shows how the North Atlantic Oscillation (NAO) will play a central role in distributing these particles across Europe. The NAO is a large-scale atmospheric pattern caused by swings in atmospheric pressure at sea level in the North Atlantic between the Arctic and the subtropical Atlantic. It controls the strength and direction of winds and storms across the North Atlantic. Variability of the NAO may influence atmospheric concentrations and distribution of particle matter. The research revealed that the winter NAO had an upward trend in the 1980s and 1990s, and climate models forecast this trend will continue. Higher levels of particle matter are forecast for the Mediterranean, whereas Central, Northern and Eastern Europe are predicted to have lower levels.

Source: *Geographical Research Letters* (2013) 40, 4074–4080 (dx.doi.org/10.1002/grl.50720)

Salamander-eating skin fungus

A deadly skin-eating fungus, *Batrachochytrium salamandrivorans*, is threatening the fire salamander population in the Netherlands, where the species has been driven to the brink of extinction. It is unknown whether other countries have seen similar declines. A treatment and captive-breeding programme was introduced when the population of the amphibian in The Netherlands fell to a low of 10. The salamanders, recognizable by their vibrant yellow and black skins, will be reintroduced into the wild once numbers have recovered to a sufficient level. It is believed the lethal skin-eating fungus is spread by direct contact or from living in a contaminated environment, as the pathogen is able to survive in water for only a short time.

Source: *Proceedings of the National Academy of Sciences* (2013) [dx.doi.org/10.1073/pnas.1307356110](https://doi.org/10.1073/pnas.1307356110), and *BBC News* (2013) www.bbc.co.uk/news/science-environment-23898406

Ample horns linked to reproductive success

A study of Soay sheep living on Hirta, an island off the west of Scotland, has found that a gene with a role in horn growth can be used to explain fertility and longevity. Researchers related RXFP₂ genes of 1,750 sheep to horn size, reproductive success and lifespan. One version of the gene is linked to large horns and another allele with small ones. Males with one or two copies of the long-horned allele had the biggest horns and fathered twice as many lambs as those males with two copies of the short-horned allele. However, males with two short-horned alleles had an advantage with respect to lifespan, with a 75% chance of surviving the harsh winter months compared with a 61% chance for those with two long-horned alleles. But rams with one version of each allele (heterozygotes) had the best of all worlds, being big-horned, fecund and long-lived.

Source: *Nature* (2013) 502, 93–95 ([dx.doi.org/10.1038/nature12489](https://doi.org/10.1038/nature12489))

Saving the watervole

Water voles were once common along the UK's waterways but surveys show that they have suffered a decline of >90% since the 1970s. Conservationists attribute the decline to fragmentation and loss of habitat, extreme weather events and predation by American mink, which escaped or were released into the wild after being brought to the UK for their fur. Efforts are underway to

save the species, with conservation agencies working to create a more vole-friendly environment along waterways by creating safe havens that are free of mink and preserving areas of complex habitat comprising ditches, vegetation and water. Voles continue to thrive in some parts of the UK where they have suitable habitat with sufficient protection from predators and plentiful food resources, and the Wildlife Trusts and the Environment Agency are working to create new habitats for the animals in a bid to boost their numbers.

Source: *BBC News* (2013) www.bbc.co.uk/news/science-environment-23975749

Otters return after long absence

An otter family on the River Wey in Surrey has been filmed, with hidden cameras providing the first photographic evidence of otters in the area for 50 years. The otters, one adult and two juveniles, were captured on film at least 14 times during the summer. In the 1970s otters were close to extinction in Britain but they are slowly recovering following improvements in water quality and fish stocks.

Source: *University of Surrey* (2013) www.surrey.ac.uk/mediacentre/press/2013/112492_university_researchers_film_proves_otters_are_back_in_surrey_after_50_years_absence.htm

Pests threaten Britain's forests

Hundreds more pests and pathogens may arrive in the UK in the coming years as a result of climate change and the rise in global trade. Crop-damaging pests such as fungi, beetles and moths are moving into new territories and expanding their range by several kilometres each year. The relatively low species and genetic diversity of Britain's woodlands leaves them particularly vulnerable to such threats, as demonstrated by the recent ash dieback and the spread of Dutch elm disease in the 1970s. Now the oak is under threat from the oak processionary moth, whose caterpillars can strip oak trees. With limited resources available to monitor such threats, public vigilance is important. The Woodland Trust is training volunteers to identify signs of tree diseases, and a citizen science project (Open Air Laboratories) aims to build a picture of the health of Britain's trees with the help of citizen scientists.

Source: *BBC News* (2013) www.bbc.co.uk/news/science-environment-24297553

Rewilding Ireland

As part of a growing movement towards rewilding degraded landscapes and protecting areas of wilderness across Europe, Ireland has designated its first wilderness area, Wild Nephin, in County Mayo. The area comprises 27,000 acres of sparsely populated bogland, heath-covered mountains and pine and spruce forest plantation. Over the next 15 years the landscape will be re-engineered, with the introduction of native plant species, clearing of plantation forest to regenerate the understorey, and restoration of bogland. It is planned that human management will then cease and allow wild processes to take over. The rewilding movement has been gathering momentum, with a shift in focus from species and habitat conservation to the conservation of whole landscapes and ecosystems. In 2009 the European Parliament passed a motion calling for more wilderness protection, and in 2012 wilderness was mentioned for the first time in a biodiversity strategy published by the European Commission.

Source: *Earth Island Journal* (2013) www.earthisland.org/journal/index.php/elist/eListRead/irelands_big_rewilding_project_first_of_its_kind_in_western_europe/

NORTH EURASIA

Plans for oil platform postponed

The Sakhalin Energy consortium has postponed plans to develop an offshore drilling platform, delaying its decision on the project until 2017. Conservation organizations campaigned against the building of the platform in the sub-Arctic waters of the Russian Far East, near the summer feeding ground of a population of western North Pacific grey whales, of which only an estimated 150 animals remain. The summer feeding is of critical importance because the whales and their newborn calves must consume enough food to fuel their long migration. Grey whales have poor eyesight but highly sensitive hearing, on which they rely to find food. Conservationists fear that the construction and operation of a third platform in the area would cause excessive noise pollution and drive the whales away. Although the whales have received a temporary reprieve, another company, Exxon Neftegas Limited, also has plans for development in the area.

Source: *WWF* (2013) wwf.panda.org/wwf_news/?211653/Reprieve-for-whales-at-risk-from-oil-platform

NORTH AFRICA AND MIDDLE EAST

New species of owl recorded in Oman

Ornithologists working in Oman have discovered a new species of owl, which they have named *Strix omanensis*, in the Jebel al Akhdar, in the north of the country. Wildlife sound-recordist Magnus Robb heard the bird's call whilst trying to record the call of another type of owl. After repeated trips he and a colleague captured photographs of the bird. The new species appears to be most closely related to Hume's owl *Strix butleri*, which occurs elsewhere in the Arabian Peninsula but not in Oman. Only seven individuals of the new species have been found, in a single wadi in the northern mountains. The new species has been described on the basis of sonograms and photographs. The team plans to gather DNA evidence from the owl's feathers to confirm the find genetically.

Source: *Dutch Birding* (2013), 35, 275-10, and *BBC News* (2013) www.bbc.co.uk/news/24374313

SUB-SAHARAN AFRICA

Vocal profiles for the Galagos: a tool for identification

The galagos (Family Galagidae) of Africa are nocturnal, small and often difficult to observe, and most species are phenotypically cryptic. As such, galagos are frequently difficult to identify with confidence, particularly in the field. Being nocturnal, conspecifics mainly identify each other using auditory and olfactory cues. All galagos produce species-specific 'loud calls' or 'advertisement calls' that have several functions, one of which is long-distance species identification. The Nocturnal Primate Research Group at Oxford Brookes University maintains a collection of calls of African wildlife, which includes >300 hours of recordings. From this extensive collection, obtained by the Group's members from numerous field sites over the past 40 years, 27 vocal profiles for 24 taxa of galagos have been compiled. These recordings are now freely available at www.wildsolutions.nl/vocalprofile.htm. Each species presented on the website is illustrated and an Audio-Map depicts the site at which each recording was made.

Source: www.wildsolutions.nl/vocalprofile.htm (2013)

Gardiner's frog listens with mouth

Researchers have discovered how one of the world's smallest frogs is able to hear with its

mouth. Gardiner's frogs, which live in the forests of the Seychelles, have no middle ear region and were assumed to be deaf. But a study utilizing highly sensitive X-ray imaging techniques has revealed that the tiny frog uses its mouth cavity to convey sound-wave signals to its brain. The discovery solves the mystery of why the frog produces loud, high-pitched squeaks. Researchers made recordings of its calls and played them back to wild frogs to observe their behaviour. The frogs were able to hear the sounds and either changed position or made a call in response to the recordings. It is hoped the discovery of the species' novel hearing mechanism may be applied to assist with certain types of human deafness. Source: *Proceedings of the National Academy of Sciences* (2013) dx.doi.org/10.1073/pnas.1302218110, and *BBC News* (2013) www.bbc.co.uk/news/science-environment-23897430

Rhinos follow path of destruction

As one of Africa's largest land animals, elephants leave a trail of destruction when foraging in the bush. However, research has shown that rhinos can more than double their food intake by following in the paths of their destructive neighbours. A study focused on black rhinoceros *Diceros bicornis* in the Addo Elephant National Park in South Africa revealed that the felling of trees and similar acts of destruction by elephants allow rhinos to access otherwise impenetrable thicket and increase potential food intake by 223%. However, although rhinos may benefit from using elephant pathways in the short term, overuse and increased competition will eventually reduce food availability, forcing rhinos to forage in grasslands rather than tree thickets.

Source: *Biotropica* (2013) dx.doi.org/10.1111/btp.12066

Death by cyanide

Nine poachers have been arrested following the deaths of more than 80 elephants in Hwange National Park. The death toll includes more than 40 elephants discovered following a poisoning incident in Zimbabwe's largest game park. The elephants were killed for their ivory by the poachers, who used cyanide to poison a water hole in the Park. The arrests were made after rangers tracked the poachers to a cache of hidden ivory. It is believed that the poison was also responsible for the deaths of several other animals in the Park and the predators that feed on them.

Source: *BBC News* (2013) www.bbc.co.uk/news/world-africa-24234927

Power line to be replaced

A Migratory Soaring Birds (migratorysoaringbirds.undp.birdlife.org) workshop has prompted the Sudanese government to replace one of the most deadly power lines in Africa. Constructed in the 1950s the 31-km long Port Sudan power line is estimated to have claimed the lives of hundreds if not thousands of large migratory birds. A recent survey found, in 1 month alone, the carcasses of 17 Egyptian vultures along the power line. As all the birds were found under power poles, 15 under metal poles and two under concrete poles, electrocution is the most likely cause of death. The new power line will run parallel to the existing line and the 510 new poles will be insulated with XLPE-insulated aluminium conductors. The work is expected to take 2 months, after which the old power line will be removed.

Source: *BirdLife International* (2013) www.birdlife.org/community/2013/09/sudan-government-acts-on-killer-power-line/

Scientists point to elephant intelligence...

People have long been aware of the intelligence of elephants and the complexity of their social systems, and this awareness is now supported by a growing body of scientific evidence. Research in Kenya revealed that elephants can distinguish between different languages, interpreting English as safe, because it is spoken by tourists, and Swahili as generally safe. It was observed that elephants became anxious on hearing Maa, the language spoken by Maasai warriors, who occasionally kill elephants. An animal psychologist at Sussex University, in the UK, found that elephants can recognize more than 100 individual voices, and researchers in Japan have found that elephants can count. Scientists have now discovered that elephants also have an innate understanding of pointing, without needing to learn the gesture from humans, and they may use their trunks to communicate in a similar manner.

Source: *Current Biology* (2013) 23, 2033-2037, (dx.doi.org/10.1016/j.cub.2013.08.037), and *The Guardian* (2013) www.theguardian.com/commentisfree/2013/oct/14/elephants-intelligence-pointing-hunted

...adopt smart technology to help protect elephants in Kenya...

According to the UN Kenya is facing its most serious threat from poaching in almost 25 years, with growing demand for illicit ivory in Asia. In response, conservationists in the Maasai Mara National

Reserve are turning to iPad-controlled drones, night-vision goggles and Google Earth to protect wildlife from poachers. The drones were initially intended to provide aerial footage of the landscape and help track poachers and Maasai warriors but it soon became apparent that they had the added benefit of frightening the elephants and could therefore be used to steer them out of harm's way. Some elephants have been fitted with global positioning system collars, which enable rangers to track their locations on Google Earth and respond quickly if the elephants stray into areas at risk of poaching or conflict with humans. It is anticipated that drones will be at the forefront of the battle against poachers.

Source: *The Guardian* (2013)

www.theguardian.com/technology/2013/oct/10/google-earth-kenya-masai-mara- elephants-drones-ipad

...and find that elephant society still disrupted decades after cull

The decision-making abilities of African elephants are impaired by historical culling. Elephant herds that lost adults to culls in the 1970s and 1980s were less able to respond appropriately to other elephant calls. The research compared the behaviour of elephants in Amboseli National Park, Kenya, which have been relatively undisturbed by culling operations, with elephants in Pilanesberg National Park, South Africa. The latter comprises elephants introduced as young orphans in the 1980s and 1990s, after culls of adults and older juveniles in the Kruger National Park. When Amboseli elephants heard the call of an unfamiliar elephant they bunched together, but remained relaxed when faced with the calls of more familiar animals. In Pilanesberg the elephants' reactions showed no pattern, suggesting they could not tell the difference between friend and foe. The breakdown in the social fabric, even though it occurred decades ago, appears to have affected the elephants' decision-making processes.

Source: *Frontiers in Zoology* (2013) 10, 62 (dx.doi.org/10.1186/1742-9994-10-62), and *BBC News* (2013) www.bbc.co.uk/news/science-environment-24754682

Kenyan rhinos to be microchipped in the war on poaching

Conservationists are embracing new technologies to protect threatened wildlife from poaching. In a bid to conserve Kenya's dwindling rhinoceros population and facilitate active monitoring of the animals, WWF has provided the Kenya Wildlife Service with 1,000 microchips and five scanners. The technology will facilitate the

deployment of specialized tracking systems for rhinoceros horn and support anti-poaching measures nationally and regionally. It will also provide evidence that will hopefully lead to the successful prosecution of criminals involved in poaching or the illegal trade in rhino parts and will strengthen collaborations between police, customs, wildlife conservation organizations and other agencies in the fight against wildlife crime.

Source: WWF (2013) wwf.panda.org/wwf_news/?211437/Microchips-to-Protect-Rhinos-in-Kenya

Ivory seized in Uganda

In one of Uganda's biggest ivory hauls in many years, authorities seized c. two tonnes of ivory, thought to be en route to the Kenyan port of Mombasa. This amount of ivory represents the tusks of c. 400 elephants. Although the rate of elephant poaching in Uganda—which is estimated to have c. 5,000 elephants—is relatively low the country is increasingly being used for the transit of ivory originating from countries such as South Sudan and the Democratic Republic of Congo. Poaching has increased across sub-Saharan Africa in recent years and is controlled by criminal gangs who slaughter elephants to meet the huge demand for ivory in Asia. In response to a sharp decline in the number of African elephants CITES banned the trade in ivory in 1989.

Source: *BBC News* (2013) www.bbc.co.uk/news/world-africa-24582325

Small carnivores thriving in Gabon despite bushmeat crisis

Scientists from several academic institutions and conservation organizations, including Panthera, the Wildlife Conservation Society and the University of Stirling, have collaborated on a survey of small carnivores in Gabon—a country better known for its larger meat-eaters, including the leopard *Panthera pardus*, African wild dog *Lycaon pictus* and spotted hyaena *Crocuta crocuta*. Camera-trap photographs from 16 studies, field data and data gathered in the country's bushmeat markets have revealed that small carnivores are still widespread and that the 12 species included in the study are not yet threatened by the bushmeat trade. This is attributable to cultural norms, with consumption of carnivores taboo for many ethnic groups. During the survey the researchers recorded two species that had not previously been documented in Gabon: the common slender mongoose *Herpestes sanguineus* and the Cameroon cusimanse *Crossarchus platycephalus*. They also expanded the known

range of the Egyptian mongoose *Herpestes ichneumon*.

Source: *Mongabay.com* (2013) news. mongabay.com/2013/1017-hance-carnivores-gabon.html

Galloping dung beetles

Scientists studying dung beetles in South Africa have discovered that three species of the insect walk with an unusual galloping gait. Most of the almost one million known insects walk with an alternating tripod gait, which propels them forward steadily and efficiently, moving three legs forward at a time. However, these dung beetles, all belonging to the group *Pachysoma*, bound forwards by stepping with both middle legs and then both front legs, dragging their back legs. The next challenge for the researchers is to discover why the beetles move in this way. They conducted time trials in the laboratory to investigate whether the galloping gait enabled the beetles to move faster than other insects but found that the insects that walked in the normal way were up to 50% faster. The galloping gait may enable the beetles to stabilize their vision, and future research will investigate how it affects their navigation.

Source: *BBC News* (2013) www.bbc.co.uk/news/science-environment-24532396

Community-managed forest provides hope for Madagascar's threatened trees

Madagascar's iconic baobab trees are highly valued by local people but overexploitation and habitat destruction are taking their toll. The best-known species, the renala, endemic to Madagascar, is one of the island's most threatened tree species. Not only is the tree important for its seeds, fruits, and bark, it also has cultural significance. Local communities in Madagascar are now taking positive action to protect and restore renala forests, with the help of Fauna & Flora International's Global Trees Campaign and local partner organization Madagasikara Voakajy. The community at Bepeha has been granted the management rights for 6,453 ha of forest, with 400 mature renala trees. They have established a village forest management organization, demarcated zones within the forest and agreed rules governing the use of forest resources within each zone. Schoolchildren are actively involved in the project, planting and nurturing seedlings and learning about the importance of the trees.

Source: *Fauna & Flora International News* (2013) www.fauna-flora.org/news/conservation-milestone-for-baobabs-in-madagascar/

SOUTH AND SOUTH-EAST ASIA

Snow leopards find spiritual sanctuary

The range of the Endangered snow leopard *Panthera uncia* covers several central Asian countries, including Chinese provinces on the Tibetan Plateau. A survey of the species in the Sanjiangyuan region of China's Qinghai Province found that 46% of Buddhist monasteries were located in snow leopard habitat and 90% were within 5 km of their habitat. Interviews conducted in the region revealed that 42% of local herders claimed not to kill wildlife because to do so is a sin in Buddhism. The research team propose that the 336 monasteries in the Sanjiangyuan region could play an important role in protecting more snow leopard habitat through social norms and active patrols. Monastery-based snow leopard conservation could be extended to other Tibetan Buddhist regions to encompass c. 80% of the species' global range.

Source: *Conservation Biology* (2013) [dx.doi.org/10.1111/cobi.12135](https://doi.org/10.1111/cobi.12135)

RFLP draws in its nets for the final time

The Regional Fisheries Livelihoods Programme for South and South-east Asia (RFLP) came to a close in September 2013. Spanning four years, the ambitious programme sought to reduce the vulnerability of small-scale fishing communities in Cambodia, Indonesia, the Philippines, Sri Lanka, Timor-Leste and Vietnam. With over 1,100 different capacity-building actions and 35,500 participants, RFLP helped drive forward the process of co-management of marine resources in all six countries where it worked. A final review has been produced, which summarizes the key achievements and recommendations of the programme, which worked in collaboration with national authorities and communities to improve the livelihoods of fishers and their families while fostering more sustainable fisheries resources management practices.

Source: RFLP (2013) www.rflp.org/sites/default/files/RFLP_Final_Review.pdf (2013), and www.rflp.org/

Common Action Plan for Asian rhinos

A common action plan for the conservation of Asian rhinos has been agreed following negotiations between the five Rhino range states, Bhutan, India, Indonesia, Malaysia and Nepal. The meeting, held in October 2013, was hosted by the government of Indonesia and facilitated by the IUCN

Species Survival Commission. The aim of the Bandar Lampung declaration is to increase the populations of the three species of Asian rhino by at least 3% annually by 2020. Specific conservation actions necessary to secure a steady growth rate of the Sumatran, Javan and greater one-horned rhinoceros include improving the biological management and monitoring of each species, strengthening the protection of their habitats and performing strict anti-poaching operations. The declaration commits to introducing tougher penalties for those who illegally kill Asian rhinos, and maintaining the ban on the international trade of all rhino products. (See also *Oryx*, 47, 311–312 & 340–368)

Source: *IUCN News* (2013) www.iucn.org/news_homepage/?13794/Major-step-towards-Asian-Rhino-recovery

Tiger soundtrack acts as deterrent to crop-raiding elephants in India

Human–elephant conflict is a major concern in rural India. Wild elephants raid crop fields and clash with people and this results in deaths of both humans and elephants and considerable crop loss. A study of the nocturnal behaviour of elephants has found that they can be deterred from invading fields by triggering a playback of a recording of tiger growls. Researchers found that the sound of tiger growls caused the elephants to retreat quickly and silently from the area. They also found that elephants did not react in the same way to leopard growls (leopards do not prey on young elephants). Although these findings may offer a short-term solution to human–elephant conflict, critics have suggested that the elephants would eventually realize that it was a hoax, and they have also pointed to the challenges involved in powering and maintaining such a scheme in isolated rural areas.

Source: *The Guardian* (2013) www.theguardian.com/environment/2013/oct/01/tiger-growl-recordings-deter-crop-raiding-indian-elephants

New discoveries in Vietnam's caves

Scientists have discovered many new species of water mites and several new species of other subterranean animals during an expedition initiated by Fauna & Flora International to study the little-known subterranean fauna of the karst landscapes of Halong Bay in northern Vietnam. Many of the water mites were found in the cracks and fissures of limestone caves, which host a complex and diverse community of aquatic microinvertebrates. Among the species discovered were a blind water mite *Nilotonia sketi*, no more than 1 mm in length, a

troglobitic freshwater fish *Draconectes narinus* and a tiny crustacean *Seborgia vietnamica*, which appears to be the sole food resource of the new fish.

Source: *Fauna & Flora International News* (2013) www.fauna-flora.org/news/subterranean-blind-water-mite-discovered-in-vietnamese-cave/

EAST ASIA

China cracks down on pollution

China has taken steps to tackle its growing pollution problem by suspending all refinery projects of two of the country's top oil companies for failure to meet emissions targets. China National Petroleum Corporation and the China Petrochemical Corporation have increased their emissions of the greenhouse gas nitrogen oxide, despite the demand for an 8% reduction in emissions (based on 2010 levels) by 2015. Nitrogen oxide can become toxic and produce acid rain. There has also been a failure to meet targets for cuts in sulphur dioxide emissions, which can cause respiratory problems and premature mortality. China generates the highest emissions of carbon dioxide worldwide and its rapid economic growth has led to widespread environmental problems, including record levels of air pollution. The Chinese government has pledged to invest USD 275 million over the next 5 years to tackle air pollution in Beijing and surrounding cities. Source: *Mongabay.com* (2013) news.mongabay.com/2013/0903-hance-china-oil-suspension.html

Restoration of Chinese crested tern colony

An international project, with strong local support, to restore a breeding colony of Chinese crested terns on a small island in the Jiushan Islands has shown early signs of success, with at least one chick fledging along with c. 600 great crested tern chicks. The Chinese crested tern is Critically Endangered and prior to this project there were only two known breeding colonies. The rare birds have always been found nesting within colonies of great crested terns, and therefore the restoration team had hoped to initially attract great crested terns to the restored colony, using decoys and playback of tern calls. They anticipated that it would take several years to attract the birds back. However, in the first year a colony of 2,600 great crested terns, and among them 19 Chinese crested terns, had established at the site and at least two

breeding pairs of Chinese crested terns were recorded.

Source: *BirdLife International* (2013) www.birdlife.org/asia/news/china%E2%80%99s-rarest-seabird-benefits-colony-restoration

NORTH AMERICA

Bird mortality from human-related sources

Analysis conducted over the past 4 years has enabled researchers with the federal government ministry Environment Canada to release the first estimates of annual direct bird mortality from human-related causes. Most human-related bird deaths are caused by feral and pet cats, collisions with buildings, vehicles, and electricity transmission and distribution lines, which kill c. 269 million birds and destroy 2 million bird nests in Canada each year. Feral and pet cats are believed to kill more than 100 million birds per year in Canada and an estimated 60% of those are killed by feral cats. Collisions with electricity transmission and distribution lines were identified as the second largest human-caused source of bird mortality in Canada and an estimated 13.8 million birds are killed annually in collisions with vehicles on the country's roads.

Source: *BirdLife International* (2013) www.birdlife.org/community/2013/10/canadian-scientists-publish-human-related-bird-mortality-estimates

USA vows to destroy ivory stocks

On 14 November 2013 the USA destroyed its stocks of seized ivory, which amounted to 6 tonnes and potentially millions of dollars worth of contraband, as part of its effort to stop illegal wildlife trafficking and the trade in ivory, which it views as a serious national security issue. Other countries have also destroyed their seized ivory; the Philippines crushed its stock in June 2013. Both elephants and rhinos are threatened with extinction, with illegal poaching having risen significantly over the past 5 years to meet the demand for horns and tusks, for which the global trade is estimated to be worth USD 10 billion. The Obama administration is advocating a zero-tolerance approach and is considering the introduction of more severe penalties for wildlife trafficking, some of the proceeds of which are believed to fund extremist groups in Somalia and elsewhere.

Source: *The Guardian* (2013) www.theguardian.com/environment/2013/sep/09/us-ivory-stocks-illegal-elephant-poaching

Whales may need to cover up in the sun

Whales go a shade darker in the sun to protect themselves from harmful UV rays. A study of skin samples from sperm, fin and blue whales found that blue whales display the most marked tans. During the months of February to May the grey skin of the whales darkens as ultraviolet radiation intensifies in the Gulf of California. Furthermore, as the whales' skin darkened the amount of damage to mitochondrial DNA in their skin cells dropped. Although sunburn can lead to melanomas in trout the outcome of too much sun for whales is not known.

Source: *Scientific Reports* (2013) 3 (dx.doi.org/10.1038/srep02386), and *New Scientist* (2013) 219, 2933, 16

Dying for protection

A new report by the Center for Biological Diversity identifies the USA's 10 most vulnerable amphibians and reptiles in need of protection to prevent extinction. The report, *Dying for Protection: The 10 Most Vulnerable, Least Protected Amphibians and Reptiles in the United States*, highlights the population declines and ongoing threats to species including the Sierra Nevada yellow-legged frog, the Hellbender salamander and Blanding's turtle. Some of the species included in the report have lost >90% of their habitat and, without Endangered Species Act protection, many will continue to decline as a result of fragmentation of their declining populations, pesticide pollution, disease and overcollection. Researchers now estimate that 1 in 4 of the USA's amphibians and reptiles are at risk of extinction, yet they make up only 61 of c. 1,400 U.S. species protected under the Endangered Species Act.

Source: *Center for Biological Diversity* (2013) www.biologicaldiversity.org/news/press_releases/2013/amphibians-and-reptiles-09-18-2013.html

Cows offer hope for survival of threatened bog turtles

Farmers in Salem County, New Jersey, are managing their cows' grazing habits to help protect the tiny bog turtle, native to New Jersey and Pennsylvania. The cattle graze in wetland pastures for 6 months of the year, keeping the vegetation in check and thereby ensuring that the turtles are not deprived of the sunlight they need to keep warm and incubate their eggs. During the nesting and breeding season the cattle are moved and fenced off from the wetlands, leaving the turtles with the vegetation they need for nesting and foraging. As part of the federal

Working Lands for Wildlife programme farmers receive grants to erect fences, and landowners are encouraged to introduce grazing animals to aid the recovery of bog turtle populations. The greatest threats to the turtles are development, overgrowth of vegetation, and poaching for illegal trade.

Source: *HerpDigest* 13(48) herpdigest.org

CENTRAL AMERICA AND CARIBBEAN

Ecotourism as an alternative to palm oil in Costa Rica

As palm oil companies continue to seek out new frontiers in the biodiversity hotspots of South America and Africa, a successful ecotourism venture in Costa Rica shows that there are economic rewards for protecting and showcasing nature and wildlife, and that ecotourism can provide an economic alternative to palm oil. The Nature Pavilion was established on 6 ha of former oil palm plantation in Sarapiquí that has been the focus of an ongoing reforestation project since 1985, to create wildlife habitat and promote environmental awareness. The reforestation is carried out under guidance from the Organization for Tropical Studies, whose scientists advise on the best species of trees to plant. Visitors have helped to plant > 1,500 trees in the reserve, which is home to > 230 species of birds, and there are plans to purchase more land for habitat creation and regeneration with the ecotourism revenue.

Source: *Mongabay.com* (2013) news.mongabay.com/2013/1016-costa-rica-birdwatching-tours.html

SOUTH AMERICA

Amazonia dominated by 227 tree species

Despite being home to c. 16,000 tree species, just 227 (1.4%) hyperdominant species account for half of Amazonia's trees. These results are based on a survey of 1,170 plots and half-a-million trees across the 6 million km² area. The underlying cause of the hyperdominance of the 227 species is as yet unknown as they do not have any particular ecological feature that stands out but both competitive superiority and widespread pre-1492 cultivation by humans are compelling hypotheses that deserve testing. The 227 species include both shade-tolerant, typically large-seeded climax species with dense wood and shade-intolerant, small-seeded pioneer species with light wood. The most dominant species is *Euterpe precatoria*, a palm tree native to central and

southern America, with a mean estimated population of > 5 billion in Amazonia.

Source: *Science* (2013) 342 (6156) ([dx.doi.org/10.1126/science.1243092](https://doi.org/10.1126/science.1243092)), and *BBC News* (2013) <http://www.bbc.co.uk/news/science-environment-24567421>

Sustainability measures set for the Rio 2016 Summer Olympics

A new set of sustainability measures for the Rio 2016 Summer Olympic Games has been agreed by the UN Environment Programme (UNEP) and the 2016 Olympics and Paralympics Organizing Committee as part of an implementation agreement signed by both organizations. The 2016 Games will be organized around four principles for managing sustainability of events (responsibility, inclusion, integrity and transparency) as set out in the Rio Olympic and Paralympic Games Candidate Application. The bid application identified three pillars for sustainability (planet, people and prosperity) consisting of nine themes: transport and logistics, sustainable design and construction, conservation and environmental restoration, waste management, engagement and awareness, universal accessibility, diversity and inclusion, sustainable supply chain, and management and reporting. Further development and implementation of the Rio 2016 Sustainability Management Plan will be supported by UNEP in partnership with local and national government in Brazil.

Source: UNEP (2013) www.unep.org/newscentre/Default.aspx?DocumentID=2725&ArticleID=9595&l=en, and www.rio2016.com

Amazing discoveries in Suriname's pristine rainforest

In the course of just 3 weeks a team of 16 scientists from around the world documented 1,378 species, of which c. 60 are new to science, during a biodiversity survey in Suriname. The new discoveries included a chocolate-coloured frog and a tiny dung beetle. The scientists were participating in one of Conservation International's rapid assessment programmes, where specialist teams are sent to remote ecosystems to record as much biodiversity as they can within a short time. Suriname is heavily forested, with c. 91% of the country under forest cover, and it is one of the last places on earth where large tracts of pristine rainforest remain. There may be many more species as yet undiscovered in Suriname's untouched forests, and protecting ecosystems such as these is vital to mitigate the effects of climate change. However, the

region faces threats from industries such as mining and hydropower.

Source: *Mongabay.com* (2013) news.mongabay.com/2013/1011-hance-suriname-raps.html

Ecuador approves oil drilling in Amazonia

Ecuador has abandoned a conservation plan that would have paid the country not to drill for oil in previously untouched parts of Yasuni National Park in the Amazon rainforest. President Rafael Correa said rich nations had failed to back the initiative, leaving Ecuador with no choice but to go ahead with drilling. The Park is one of the most biodiverse areas in the world. Oil exploitation has been taking place in parts of the Yasuni National Park, which covers nearly 10,000 km², since the 1970s. The UN-backed scheme to attract donations to forego drilling in the east of the Park was launched in 2010. The aim was to raise USD 3.6 bn, 50% of the value of the reserves in the Park's Ishpingo-Tambococha-Tiputini oil field, over 13 years. But with only USD 13 m in donations, Mr Correa said he had no other option but to abandon the fund.

Source: *BBC News* (2013) www.bbc.co.uk/news/world-latin-america-23722204

Introducing the olinguito

The first carnivorous mammal to be discovered in the Western Hemisphere since the 1970s has been found in the Andean cloud forests of Ecuador. Described as a teddy bear-like creature with a cat's tail, the olinguito *Bassaricyon neblina* belongs to an elusive group of mammals known as olingos, which are related to raccoons. Olinguitos are the only members of the family to inhabit high-altitude cloud forest, and they are smaller and more colourful than olingos, for which they were mistaken in the past. Like olingos, they are mostly nocturnal and spend most of their time in trees. Deforestation of the Andean cloud forest for agriculture, logging, mining and livestock is the main threat to the species and it is hoped that the discovery of the olinguito will lead to improved protection of the forest, which is also home to many other endemic species of plants and animals.

Source: *ZooKeys* (2013) [dx.doi.org/10.3897/zookeys.324.5827](https://doi.org/10.3897/zookeys.324.5827), and *Mongabay.com* (2013) news.mongabay.com/2013/0815-hance-olinguito.html

Good news for the Galápagos giant tortoise..

A programme to eradicate rats and other invasive species from the Galápagos

archipelago offers hope that Pinzón Island giant tortoises will once again thrive on their native island, having been declared extinct in the wild in 1996. The tortoises were almost wiped out by black rats and Norwegian rats, which preyed on both eggs and hatchlings, prompting conservationists to place the remaining tortoises in captive-breeding programmes in the 1960s. In 2012 there were an estimated 180 million rats on Pinzón, but in December 2012 poison designed to attract rats but repel birds and other wildlife was laid and the island has been tentatively declared rat-free. One hundred and eighteen juvenile tortoises have since been reintroduced to their native island from a captive-breeding centre and there are now plans to extend the eradication project to other islands in an attempt to save other threatened species.

Source: *Scientific American* (2013) blogs.scientificamerican.com/extinction-countdown/2013/08/02/extinct-galapagos-tortoises-return/

...but not so good for Darwin's finches

Darwin's finches are threatened by a parasitic fly *Philornis downsi*, thought to have been introduced to the Galápagos Islands in the 1960s. Thirteen of the 14 species of finches are found only in the Galápagos and several are in decline. The female *P. downsi* lays her eggs in finch nests just as the chicks are beginning to hatch and the larvae then feed on the chicks. Many nests contain so many larvae that it is impossible for the chicks to survive and those that do usually have deformed beaks, making it difficult for them to feed. There are some indications that the birds may be adapting to the fly, but whether they can do so quickly enough to ensure their survival is not yet known. (See also *Oryx*, 44, 588–594)

Source: *Yale Environment* 360 (2013) e360.yale.edu/feature/in_galapagos_an_insidious_threat_to_darwins_finches/2694/

PACIFIC

The return of the tree snail

Partula tree snails were once widespread across the islands of French Polynesia but many species are now extinct and most of those that remain are Critically Endangered. Populations of the tiny snails, which grow to a maximum length of c. 2 cm, were decimated by the carnivorous wolf snail *Euglandina rosea*, which was introduced from Florida in the 1970s. However, following a successful 30-year collaboration between zoological institutions in Europe and North America and the French

Polynesian Government, hundreds of *Partula* snails were reintroduced to a protected forest reserve in the Te Faaiti Valley on the island of Tahiti in October 2013. The reserve was cleared of invasive plants and animals in preparation for the arrival of three species of the snails, one of which, *Partula affinis*, was thought to be extinct until 12 individuals were found in a single tree in 2012.

Source: *ZSL London Zoo News* (2013) www.zsl.org/zsl-london-zoo/news/snails,1128,NS.html, and *The Royal Zoological Society of Scotland* (2013) www.rzss.org.uk/news/post?urlName=rare-snail-bred-in-edinburgh-flies-back-to-tahiti

AUSTRALIA/ANTARCTICA/ NEW ZEALAND

Pacific Islander seeks climate change asylum in New Zealand

A Pacific Islander is attempting to claim asylum in New Zealand on grounds that climate change is threatening his country. Ioane Teitiota told New Zealand's High Court that parts of Kiribati were already swamped by rising sea levels. He is appealing against an immigration department decision to refuse him asylum. The high court has reserved a decision on his appeal. Mr Teitiota told the tribunal that his family would suffer harm if forced to return to Kiribati. Most of the atolls that make up Kiribati are low-lying and at risk from rising sea levels. His lawyer said that Mr Teitiota was being 'persecuted passively by the circumstances in which he's living, which the Kiribati government has no ability to ameliorate'. The immigration department had refused Mr Teitiota asylum earlier this

year on the grounds that he did not face persecution or threats to his life if he returned to Kiribati.

Source: *BBC News* (2013) www.bbc.co.uk/news/world-asia-24561231

Minister rejects Fiordland tunnel proposal

New Zealand's Conservation Minister has rejected a proposal to build an 11 km tunnel through the dual World Heritage Site of Te Wahipounamu in Fiordland and Mt Aspiring National Park. The Minister's decision has been welcomed by campaigners and conservation organizations, including Forest & Bird, who claim that such a development would have disastrous consequences for the environment and for local communities. Had it been approved the project would have involved clearing almost 8 ha of forest, and waterways within the National Park would have been at risk of contamination by acid leakage from tunnel spoil. Visitors from all over the world come to the area to see the centuries-old red beech forest, which is rich in wildlife and is home to 18 threatened species, including long-tailed bats, mohua and kaka. The area continues to face threats from development, however, including a proposed monorail through Snowdon Forest in Fiordland.

Source: *BirdLife International* (2013) www.birdlife.org/community/2013/08/forest-bird-celebrates-ministers-fiordland-tunnel-decision

The challenge of eradicating rodents from tropical islands

Eradicating invasive alien species from islands has proven to be a successful

approach to protecting biodiversity and restoring ecosystems, and there is increasing demand for such eradication programmes in the face of the global extinction crisis. Such programmes have been particularly successful on tropical islands, which are naturally areas of high biodiversity. In an attempt to generate new ideas and approaches and improve the success rate of eradications, experts convened at the University of Auckland, New Zealand to review historical data and evaluate the lessons learned from past projects, both successful and unsuccessful. Preparations are underway to clear invasive animal species from up to six islands and atolls in the Acteon and Gambier groups of French Polynesia, which are home to a number of threatened bird species, including the Polynesian ground dove, Tuamotu sandpiper, white-throated storm petrel and Murphy's petrel.

Source: *BirdLife International* (2013) www.birdlife.org/community-blog/2013/10/international-experts-convened-to-improve-tropical-island-rodent-eradications

All internet addresses were up to date at time of writing. Note that in the online version of this document (at journals.cambridge.org/orx) all links are live and can thus be used to navigate directly to the cited web sites. The Briefly section in this issue was written and compiled by Nikki Burton, Cella Carr and Martin Fisher, with additional contributions from Simon Bearder, Tom Butynski and Yvonne de Jong. Contributions from authoritative published sources (including web sites) are always welcome. Please send contributions by e-mail to oryx@fauna-flora.org