

Conservation news

Dispersing tiger makes a point...

Data on the long-range dispersal of tigers are limited and most of the available information comes from only a few telemetry studies. Long-term camera-trap data over a large region can potentially provide insights into poorly known and less understood aspects of tiger ecology and behaviour. The Wildlife Conservation Society (WCS) through its collaborating partner, the Centre for Wildlife Studies in India, has been using camera trapping to monitor key source populations of tigers in the Malenad-Mysore Tiger Landscape in Karnataka, India (in Nagarahole since 1990, Bhadra since 1997, Bandipur since 1999, Dandeli-Anshi since 2008, and Biligiri Rangaswamy Temple Sanctuary since 2010). This has produced what is possibly the largest photo-database of individual tigers (> 2,000 profiles of 500+ distinct individuals). This database serves many useful purposes, including that of tracking long-range dispersal, tracing the origin of seized tiger-skins, and monitoring mortality. Here we describe two long-range dispersal events that demonstrate the value of tiger-permeable landscapes for the long-term persistence of tiger populations.

A male (BDT-130) first camera-trapped as a 4-month old cub in April 2006 in Bhadra Tiger Reserve was later photographed by Sudhir Shivaram, a wildlife photographer, in October 2006, along with its sibling and mother, in Bhadra, by which time it was almost full-grown. In May 2008 WCS camera-trapped BDT-130 in Dandeli-Anshi Tiger Reserve, indicating the individual had dispersed radially by at least c. 200 km, traversing some of the most densely human-populated forest patches in the Malenad-Mysore Tiger Landscape. The subsequent re-captures of this tiger in April 2009 and April 2010 in Dandeli-Anshi indicate the successful establishment of a territory by this dispersing male.

On 1 May 2011 a male tiger strayed into Gama village in Shimoga Wildlife Division and was subsequently captured by forest officials following complaints of predation on cattle and attempted attacks on humans. This individual was identified by WCS as BPT-241, which was first camera-trapped near Gundre in Bandipur Tiger Reserve in February 2010. The distance between Gama and Gundre is nearly 280 km, which is probably the longest dispersal distance ever recorded by camera trapping. In consultation with WCS scientists BPT-241 was released by the Karnataka Forest Department in the nearby Bhadra Tiger Reserve on 7 May 2011, as this individual was a healthy, injury-free, young dispersing male and the Reserve had increasing numbers of prey but fewer tigers than its carrying capacity. Nearly 100 days after its release this tiger was found dead near a gaur kill with grave injuries sustained from conspecific aggression.

Telemetry studies in Nepal, Russia and India have shown that young tigers disperse from their natal areas at 18–24 months old, searching for vacant territories. Dispersing male tigers are known to cover long distances before establishing new territories whereas dispersing females are likely to establish home ranges close to their mother. However, information on how far individuals travel and under what habitat conditions they disperse is scarce. Furthermore, there are few recorded instances of transients dispersing through human-dominated landscapes.

The recent dispersal events recorded in the Malenad-Mysore Tiger Landscape indicate the remarkable ability of tigers to disperse stealthily long distances from their natal range. These events also suggest it is possible to support, maintain and sustain dispersal corridors using sustainable landscape approaches (*Conservation Biology*, 7, 20–28) that facilitate tiger movements. Understanding the nature and extent of the forest corridors required for tiger dispersal is the key to sustaining tiger populations over large regions, and the utility of the photo-database for monitoring movements emphasizes the role of long-term scientific monitoring in enhancing our understanding of the biological needs of tigers and our ability to conserve them effectively.

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Open trade in Kaiser's spotted newt in South-East Asia

Kaiser's spotted newt *Neurergus kaiseri* is endemic to Iran's southern Zagros Mountains, where it is confined to four streams in a single catchment area. Because of its small range (<10 km²) and population size (<1,000 mature individuals) and a range of threats (habitat loss, droughts, introduction of non-native fish and capture for the pet trade) the species is categorized as Critically Endangered on the IUCN Red List. The threat posed by trade for the international pet market recently resulted in the inclusion of this newt in Appendix I of CITES, precluding all international commercial trade as of June 2010 (<http://www.cites.org/eng/cop/15/prop/E-15-Prop-14.pdf>). The species is protected in Iran and no export permits have been

granted by the Iranian authorities for at least 15 years, if ever.

International trade in Kaiser's spotted newt has been recorded in the EU, Ukraine, USA, Canada and Japan since 2005. Live specimens are collected and smuggled out of Iran, probably via Azerbaijan, Ukraine and Russia. Several reports have stressed the importance of the internet in this trade, with hitherto little information regarding open trade in pet stores. Here we report on the first observations of Kaiser's spotted newt offered openly for sale in the burgeoning South-East Asian pet market.

The observations were made at Chatuchak weekend market in Bangkok, Thailand. About 15 stores specialize in the sale of exotic reptiles and amphibians, many offering rare, globally threatened, CITES-listed species. Prior to 2010 there are no records of Kaiser's spotted newt for sale. During five surveys in 2010–2011 one shop, specializing in novelty species, had Kaiser's spotted newts for sale. The animals were displayed openly in the shop's window, with 10 individuals observed in December 2010, none in January 2011 or June 2011, eight in July 2011 and four in August 2011. The price for an individual newt was quoted at THB 1,900 (EUR 45). A sales person in the shop hinted at the newts being captive-bred but would not provide details on breeding or on the provenance of the stock. Enquiries to the Thailand CITES authorities confirmed that no permits have been granted to import/export or captive-breed Kaiser's spotted newt commercially in Thailand, deeming all trade in the species illicit.

Our observations at Chatuchak market suggest an open, commercial trade in Kaiser's spotted newt into Thailand, in clear contravention of CITES regulations. The first individuals were observed after all international trade was banned, in a shop specializing in novelty species, suggesting that the publicity generated by the CITES Appendix I listing might have drawn the attention of unscrupulous dealers. Turnover appears to be high, with at least 14 individuals sold and new individuals arriving at least twice during our surveys. We urge the Thailand CITES authorities to take action to stop the sale of Kaiser's spotted newt at Chatuchak market, and for them to liaise with their Iranian counterparts to curb the international trade in this species. Furthermore, we urge conservationists working in Thailand to visit Chatuchak and report illegal or suspected trade to the relevant authorities.

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Southern China's illegal ivory trade flourishes

The number of items carved from elephant ivory for sale in southern China's most populous city, Guangzhou, is larger

than ever this decade. The total number counted in a survey that we carried out in January 2011 was 6,437 items, an increase of 50% since our previous survey in 2004. Supposedly all items produced for domestic trade have legal documentation. During our survey factory owners told us that the tusks they bought varied in price depending on weight, condition and source. A government-owned tusk weighing 1–5 kg costs USD 303–530 per kg, and privately-owned tusks, both legal and illegal, cost c. USD 750 per kg for similar tusks, a rise since 2004 of 45 and 54% respectively, suggesting a growing demand.

In this survey we counted 2,490 legal ivory items on display for retail sale in eight government-registered shops and 3,206 illegal ivory items in 25 illegal outlets. These consisted of 39% jewellery items, 14% beads, 14% figurines and 9% charms and figures (<10 cm in height), plus cigarette holders, chopsticks, dice, signature stamps and other items, from small trinkets to large intricate carvings. Of the illegal ivory objects over two-thirds had been made since 1990. According to a Chinese law that came into effect in 2004 each ivory item must be sold with an ID card and only in designated ivory speciality shops. The fact that 61% of the items we counted, in all shops combined, had no ID cards shows that the law is not being enforced.

In 2008, under CITES supervision, China bought c. 62 tonnes of tusks in southern Africa for legal use in China. However, smuggling of tusks into China continues, with at least 688 official seizures in 2010 of ivory consignments destined for, or reaching, China. Before 2009 there were fewer than 100 seizures per year. Officials may have increased their vigilance but the growing demand for ivory in China is an increasing problem for law enforcement. According to vendors most buyers of both legal and illegal ivory are wealthy Chinese. Some items are exported, especially by foreigners, although this is illegal.

The demand for mammoth ivory has also grown. We counted 6,541 mammoth ivory items in 30 outlets in Guangzhou. These tusks are collected in the Siberian tundra from the extinct woolly mammoth, which is exempt from CITES, and imported legally into China. Factory owners in southern China pay c. USD 400 per kg for good quality mammoth tusks of medium size, obtained from traders in Russia or Hong Kong. Salaries and overhead costs in China are low compared with Hong Kong and other countries, making carving competitive. Some factories export most of their carvings, whereas others sell the majority within China. Demand has risen in China because of increased marketing, especially on television and with posters displayed in shops, driven by the economic boom and urban population growth. In Guangzhou mammoth ivory items for retail sale comprised 25% figures, 25% trinkets, 22% figurines and 22% pendants, plus necklaces, bangles/bracelets, earrings and tusks. The number of objects we counted that were made from mammoth ivory was up by 100% compared with 2004.

Mammoth ivory may be a substitute for elephant ivory within China and is also popular with foreign visitors as it

has virtually no trade restrictions. However, when the brown outer layer is not visible on a carving good quality mammoth and elephant ivory can be confused. For example, elephant ivory items without the compulsory ID cards can be sold as mammoth ivory and therefore 'legally' exported.

We recommend that (1) officials need to inspect registered shops regularly to check that all ivory items possess ID cards and that the cards are not being reused, (2) mammoth ivory needs to be in a separate part of the shop, with compulsory ID cards, to reduce the likelihood that this look-alike material confuses buyers, and (3) outlets selling illegal ivory must be regularly inspected and this ivory confiscated. So far, such inspections are rare. The illegal ivory trade will not diminish unless effort is made by all those involved in ivory to curtail its sale.

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A survey for three threatened, narrow endemic amphibian species in the Uzungwa Scarp Forest Reserve, Tanzania

The biodiversity of the Eastern Arc Mountains of Tanzania is unique and of great importance for nature conservation. Within these mountains the Uzungwa Scarp Forest Reserve in the Udzungwa Mountains is exceptional for its high numbers of endemic and threatened species. This unique fauna includes many endemic amphibians, including species believed to be restricted to single valleys or sites of < 1 km². These narrow endemics are categorized as Endangered or Critically Endangered on the IUCN Red List of Threatened Species. To determine conservation status and plan management it is important to know whether the extent of occurrence of these species is fully documented. The extinction in the wild of the Kihansi spray toad *Nectophrynoides asperginis* at the southern tip of the Uzungwa Scarp illustrates the susceptibility of these highly localized, small amphibian populations to extinction.

We undertook surveys in the main wet season of 2011, targeting three threatened narrow endemic amphibian species: Wendy's forest toad *Nectophrynoides wendyae* (Critically Endangered), Poynton's forest toad *Nectophrynoides poyntoni* (Critically Endangered) and the Kihanga reed frog *Hyperolius kihangensis* (Endangered). Visual encounter surveys were carried out along transect lines and within plots during both day and night and were focused on known areas of distribution.

Wendy's forest toad was encountered on two of three visits to the species' historical site and at a new location for this species c. 0.5 km away in a separate valley. This small distance significantly extends the known area of occupancy of this species, which was previously estimated < 1 km². However the availability of this new information does not

merit a change in the species' Critically Endangered status. Poynton's forest toad and the Kihanga reed frog were not encountered despite surveying the known distribution area of both species. The only known site of Poynton's forest toad was surveyed on four occasions. In addition, the sympatric Tornier's forest toad *Nectophrynoides tornieri* was also absent from this site despite being previously recorded as common there.

Heavy rains may have affected the single survey for the Kihanga reed frog, and both undetected species may normally be more active, and therefore more easily detected, at the onset of rains in November–December rather than during the wet season. Nevertheless, given the highly threatened status of these species we are planning further survey work as an urgent priority. We recommend that all known sites of potentially narrow endemic amphibian species should be explicitly recognized in the management of the Uzungwa Scarp Forest Reserve, including in any potential plans for Nature Reserve status (see *Oryx*, 41, 429–430). Any significant environmental changes at these sites could result in the extinction of these unique species.

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Plant conservation toolkit

A new website has recently been launched by Botanic Gardens Conservation International (BGCI) to support the implementation of the Global Strategy for Plant Conservation (GSPC). The GSPC is a programme that has been adopted by the Parties to the Convention on Biological Diversity (CBD) to address the continuing loss of plant diversity. It includes 16 targets for plant conservation to be achieved by 2020. The website (<http://www.plants2020.net>) provides a toolkit for plant conservation practitioners covering all 16 targets. It has been developed in response to a request by the Parties to the CBD and will eventually be available in all the UN official languages. The website provides background information about the GSPC and its linkages with the CBD Strategic Plan and other

international environmental agreements. It provides guidance, tools and resources both to help countries develop national responses to the GSPC and for individuals to contribute to the implementation of individual targets. At the national level the toolkit aims to help policy makers and others understand the linkages between the GSPC targets and the global biodiversity targets adopted by the CBD in 2010. The focus is for the GSPC targets to be harmonized and incorporated into revised National Biodiversity Strategies and Action Plans. With regard to the individual targets the toolkit aims to help plant conservationists understand the context and meaning of each target and

provides tools and guidance to support practical activities. The website is also the home of the Global Partnership for Plant Conservation (GPPC), an informal network of organizations dedicated to the implementation of the GSPC. Members of the GPPC support BGCI in developing the toolkit by providing expert opinion and guidance on content as well recommending tools and resources to be included.

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