

VOL. 27 NO. 2

2

# TRAFFIC

B U L L E T I N

OCTOBER 2015

**INDIAN STAR TORTOISES IN MALAYSIA**

**PLOUGHSHARE TORTOISES**

**IVORY ON SALE IN VIET NAM**

The journal of the TRAFFIC network disseminates information on the trade in wild animal and plant resources

# TRAFFIC

the wildlife trade monitoring network

TRAFFIC was established in 1976 to perform what remains a unique role as a global specialist, leading and supporting efforts to identify and address conservation challenges and solutions linked to trade in wild animals and plants.



MICHEL GUNTHER / WWF-CANON

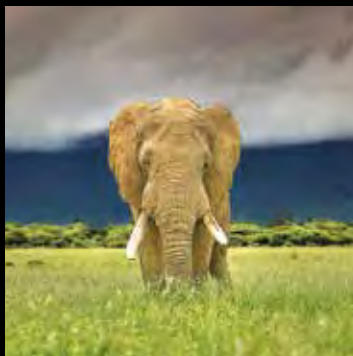
TRAFFIC's Vision is of a world in which trade in wild plants and animals is managed at sustainable levels without damaging the integrity of ecological systems and in such a manner that it makes a significant contribution to human needs, supports local and national economies and helps to motivate commitments to the conservation of wild species and their habitats.

# TRAFFIC

Trade in wildlife is vital to meeting the needs of a significant proportion of the world's population. Products derived from tens of thousands of species of plants and animals are traded and used for the purposes of, among other things, medicine, food, fuel, building materials, clothing and ornamentation.

Most of the trade is legal and much of it sustainable, but a significant proportion is not. As well as threatening these resources, unsustainable trade can also lead to species declining in the wild to the point that they are threatened with extinction. Illegal trade undermines local, national and international efforts to manage wild natural resources sustainably and causes massive economic losses.

TRAFFIC is a strategic alliance of WWF and IUCN, the International Union for Conservation of Nature. The role of



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TRAFFIC is to seek and activate solutions to the problems created by illegal and/or unsustainable wildlife trade. TRAFFIC's aim is to encourage sustainability by providing government, decision-makers, traders, businesses, consumers and others with an interest in wildlife trade with reliable information about trade volumes, trends, pathways and impacts, along with guidance on how to respond where trade is illegal or unsustainable. Six regional TRAFFIC offices are co-ordinated by the TRAFFIC headquarters in Cambridge, UK.

TRAFFIC's reports and advice provide a technical basis for the establishment of effective conservation policies and programmes to ensure that wildlife is maintained within sustainable levels and conducted according to national and international laws and agreements. The journal of the TRAFFIC network, *TRAFFIC Bulletin*, is the only publication devoted exclusively to issues relating to international trade in wild plants and animals. Provided free of charge to over 4000 subscribers and freely available from the TRAFFIC website ([www.traffic.org](http://www.traffic.org)), it is a key tool for disseminating knowledge of wildlife trade and an important source of information for those in a position to effect change and improve awareness.



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Much of the content published in the *TRAFFIC Bulletin* arises from investigations carried out by TRAFFIC staff, whose wide-ranging expertise allows for a broad coverage of issues. TRAFFIC has also built up a global network of contacts with, for example, law enforcement agents, scientists, and wildlife experts, some of whom are regular contributors to the *TRAFFIC Bulletin*.

TRAFFIC welcomes articles on the subject of wildlife trade that will bring new information to the attention of the wider public; guidelines are provided in this issue and online to assist in this process. For more information, please contact the editor: Kim Lochen ([kim.lochen@traffic.org](mailto:kim.lochen@traffic.org)).

The *TRAFFIC Bulletin* is a publication of TRAFFIC, the wildlife trade monitoring network, which is the leading non-governmental organization working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development. TRAFFIC is a strategic alliance of WWF and IUCN.

The *TRAFFIC Bulletin* publishes information and original papers on the subject of trade in wild animals and plants, and strives to be a source of accurate and objective information.

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Published by TRAFFIC, 219a Huntingdon Road, Cambridge, Cambs., CB3 0DL, UK.

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ISSN 0267-4297.  
UK Registered Charity No. 1076722

**Cover photograph:**  
Indian Star Tortoise *Geochelone elegans*  
(© David Lawson / WWF-UK)

**Photographs this page, from top:**  
Wildlife training for Ecuador's military (© TRAFFIC);  
Carved ivory items on sale in Ha Noi, Viet Nam (© TRAFFIC);  
Seizure in Hong Kong of pangolin scales and casques of Helmeted Hornbills *Rhinoplax vigil* (© Hong Kong Customs)  
Ploughshare Tortoise *Astrochelys yniphora* (© Martin Harvey / WWF-Canon)

Funding for the printing and distribution of this issue of the *TRAFFIC Bulletin* is generously provided by The Rufford Foundation. Funding to print and distribute future issues is being sought. Please visit <http://www.traffic.org/donate/> if you can help.

Printed by Portland Print,  
Kettering, Northants NN16 8UN, UK.

# TRAFFIC

BULLETIN

VOL. 27 NO. 2 OCTOBER 2015

## CONTENTS

### news

41

- editorial •
- ivory and terror - fact or myth? •
- pangolin seizures data, Indonesia •
- Asian songbirds in crisis •
- sustainability in the TCM sector, China •
- EU-TWIX 10th anniversary •
- wildlife training for Ecuador's military •
- the case for CITES Appendix I-listing of Earless Monitor Lizards •

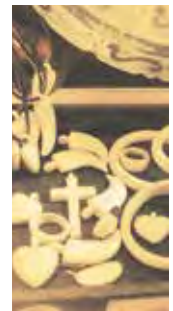


### feature

59

#### Assessment of the availability of ivory in the Vietnamese market

Nhuan Van Nguyen and Madelon Willemsen



### seizures and prosecutions

66

#### A selection of seizures and prosecutions that have recently taken place around the world



### short communications

73

#### Indian Star Tortoises: shop sales fall as internet trade increases

Serene C.L. Chng and Jamie Bouhuys

#### A case study of the Ploughshare Tortoise and the role zoos can play in conservation

Roopali Raghavan, Sonja Luz,  
Chris R. Shepherd, Richard Lewis,  
Paul Gibbons and Eric Goode





While the trade in wild animals—the illegal and crime-linked components in particular—has risen on policy and practice agendas, far less attention is paid to the challenge arising from harvesting and trade in wild plants. This is particularly true for aromatic, food and medicinal commodities, which remain largely overlooked as “hidden ingredients” in everyday and luxury products. Arguably, this is the wildlife trade that directly affects the largest proportion of people around the world, through consumption of products including herbal teas (e.g. liquorice), chocolate (wild cocoa, shea nuts), carbonated drinks (gum arabic), beauty products (sandalwood oil, frankincense), and medicines (ginseng, hoodia).

## EDITORIAL

Estimating the scale of the trade is difficult, as it is often unregulated. Most available statistics do not include figures for the volumes in trade or species composition. It is estimated that 60 000 plant species are used for medicinal purposes around the world, with several thousand traded internationally. According to the Food and Agriculture Organization of the United Nations (FAO), the global value of non-wood forest products (NWFP) of plant and animal origin was estimated as USD20.6 billion in 2010. This is likely a substantial underestimate as NWFPs are rarely captured in national statistics: in a recent International Trade Centre study, the export of plant-based NWFPs from China was estimated at over 1.3 billion kg, with a reported Customs value of over USD5 billion. Trade chains are often complex and difficult to monitor, involving multiple trading and processing companies from the point of harvest to the end products. Surprisingly little attention is paid to the significance of a trade that provides livelihoods to millions.

Every fifth plant species is estimated to be threatened with extinction in the wild, according to IUCN. Just 3% of the world’s well-documented medicinal flora has been evaluated for global conservation status, almost half of it as threatened. Plants have been used by humans over millennia and, in that time, they have been pretty resistant to collection pressures. However, the existing and growing market demand creates an important driver of increased harvesting pressure, including in species that were not traded internationally in the past (e.g. for superfoods or cosmetics). For example, there are estimates that the nutritional supplements market globally has grown from USD40 billion to USD96 billion between 1996 and 2012, while the global organic cosmetics market is increasing by 10% annually. Wild plant ingredients, including extracts and essential oils, are important components of such products and are now facing pressures like never before. Companies’ marketing strategies often emphasize the “natural” and “wild” properties of the ingredients, but little attention is directed at whether their sourcing is ecologically and socially sustainable.

For wild plant species, there is generally less control and enforcement of legality and sustainability, and a lack of management planning for the majority of species harvested and traded. CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) trade controls can help address the legality and sustainability of

sourcing, but they do not apply to many of the key species in trade. More regulation governing harvesting and trade of wild plants does not always translate into sound resource management—particularly taking into account the interplay with issues of tenure and access rights, traditional use, and the characteristics of products in trade.

Despite these complexities, wild plants in trade can “tell” very positive conservation stories of sustainable use. TRAFFIC works with the FairWild Foundation, IUCN/SSC’s Medicinal Plant Specialist Group and others to support implementation of the FairWild Standard, the best practice guidelines for sustainable harvest and equitable trade in wild plants. Under the FairWild certification system, now operational for five years, 24 species have been certified in eight source countries, and over 20 products are now sold on the market labelled as “FairWild”. The scheme is also providing better incomes to local communities through its fair trade approach to over 1000 collectors, including the Samburu people in northern Kenya tapping Frankincense *Boswellia* and *Commiphora* spp. resin, community groups harvesting Ayurveda ingredients in sacred groves in India’s Western Ghats, Liquorice *Glycyrrhiza* spp. harvesters in Kazakhstan, Spain and Georgia, and Roma plant collectors in Central/Eastern Europe. This uptake is primarily driven by FairWild’s “early adopter” champions in the business sector. Beyond certification, other companies are using the FairWild Standard as a basis for responsible sourcing of wild plants through their internal policies and sourcing practices. This includes some key traditional Chinese medicine manufacturers, which were a focus of a recently completed project in China (see pages 48–50), who are beginning to employ FairWild principles as part of their corporate social responsibility commitment.

Sound decisions on the trade in plants must be based on sound information. The assessment of trade and the threat status of key resources and the development of species and area management plans is needed in all source countries, to guide resource management policies and strategies, and to capture information about harvesting, trade and its impacts on species and people. Balancing rigorous scientific approaches with community-based participatory resource management models is paramount to ensure the engagement of resource owners and users.

With an increasingly strong range of tools now available to help ensure and demonstrate responsible sourcing of wild plants, the key question now is how their use can be expanded to have impact on a much bigger scale. One critical factor is gaining consumer engagement about the sourcing of ingredients that they all too often are unaware of as being part of their daily lives. Perhaps in the same way that concern about illegal trade in wild animals has been prompted by exposure of the impacts on a few charismatic “flagship” species, greater action on trade in wild plants can be motivated by drawing attention to a similar set of iconic wild plant species that can capture greater public attention. This could help drive the sort of innovative partnerships between conservation organizations, consumer associations, companies, and development agencies that are so badly needed to bring this trade out of hiding and motivate more action for people and plants.

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*Anastasiya Timoshyna, Medicinal Plants Programme Leader, TRAFFIC. E-mail: anastasiya.timoshyna@traffic.org*

EMMA COOPER has been appointed Senior Finance Manager, and is based in the UK office.

## bulletin board

LALITA GOMEZ has joined the Southeast Asia regional office in Petaling Jaya, Malaysia, where she will be leading work on bears and pangolins as part of the Wild Animals used for Food and Medicine (WAFM) thematic area of TRAFFIC's work. NOR HASLINDA BINTI NORDIN (Lien) also joined this office in July as Administrative Officer.

In August 2015, VOLKER HOMES, National Representative in Germany for many years, left TRAFFIC to take up a new post as Chief Executive of the German Zoo Association (Verband der Zoologischen Gärten).

LOUISA MUSING joined TRAFFIC as Europe Research Officer, based in the Cambridge office, focusing on EU issues. Louisa takes over from VICTORIA MUNDY, who left at the end of July after more than three years with TRAFFIC.

The following appointments have been made at the Viet Nam office:

NGUYEN HANH HOANG, Medicinal and Aromatic Plants Policy Officer; LINH HUONG DANG, Finance and Administration Officer and NGA THUY BUI, Project Officer for Demand Reduction.

KAZUHA HIRAKATA joined the Japan office in July 2015.

FRANCOIS ABESOLO KPWANG has been appointed Senior Programme Officer, effective 1 October 2015, based at the Central Africa office in Yaoundé, Cameroon.

Major changes at two TRAFFIC offices in Latin America:

In July 2015 ADRIAN REUTER, Director, and PAOLA MOSIG, Senior Programme Officer, of the Mexico office left the network. In September 2015 BERNARDO ORTIZ, Regional Director, and ANA PUYOL, Programme Officer, of the South America regional office in Quito also left TRAFFIC. All made immense contributions to TRAFFIC's work during their long periods with the network. TRAFFIC continues to carry out project work in Latin America managed from the TRAFFIC headquarters office, particularly in association with WWF and IUCN offices in the region, and hopes to re-establish a locally-based team in future.

### traffic websites

www.traffic.org (English); www.traffic.org/news-french (French);  
www.wwf.ru/traffic (Russian); www.trafficchina.org (Chinese);  
www.trafficj.org (Japanese)

The TRAFFIC Bulletin is available on www.traffic.org



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## TRAFFIC HEADQUARTERS MOVE

With effect from 7 December 2015, TRAFFIC's headquarters office will relocate into the Cambridge Conservation Campus in the newly refurbished David Attenborough Building. The campus has been developed by the Cambridge Conservation Initiative (CCI), a unique collaboration between the University of Cambridge and leading internationally-focused biodiversity conservation organizations clustered in and around Cambridge, UK.

For more information see:  
[cambridgeconservation.org](http://cambridgeconservation.org)

Our new address will be as follows:

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Artist's impression of the entrance to the David Attenborough Building, TRAFFIC's new home from December 2015.

## Ivory and Terror: Fact or Myth?

The illegal wildlife trade, and the poaching which feeds it, has in some places reached unprecedented levels. With increased attention being given to this issue at the highest levels of government, and its impact on broader issues such as rule of law and security, there has been growing speculation that the high profits from this trade—particularly the ivory trade—is financing the operations of terrorist networks. Immediately following the Westgate Mall killings in Nairobi in September 2013, where gunmen from the terrorist group al-Shabaab killed at least 67 people, some media and organizations seized upon the claim from a little-known report *Africa's White Gold of Jihad*, that 40% of the terror group al-Shabaab's operational budget came from moving 1–3 tonnes of ivory through Somalia every month. Since then, well-known organizations have mounted public campaigns using this terror and ivory theme, promoting the direct connection between ivory trade and terrorism.

The Royal United Services Institute for Defence and Security Studies (RUSI), a British defence and security think tank, last September released a report that attempted to examine the evidence for these widespread claims, particularly in relation to the role of al-Shabaab. Using extensive surveys, desk-based research and fieldwork in Nairobi and Kenya, the report, *An Illusion of Complicity: Terrorism and the Illegal Ivory Trade in East Africa*, concluded that the claim that al-Shabaab receives up to 40% of its running costs through the illegal ivory trade alone is largely wrong. It noted that available data (including from the Elephant Trade Information System managed by TRAFFIC) showed that only small amounts of ivory appear to have moved through Somalia during the current poaching crisis—far smaller than the volumes transiting Kenyan and Tanzanian ports. Any small benefit al-Shabaab may derive from this trade is apparently significantly dwarfed by its main sources of funds—smuggling of charcoal and sugar. The al-Shabaab income from charcoal trade is previously documented consistently and widely accepted by the institutions with expertise in al-Shabaab's operations.

The report, in fact, concludes that the main drivers of illegal ivory trade across East Africa are not terrorist networks but highly networked organized crime groups, brokers and corrupt government officials and warns that the ivory-terrorism narrative serves as nothing more than a distraction from the international community's efforts to tackle these groups. The report also warned that the current bias towards militarized anti-poaching

operations in some areas of East Africa needs to be addressed, and that aggressive front-line activities need to be complemented by community-engagement and development programmes.

The militarization of poaching was the subject of a Roundtable Meeting organized by RUSI and the Global Initiative against Transnational Organized Crime in the UK in October 2015. Organized crime and anti-poaching experts at the meeting noted that teams of poachers from African countries like Mozambique were often well-armed with high-calibre hunting rifles and automatic weapons, night vision goggles and GPS equipment. In comparison, it seems that most African rangers employed to protect wildlife are considered under-paid, under-trained and under-resourced, and are putting their lives in danger on a daily basis. One participant stressed the phrase “professionalization, not militarization”, emphasizing better wages and more support for rangers, through training and provision of equipment, and new technologies being employed with this increased professionalism, rather than instead of it.

Other experts warned that heavy-handed militarized responses to poaching may in fact be detrimental in some areas. Another participant stressed the importance of research that will inform anti-poaching activities to ensure that real causal factors are addressed with sustainable solutions rather than just “firefighting” the issue in the field. This means understanding the drivers of poaching and looking at alternatives from a community point of view that will contribute to the efforts aimed at reducing poaching.

While controversy remains on the role of terrorist networks and militarization of anti-poaching operations, few will dispute the real impact of wildlife crime on security in the context of rule of law, governance, national development and the local communities directly affected. There is too a wider debate emerging among the intelligence sector regarding the convergence of terror and organized crime networks that may with time generate a different picture. Wildlife trafficking does unfortunately remain, in general, a high profit and low risk enterprise that organized crime is capitalizing on, but there is no public evidence these are the same crime groups that are enabling terror. The RUSI report certainly is clear where they believe the solutions lie—the international community working together to enforce current laws and provide sustainable economic alternatives.

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## TRAFFIC STAFF RECOGNITION

*Tom Milliken, TRAFFIC's Elephant and Rhino Programme Leader, is one of six people to be awarded the Sir Peter Scott Award for Conservation Merit, the highest honour granted by the IUCN Species Survival Commission (SSC) to recognize individuals for their significant and long-term service to conservation, through their work with the SSC or associated institutions. Milliken's award was “in recognition of his unrelenting work in TRAFFIC and the SSC over three decades to understand and find solutions to the problems of illegal trade in ivory and rhino horn, including his exceptional leadership of the Elephant Trade Information System”.*



TRAFFIC

Several researchers have used seizures data to get an insight into the extent of the illegal wildlife trade (Underwood *et al.*, 2013; Nijman, 2010). Some of these analyses dealt with English-speaking countries and relied on English-language reports (Cowdrey, 2002; Alacs and Georges, 2008), whereas others included a range of non-English speaking countries or dealt with global illegal wildlife trade, yet still (largely) relied on English-language reports (e.g. Rosen and Smith, 2010). While reports of wildlife seizures in the media can be unreliable in any language, including misidentifications, lacking information on volumes, over-estimations of values, and a bias towards the more charismatic species, it is possible to glean valuable data from these reports when used with caution. Here data on seizures of pangolins *Manis* spp. in Indonesia, all assumed to be Sunda Pangolins *Manis javanica*—the only species native to Indonesia—as reported in the Indonesian media are analysed and compared to those reported in English; the source of the pangolins and their intended destination are identified, where possible, with the aim of bettering our understanding of the illegal trade in pangolins in Indonesia.

## BACKGROUND

# PANGOLIN SEIZURES DATA REPORTED

The greatest threat to the conservation of pangolins is illegal hunting for trade, largely to supply demand in East Asia for meat and scales, the latter of which are used in tonics and traditional medicines (Li and Wang, 1999; Pantel and Chin, 2009; Challender, 2011). Pangolins are exceptionally vulnerable to over-exploitation as they are easily hunted and have a slow reproduction rate (Yang *et al.*, 2007; Challender, 2011). Large-scale commercial harvesting and international trade have been ongoing since at least the beginning of the 20th century. For instance Dammerman (1929), reports that the export of several metric tonnes of Sunda Pangolin scales from the Indonesian island of Java to China in the period 1925–1929 involved the killing of at least 4000–10 000 pangolins a year, despite the species being legally protected. Likewise, for the period 1958–1964, Harrisson and Loh (1965) document the licensed export of over 60 000 kg of, most likely Sunda, pangolin scales originating from Indonesian Borneo via the Malaysian State of Sarawak to Singapore and Hong Kong; if three Sunda Pangolins are required to obtain one kilogramme of dried scales, this involved the killing of some 25 000 pangolins a year. Certainly in the last decades it has become clear that harvest and trade are unsustainable, with pangolins having become scarce in much of their former range (Shepherd, 2009).

All Asian pangolins have been listed in Appendix II since the inception of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1975, and since 2000 a “zero trade quota” has been in place for them. All Asian range countries of pangolins are party to CITES (Indonesia ratified the Convention in 1978) and therefore no international commercial trade is allowed to take place. Furthermore, in Indonesia the Sunda Pangolin has been legally protected since 1931, when the species was included in the 1925 *Wildlife Protection Ordinance* (Dammerman (1929) states that it “really has been protected since 1909” but it is unclear to which piece of legislation he refers). Currently it is listed in *Government Regulation No 7 on Conservation on Flora and Fauna of 1999*, which bans all trade in the species (Noerjito and Marjanto, 2001). Despite these strong regulations and protective measures, trade in pangolins in Indonesia and elsewhere in Asia is thriving (Pantel and Chin, 2009; Challender *et al.*, 2015). Indonesia has been identified as one of the key suppliers of the Chinese markets (Shepherd, 2009; Sopyan, 2009) and indeed in recent years Indonesia has been implicated in some of the largest pangolin seizures (Pantel and Chin, 2009). Because of the threats posed by the illegal wildlife trade, and because of dramatic declines in their population numbers, the Sunda Pangolin is currently listed as Critically Endangered according to IUCN threat criteria (Challender *et al.*, 2014).

Indonesia is a country of 220 million people, and in some estimates as many as 700 separate languages are spoken. In Indonesia, the Sunda Pangolin is restricted to the western part of the country where there are some 10 “regional” widely-spoken languages, with Javanese (~84 million speakers), Sundanese (~34 million speakers) and Madurese (~14 million speakers) being the most numerous (Lewis *et al.* 2014). However, throughout the island archipelago, the national *lingua franca* is Bahasa Indonesia, spoken by some 210 million people. Only a small proportion of Indonesians speak English and reporting by the authorities is invariably undertaken in Bahasa Indonesia, or in the words of Lauder (2008): “English has no wide use in society, is not used as a medium of communication in official domains like government, the law courts, and the education system, and is not accorded any special status in the country’s language legislation”. Nevertheless, there are several English language newspapers and magazines in circulation in Indonesia, the most popular being *Jakarta Post*, *Jakarta Globe*, *Bali Times* (daily) and *Tempo* (weekly), that report on national news, and of course significant events in Indonesia are reported in the wider English language newspapers.

## SURVEY FINDINGS

In July and October 2014 and January and July 2015, the internet was searched for articles, reports, blogs or posts related specifically to the seizure of pangolins in Indonesia, for the period 1 January 2012 to 31 July 2015. Search terms used were “BKSDA and *trenggiling*” and “Bea Cukai and *trenggiling*”, BKSDA standing for the government agency that is responsible for enforcing wildlife protection laws, Bea Cukai referring to the Customs agency, and *trenggiling* being the Indonesian word for pangolin. In addition, the English equivalents were searched for, adding “Indonesia” as a search term. The information was



transferred to a database noting, where possible, the date, location, volume (alive, dead, mass, scales), and destination of the shipment. Seizures were sometimes reported by different sources, often, but not always, around the time of the seizure, and the same seizure could be referred to repeatedly in subsequent reports. Data were checked to ensure the seizures reported were made after 1 January 2012 and dates, locations and volumes were compared to be certain that individual seizures were not counted twice. When reports conflicted, the ones that appeared to be most reliable (this often being the report that contained

## IN THE INDONESIAN MEDIA

the most relevant information) were selected. Each entry in the database was then checked to see if it was reported in English as well, using specifics such as date, volume, location, from the Indonesian language reports.

Given that seizures were reported in various units of measurement (individuals, kilogrammes of bodies, kilogrammes of scales, etc.), all data were converted to individuals, assuming a mass of five kilogrammes for a whole pangolin and three pangolins providing one kilogramme of scales (Challender *et al.*, 2015: there are some indications that the average mass of a seized pangolin may be less as in Surabaya in May 2015, 455 frozen pangolins weighed 1390 kg, thus averaging just over three kilogrammes for a pangolin). When scales and bodies were reported for the same seizure, the larger figure in terms of individuals was used. By default, each seizure was treated as independent of each other, although it is acknowledged that there is a small possibility that a seizure of bodies without scales in one location can be linked to a seizure of scales in another.

A total of 45 seizures was recorded (Fig. 1). Twelve seizures were reported in 2012, 10 in 2013 and 17 in 2014 and six in the first seven months of 2015 (an additional seizure of 200 kg of scales made at Soekarno-Hatta airport in Jakarta on 26 January 2015 was excluded as it originated from Cameroon).

Seizures ranged from one live individual seized in Ambarawa, Central Java, in December 2014, through to the confiscation of a container with over 8500 kg of dead pangolins and close to 350 kg of pangolin scales in the Tanjung Priok harbour in Jakarta in November 2012, and 300 kg of scales seized in Bakauheni harbour, Lampung, southern Sumatra, in November 2014. A large seizure made in Belawan harbour, Medan, north Sumatra, in April 2015 was initially reported as comprising 3440 kg of frozen bodies, 100 kg of scales and 96 live pangolins, but later changed to 5000 kg of frozen pangolin bodies, 77 kg of scales and 96 live specimens; later still, when reporting on the burial of the carcasses this figure was reported as 3000 to 4000 pangolins. While these figures do not match up, from the photographs of the carcasses being buried it is clear that the seizure was large. A figure of 2000 frozen pangolins and 96 live pangolins is used in this analysis. Likewise, there

**A seizure in Medan, Indonesia, of 128 Sunda Pangolins *Manis javanica* from a boat heading to Malaysia across the Malacca Straits on 23 February 2013.**



Photographs:  
Directorate General Customs,  
Indonesia

were conflicting reports for the volumes of whole pangolins seized in December 2012 in West Java, with one report indicating 7400 kg and another 17 500 kg; the lower figure is used here. When all reports were converted to individuals, in total 11 575 pangolins were involved. The median size of the seizures was 51 individuals.

The smaller seizures often involved raids on small-scale traders' residencies or a search of cars at roadblocks, whereas the larger seizures invariably involved enforcement actions in seaports (e.g. 4124 kg of dead pangolins and 31.4 kg of scales in Merak in May 2012 or the aforementioned seizure in Jakarta, November 2012) or airports (288 pangolins at Juanda airport in Surabaya in December 2012, or 189 pangolin skins at Soekarno-Hatta airport in Jakarta in January 2013). Cities that featured prominently in the trade, both as places where pangolins were confiscated and as places to where shipments of pangolins were heading, were Jakarta and Surabaya in Java, Palembang and Medan in Sumatra and Palangkaraya in Kalimantan. These cities act as transit points for pangolins exported abroad, as was indeed found by Sopyan (2009) when investigating the pangolin trade in Sumatra in 2007–2008.

Geographically, 24 seizures were made on the island of Sumatra (in six of its 10 provinces, totalling 4046 pangolins), 14 seizures in Java (in all four provinces, 6736 pangolins) and seven in Kalimantan (in three of five provinces, 793 pangolins). The destination was only mentioned for eight of these shipments. A total of 2677 pangolins were destined for mainland China, Hong Kong or Taiwan, 3798 pangolins were headed for Viet Nam (for 2096 of these, Viet Nam was intended as a transit country, with China being the final destination), and 228 for Malaysia.

Of the 45 seizures, 29 were found to be reported in the Indonesian language only, five only in the English language and 11 were available in both languages. By relying on the Indonesian language only, about 1% (145/11 575) of the pangolins that were seized would have been missed, whereas by relying only on the English language reports, about 57% (6556/11 575) would have been missed.

The large number of seizures reported in the Indonesian language clearly point to a significant trade of pangolins in the country. The industrial-size scale of

several of the shipments, and the mode of transport—in containers, on buses or on lorries—clearly indicate large-scale movements within western Indonesia, whereas the seizures of pangolins in seaports or at airports highlight the international aspects of the trade. Using information from the various media reports allows conclusions to be drawn in terms of movements of pangolins, whether the trade is restricted to a specific region or involves cross-border trade, and even gives insights into the modus operandi of the traders and smugglers. Such information can be used to build intelligence networks in terms of trade dynamics, which can be fed back to the authorities. Repeating this exercise on a regular basis allows for the monitoring of enforcement actions over time.

The fact that the majority of pangolin seizures from Indonesia are not reported in the English language suggests that levels of trade, or at least the volume of seizures, may have been underestimated by some conservationists in the past (i.e. those working across countries or those that work at a global level), and justifies a reassessment of the levels of pangolin trade in other Asian societies in which English is not widely used.

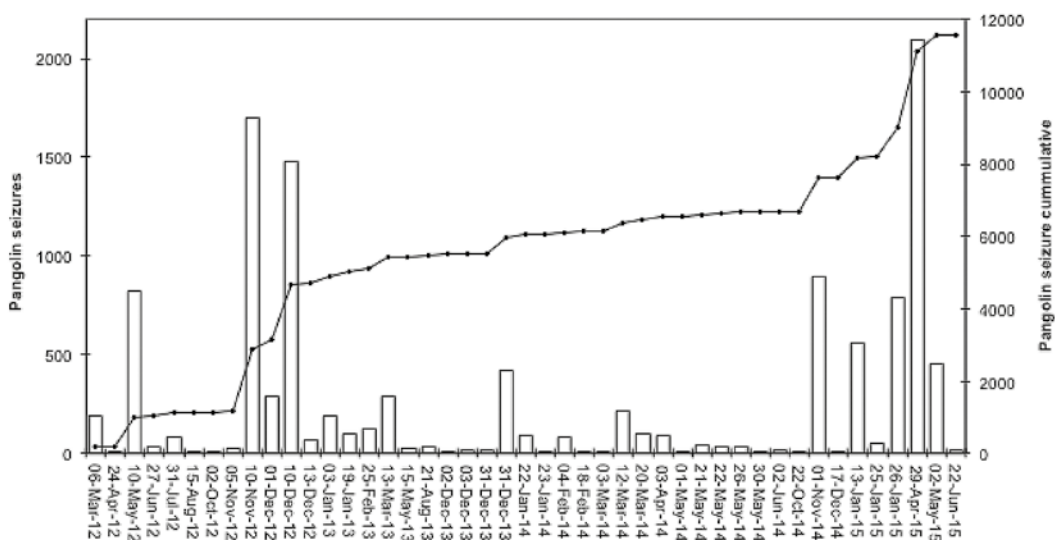
## ACKNOWLEDGEMENTS

The author thanks Erwin Sopyan and Chris R. Shepherd for sharing their insights into the Indonesian pangolin trade, and to TRAFFIC for providing him with a desk in Petaling Jaya. Sandrine Pantel and Sabine Schoppe kindly reviewed the paper.

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**Fig. 1. Seizures of Sunda Pangolins *Manis javanica* in western Indonesia, 1 January 2012 to 31 July 2015.**

Shown are individual seizures (white bars) as well as the cumulative number of pangolins seized.



PAUL BARRUEL / WWF

**BALI MYNA** *Leucopsar rothschildi*

## First Asian Songbird Trade Crisis Summit

Asian songbirds are in dire trouble. Recent monitoring of bird markets and wild bird populations in the Greater Sundas has revealed a growing list of bird species and subspecies in serious decline. Some taxa, such as the Javan Pied Starling *Sturnus contra jalla*, are already believed to have disappeared from the wild, while only a handful of individuals of others remain, including the Black-winged Myna *Acridotheres melanopterus*, the Javan Green Magpie *Cissa thalassina*, the Rufous-fronted Laughingthrush *Garrulax rufifrons* and the Nias Hill Myna *Gracula religiosa robusta*, to name just a few.

Excessive trapping for the cage-bird trade is a critical threat for many of the species in decline. Recognizing the insufficiency of current efforts to combat the wild bird trade and prevent further extinctions, TRAFFIC, Wildlife Reserves Singapore (WRS), and Cikananga Wildlife Center organized Asia's first Songbird Trade Crisis Summit to identify the most threatened Greater Sunda songbirds and formulate actions to address the threat.

Thirty-five experts gathered at Singapore's Jurong Bird Park in September 2015 and identified 27 Greater Sundaic passerine species most at risk from trade, and assessed 12 as "highest-priority" based on current information on wild populations, population trends and levels of threat. Only three of these high-priority birds are currently categorized as Critically Endangered on the *IUCN Red List of Threatened Species* (Javan Green

Magpie, Black-winged Myna and Bali Myna *Leucopsar rothschildi*), suggesting an urgent need to reassess the status of many of the species.

The majority of the summit was dedicated to establishing detailed Action Plans for these high-priority species. Led by the appropriate experts, the following actions will be jointly undertaken by academics, NGOs and zoological institutions, all represented at the summit:

- Conducting research on the taxonomy and wild populations of the birds;
- Monitoring trade, especially in bird markets;
- Lobbying for enhanced protection and effective enforcement;
- Establishing and expanding ex situ assurance and breeding colonies;
- Strengthening education and community outreach.

This meeting has kick-started a long-term collaboration that summit members hope to develop into a specialist group under IUCN. Backed by research proposed at the summit, the group will lobby for markets trading illegally in birds to be closed down or cleaned up.

Just prior to the summit, TRAFFIC launched *In the Market for Extinction: An inventory of Jakarta's bird markets* to amplify the push towards the ultimate goal of averting bird extinctions and shutting down the illegal and unsustainable trade.

The report focuses on Indonesia, home to the highest number of threatened bird species in Asia (131) and, correspondingly, a live bird trade of remarkable scale and volume. Of the more than 19 000 birds found in TRAFFIC's three-day survey of Jakarta's three biggest bird markets, 98% (18 641 birds of 184 species) were harvested outside of the national harvest quota system or in direct violation of the *Conservation Act (No. 5) of 1990* (a law that currently protects only 22 of these illegally-traded species). Lax law enforcement enables this massive and unsustainable trade to flourish openly.

Although most of the birds seen in the markets were considered to be wild caught, a few were bred in captivity. However, pressure on wild populations remains so strong that commercial captive breeding can only play a role if accompanied by significantly enhanced legal protection and reduced demand.

Conservation breeding in ex situ assurance colonies may now be the only hope for some species, while urgent research and protection efforts may save others. However, as long as these markets exist in their present form, illegal trade will continue, undermining bird conservation in the Greater Sundas and robbing the world of its unique songbirds.

Study of the live bird trade is part of TRAFFIC's ongoing global programme of work monitoring the trade in wild animals used for pets and fashion.

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## Sustainability in the traditional Chinese medicine (TCM) sector in China: *the case for industry leadership*

In early October 2015 this year's Nobel Prize for Medicine was awarded for discoveries that have led to the development of potent new drugs against parasitic diseases including malaria and elephantiasis. In particular, Youyou Tu, China's first Nobel laureate in medicine, was awarded half of the prize for discovering *artemisinin*, a drug that has slashed malaria deaths and become the mainstay in the fight against this mosquito-borne disease. Tu, working at the China Academy of Traditional Chinese Medicine used traditional Chinese medicine (TCM) formulations from the plant *Artemisia annua* to isolate *artemisinin*.

This award has put the spotlight on the role of both medicinal plants and traditional Chinese medicine in providing an important source of modern medicines. While the majority of *Artemisia annua* is now sourced from cultivation—predominantly in Asia and Africa—and a switch to synthetically produced active ingredients is expected to reduce reliance on wild-sourced material, some *Artemisia annua* continues to be wild-harvested for trade in parts of Africa, Europe and South America. Conservation of the wild populations remains important for ensuring the genetic diversity of plants, as well as climate adaptation.

While most of the international wildlife trade attention over the past decades has been on addressing the illegal trade in threatened animals, significantly less attention has been placed on dealing with the increasing demand and scale of trade in wild medicinal and aromatic plant (MAPs). China is the largest global exporter and the origin of many such wild plants used in TCM, some of which are consumed domestically, and many others, like *Artemisia annua*, an integral component of herbal medicine and ingredients consumed worldwide. Wild plants used for medicinal purposes globally, and in China, are declining, driven partially by overharvesting to meet high demand from the TCM and herbal products industry.

According to a study undertaken by the International Trade Centre and TRAFFIC (International Trade Centre, 2015), China's 2013 export volume and value for selected MAP articles (both wild-collected and cultivated) amounted to over 1.3 billion kg, with a reported Customs value of over USD5 billion. This represented about 15.6% of total world exports of these species in terms of reported Customs value. China has an approximate 41.7% global share of trade under Customs code HS 1211 (which includes medicinal plants e.g. *Astragalus* spp., *Cordyceps sinensis*, danggui *Angelica sinensis*, ginkgo *Ginkgo biloba*, Ginseng *Panax ginseng*, Licorice *Glycyrrhiza glabra*, rhubarb *Rheum* spp., *Schisandra* spp.) exports in terms of reported value. Although it is not possible to quantify the proportion that is obtained from wild-collection versus cultivation, it is known that hundreds of Chinese MAP species are wild-collected either entirely or partially. The unpublished TRAFFIC project report on 'Policy, Laws and Regulations for Collection, Management, and Sustainable Use of Medicinal Plant Resources' provides estimates for China's TCM sector, including that in 2012, China had over 2000 TCM companies with a turnover in excess of CNY20 million (over USD3.2 million), and the TCM industry's gross output was CNY515.6 billion (over USD84 billion), of which only a fraction was exported, primarily as medicinal plants and herbal ingredients. The continuous growth creates a challenge for the TCM industry, the main user of wild plants as TCM ingredients.

Building around the TCM industry leaderships approach, TRAFFIC together with the World Federation of Chinese Medicine Societies (WFCMS), Zhejiang Wecome Pharmaceutical Ltd. (Wecome) and WWF China implemented the project "Engaging the private sector in sustainable management of medicinal plants—the multiplier effect" (abbreviated to EGP MAPs) over 29 months, finishing in July 2015. Funded under the EU-China Environmental Governance Programme, the project has contributed overall to the global theme of corporate environmental responsibility, focusing on the longer-term goal of achieving sustainable management of medicinal plants and contributing to improved rural livelihoods and environmental governance in Hunan and Zhejiang provinces of China through the establishment of green supply chains among TCM stakeholders.



LI JIANGLIANG



LI CHENYANG / TRAFFIC



◀ **Houpu Magnolia *Magnolia officinalis***

has been assessed as Vulnerable nationally, based on a population decline in China. It is a second-class protected species in China, which means that wild harvesting of its bark, used as a popular TCM ingredient, is strictly regulated and requires a harvesting permit. The majority of *Magnolia officinalis* is at present sourced from cultivated sources, however some wild harvesting continues, for example in the EGP MAPs project site in Zhejiang province.

▼ Wild harvesters and farmers training in Zhejiang province (below left); training farmers and harvesters in practical skills in respect of *Polygonum* spp., Tangyuan village, Shangyang county, Longquan city, Zhejiang province (below centre); participants of the 2nd TCM CSR and Sustainability Forum held in April 2015 in Hangzhou, debating the CSR guidelines for the TCM sector and policy recommendations for the development of an enabling environment for sustainable sourcing practices, both developed within EGP MAPs (below right).



ZHANG KE / TRAFFIC



CHEN DINGNAN

The EGP MAPs project has piloted activities targeting the following groups: manufacturers and traders of TCM in Hunan and Zhejiang provinces, and wild-harvesters and farmers of TCM plants. Through the duration of the project, partners (1) supported the development and implementation of the voluntary sustainable production scheme and Corporate Social Responsibility (CSR) approaches for TCM manufacturers and traders by applying the FairWild Standard principles; (2) built capacity of wild-harvesters and farmers in sustainable practices through industry leadership on supply chain management; and (3) supported the development of an enabling policy and regulatory environment to support companies in the TCM sector in sustainable sourcing and supply chain management practices.

The project used the FairWild Standard as a best-practice framework for sustainable harvesting and equitable trade in wild plants. Eleven principles of the FairWild Standard cover social, environmental and economic aspects of sustainability—a comprehensive framework to tackling the complex issues involved in sustainable wild collection. The project also worked with a CSR framework, aiming to demonstrate the success of an innovative industry-led approach to sustainable use of wild resources.

The following major project outcomes and impacts include:

- the TCM-sector CSR guidelines developed to help businesses green their supply chain management and improve product competitiveness.
- a long-term strategy and implementation roadmap for sustainable production and supply chain management developed by targeted TCM manufacturers and traders.
- training materials aimed at manufacturers and traders on implementation of the FairWild Standard, including “train the trainer” materials.
- assessment of wild plant resources (target species Houpu *Magnolia officinalis* and Solomon’s Seal *Polygonatum* spp.) at a pilot location in Zhejiang province.
- engagement with key industry stakeholders through two TCM CSR and Sustainability Forums, convened on the platform of the Chinese Medical and Pharmaceutical Material Association (CMPMA) and the International Trade Union of Genuine Regional Materia Medica (TUGRMM), thus ensuring their continuation beyond the project’s completion.
- development of case studies on sustainable wild-collection worldwide and the implementation of best practices.
- examination of the feasibility of introducing voluntary certification schemes in China.
- the training of 1105 wild-harvesters and farmers on wild-collection, sustainable harvesting and production following the FairWild Standard in Hunan and Zhejiang provinces.
- establishment and legal registration of a national Farmer Association on TCM Sustainable Development under the CMPMA. The association enables sustainable production practices and extends market opportunities for sustainably sourced products, in particular *Polygonatum cyrtoneum* and *Polygonatum filipes* (*Rhizoma Polygonati*).
- research to understand the dynamics of international markets, including the EU, for sustainably-certified wild-collected botanical ingredients from China.
- a thorough review of national laws, administrative regulations, programmes and policies governing the collection, management and use of medicinal plant resources in China and the development of policy recommendations. The policy recommendations were designed targeting four distinct stakeholder groups that influence conservation, management, use and trade of wild medicinal plant resources in China:

(1) **Legislative government agencies at all levels, and law enforcement agencies**, to accelerate the revision of existing legislation concerning TCM, in particular the *Regulations of Wild Medicinal Resources*; to clarify plant resources property regime and the collection permits system; to strengthen law enforcement for conservation and sustainable use; to support collaboration among different Ministries; to use the rigorous Non-Detriment Findings guidance for trade in CITES-listed species; and to include the sustainable use and trade in wild plants within China’s Strategy for Plant Conservation, in line with the country’s CBD commitments.

(2) **Specialized government agencies responsible for enabling and implementing policies**, to set up the preferential mechanisms and favourable economic policies for sustainable performance of companies, and to conduct a comprehensive economic valuation of China’s wild medicinal plant resources.

(3) **Relevant research institutions**, to conduct a nationwide survey of medicinal plant resources in line with the “China National Plan for TCM plants protection and development 2015–2020”; a nationwide assessment of the conservation status of medicinal plants using widely recognized conservation tools such as the IUCN Red List criteria; to establish pilots for conservation and sustainable use of wild plants; and to compile the national programme for protection and sustainable use of medicinal plant resources.

(4) **Companies and relevant industry associations**, to implement international best practices; pilot certification that meets international benchmarks such as the FairWild Standard; support companies’ introduction of risk analysis and resource assessment for the plant ingredients in their products; promote the sustainable consumption of TCM products and the importance of sustainable and legal sourcing of TCM ingredients among domestic and international consumers; and encourage the development of long-term relationships with wild-harvesting communities based on the principles of mutual respect and equitable trade, among others.

The integrity of TCM development is dependent on a sustainable TCM sector, which in turn depends on sustainable use of medicinal plant resources and responsible business practices. The recognition of this dependence by industry actors within China is slow, but is necessary considering the impact of this sector on species and on rural livelihoods, and its importance to healthcare and trade opportunities. This project was a first important step on the pathway towards sustainable supply chains in the Chinese TCM industry, and provides an important model for future development.

More information: [www.traffic.org/egp-maps](http://www.traffic.org/egp-maps).

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### ◀ Shipment of ivory intercepted at Brussels airport, Belgium.

Source: Belgian Customs (GAD Zaventem)

## EU-TWIX Anniversary: *Ten Years of Success!*

**I**n October 2015, EU-TWIX (European Union – Trade in Wildlife Information eXchange) is celebrating ten years of effective facilitation of information exchange on illegal wildlife trade in the European Union (EU).

Established in October 2005 as a joint initiative of the Belgian Federal Police, the Convention on International Trade in Endangered Species of Wild Fauna and Flora<sup>1</sup> Management Authority (CITES MA) and Customs, and TRAFFIC, EU-TWIX has been facilitating the monitoring of illegal wildlife trade by providing a platform for information exchange and communication, now engaging over 840 wildlife enforcement officials across 36 European countries<sup>2</sup>. It is noteworthy that since its establishment the EU-TWIX network experienced an almost six-fold increase in the number of users—just over 150 officials were connected when the tool was launched in 2005 (TRAFFIC, 2015).

Together with enforcement officials from over 100 European enforcement agencies including Customs, police, environmental inspection services, CITES MAs, and veterinary and phytosanitary inspection services, staff from the European Commission (EC) and seven international organizations<sup>3</sup> are also part of the EU-TWIX network. Importantly, several prosecutors and judges are also connected, thereby ensuring that necessary players along the enforcement chain are informed and connected.

Over the past ten years, EU-TWIX has proven to be successful in keeping all the agencies responsible for the implementation and enforcement of the EU Wildlife Trade Regulations (EUWTR) within the EU and CITES legislation for neighbouring European countries connected. Its mailing list, seizures database and four directories allow users to find quickly the relevant contacts and up-to-date information on rescue centres, wildlife experts, laboratories and prices of specimens/items in trade.

With over 500 enforcement-related messages exchanged via the forum in 2014, the access-restricted EU-TWIX mailing list is a particularly successful component of the EU-TWIX tool. It is used daily by enforcement officials to communicate quickly and efficiently with colleagues across Europe. The sharing of ‘Seizure Alerts’ is one of the many types of information that is regularly exchanged via the mailing list. Such alerts are usually produced by European agencies to inform others about significant seizures taking place in their country and to keep enforcement officials informed about emerging wildlife trade trends in the EU on a continuous basis.

As a result of the messages exchanged via the EU-TWIX mailing list, at least 13 investigations related to illegal wildlife trade in the EU were triggered in 2014 alone.

In addition, the EU-TWIX mailing list is widely used by enforcement officials to seek assistance with species identification. Given the great variety of knowledge and expertise amongst EU-TWIX users, quick identification support—usually within one to two hours—is provided,

<sup>1</sup>CITES is an international agreement between governments that aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Source: <https://www.cites.org>. <sup>2</sup>The 28 EU Member States plus Albania, the Former Yugoslav Republic of Macedonia, Montenegro, Norway, Serbia, Switzerland, Turkey and the Ukraine. <sup>3</sup>The CITES Secretariat, Eurojust, Europol, the EU Network for the Implementation and Enforcement of Environmental Law (Impel), INTERPOL, the United Nations Office on Drugs and Crime (UNODC), and the World Customs Organization (WCO).

**Tigernet** is an online database of records on mortality of Tigers and other key wildlife species across India, established by the Indian government’s National Tiger Conservation Authority (NTCA) and TRAFFIC. Compilation and analysis of such data is valuable as a management tool for Tiger conservation in India.

**‘Africa-TWIX’** (working name only): EU-TWIX is currently being replicated in Central Africa, with a pilot project implemented in the following countries: Cameroon, Democratic Republic of Congo, Congo and Gabon. This project is looking at establishing a mailing list to enable agencies in the region to communicate among themselves, as well as a seizures database to hold seizures data for the four countries.



**RADIATED TORTOISE** *Astrochelys radiata*

**Information exchange via the EU-TWIX mailing list about a seizure of Radiated Tortoises *Astrochelys radiata* from Madagascar that took place in Croatia made the Netherlands Food and Consumer Product Safety Authority aware of the involvement of Dutch traders in the illegal international trade of reptiles** (an example taken from the EU-TWIX information leaflet, available on [www.traffic.org/enforcement-reports/traffic\\_pub\\_enforce5.pdf](http://www.traffic.org/enforcement-reports/traffic_pub_enforce5.pdf)).

helping officials decide whether they should seize a shipment or not, for example.

In August 2014, EU-TWIX reached the landmark of 40 000 records from the 28 Member States in its secure database of illegal wildlife seizures, covering the period 2000 to present (TRAFFIC, 2014). Being the second-most important component of the EU-TWIX tool, the database represents an EU-wide repository of seizures data submitted by individual enforcement agencies and provides a unique opportunity for monitoring trade trends at national and EU-levels.

In addition to this, analysis of the database supports EU enforcement agencies and international organizations in monitoring trends in illegal wildlife trade and the implementation of threat assessments for a variety of species and commodity groups including ivory, rhinoceros horns, tortoises and exotic birds (TRAFFIC, 2014).

Experience gained through the running of EU-TWIX has already been shared beyond Europe, as both the EU-TWIX mailing list and database have been used as best models for other communication systems such as the ‘Tigernet’ online database (TRAFFIC, 2014). Furthermore, the EU-TWIX system is being replicated in other regions of the world, for example through the new ‘Africa-TWIX’ project for enforcement agencies to be piloted for countries of central Africa, which officially started in September 2015.

After ten years of operation the EU-TWIX tools and network continue to expand, and are widely recognized and appreciated by the European enforcement community for supporting efforts to stop the illegal trade of wildlife in the EU.

*EU-TWIX has received funding from the European Commission (DG Environment and DG Home Affairs) and the Governments of Austria, Belgium, the Czech Republic, Estonia, Finland, France, Germany, Italy, Latvia, the Netherlands, Norway, Poland, Slovakia, Spain, Switzerland and the UK. The ‘AFRICA-TWIX’ project is supported by the German Polifund project, implemented by GIZ on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the German Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety (BMUB).*

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## EU accedes to CITES

On 8 July 2015, the European Union (EU) became a full member of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), the first regional economic integration organization (REIO) to do so.

“The accession of the EU as a single Party to CITES is another milestone reached in long-term efforts to ensure consistent implementation of CITES across all Member States that began with the adoption of common EU Wildlife Trade Regulations in 1984,” said Katalin Kecse-Nagy, TRAFFIC’s Acting Regional Director for Europe.

The EU Wildlife Trade Regulations, which are directly applicable in all EU Member States, provide the legal framework through which CITES is implemented throughout the EU.

Accession to CITES legally binds the EU to implement and enforce the Convention, which should lead to further improvements in the effectiveness of CITES implementation in the Member States.

“The development is also timely as the EU moves towards adoption of an ‘Action Plan against wildlife trafficking’ to guide the region’s effective contribution towards international efforts to curb the global poaching crisis,” said Kecse-Nagy.



## TRAFFIC TRAINS THE ECUADORIAN MILITARY TO COUNTER ILLEGAL TIMBER TRADE AND OTHER WILDLIFE CRIMES

**T**here is much yet to be done to guarantee that biodiversity issues are integrated in all planning and decision-making by governments, the private sector and other relevant bodies. On the enforcement side, the military sector can play various key roles. On the one hand, operational planners in the military sector need tools to integrate environmental concerns during the course of military operations in order to reduce their impact. On the other, there is an important potential for mainstreaming biodiversity considerations into military operational tasks in order to increase positive inter-ministerial impact. This potential is enormous. The military in Ecuador have a great number of staff members on the ground, exercise military intelligence prior to any given intervention, develop considerable knowledge on criminal psychology, and are constantly monitoring extensive areas throughout the country. Mainstreaming biodiversity into this key sector means providing human capital to environmental efforts, increasing effectiveness in enforcement and decreasing overall public costs. This effort, described below, was focused on training the military to take a primary role in combating illegal trade.

As part of an inter-ministerial initiative following the signing of a co-operation agreement between the Ecuadorian Ministry of Environment and Ministry of Defence last year, both parties prioritized the need to plan capacity-building strategies for military staff. Instead of being regarded as merely a component or by-product of programmes and products, capacity building had become an explicit priority. TRAFFIC was invited to respond to this need and designed creative and novel interventions. The EcoFondo Fund sponsored the implementation of this complex multidimensional capacity development initiative.

### TRAFFIC's strategy

Successful military operations begin with thorough strategic planning, seeking to have the highest impact. TRAFFIC's strategy aimed to upgrade this military competency in order to increase positive environmental impacts



**Training army personnel at Orellana Military Base to take a primary role in combating illegal wildlife trade.** Photographs: TRAFFIC

on the ground. TRAFFIC needed to be a catalytic agent, promoter and educator, and a key facilitator. Turning words into inter-ministerial action is no easy undertaking: tools need to be developed, new skills learned and institutional frameworks need to evolve.

The first priority was the design and implementation of in-house professional training courses in selected military bases. As a result, TRAFFIC has subsequently assisted with the training of 300 navy, army and air force personnel to increase the impact of the country's military in tackling crime relating to the illegal harvest and trade in timber, fisheries and other wildlife. In summary, TRAFFIC trained the military to develop better operations against illegal trade, as well as sensitizing them to biodiversity conservation issues in their daily defence operations.

Intensive three-day courses were undertaken at six military bases where those taking part gained an understanding of the dependency of social and economic systems on ecological systems, the seriousness of wildlife crime and its impacts, as well as methods to improve enforcement strategies. Participants also gained hands-on experience of dealing with wildlife crime and learned how military roles can support environmental authorities.

Plans were also drawn up during training, aimed at increasing the impact of actions at the local and provincial levels, while the establishment of an emergency telephone line is planned so as to facilitate co-ordination between staff in both the Ministries taking part. A significant output of this effort has been the integration of wildlife crime issues into daily military operations.

An additional outcome of the in-house training was the inclusion of the National Intelligence Secretariat, who linked military intelligence personnel with the Ministry of the Environment to enhance their efforts to curb illegal timber operations in Ecuador's key biodiversity hotspots.

The second priority was one intended to have massive biodiversity awareness outreach. One thousand high-level military staff members are now taking a 100-hour online course on "Biodiversity as a Strategic Resource", explaining why it forms an integral component of national security issues.

The online modules include specialized content on environmental security, biodiversity as an element of national security priorities, and

environmental law and military competencies. The course was launched in early June 2015 by the Ecuadorian Minister for the Environment and is being implemented by the Armed Forces University—ESPE—through their 30 specially trained course tutors. It will be re-packaged in order to address troops and other specialized military target groups.

"It has been a huge privilege and responsibility for TRAFFIC to be entrusted by two major Ministries to help facilitate this strategic initiative against wildlife crime," said Bernardo Ortiz, TRAFFIC's former Regional Director for South America. "Inter-ministerial collaboration is vital to ensure a clear vision where specific roles and responsibilities are spelled out for implementing agreed joint action plans to address wildlife crime."

"This initiative goes way beyond environmental education campaigns or enforcement-only based strategies—the usual approaches to combat illegal wildlife trade in Latin America. We are helping to develop intelligence-based strategies, combining the use of cutting-edge technology with action-oriented training in order to have higher impact on the ground," said Ortiz.

Simultaneously, the initiative is advancing on technological aspects, as the increased co-ordination between Air Force personnel and the Ministry of the Environment has meant improving the use of drone technology to increase timber trade monitoring. Trials have shown that five hours of drone surveying can substitute an entire week of roadside patrols, with levels of immediacy and control never previously available.

The third priority relates to developing environmental curricula, to be included in military careers. Intensive negotiations on this subject have been held with military authorities, and the subject is on the agenda.

Enforcement strategies need human capital to be effective. This experience is one step in this direction.

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## The case for CITES Appendix I-listing of Earless Monitor Lizards

### *Lanthanotus borneensis*

#### INTRODUCTION

In September 2014 TRAFFIC published *Keeping an Ear to the Ground: Monitoring the Trade in Earless Monitor Lizards* (Nijman and Stoner, 2014) in response to the rapid emergence of the Earless Monitor Lizard *Lanthanotus borneensis* in trade. This is the only species in the family Lanthanotidae and is basal to all other monitor lizards of the genus *Varanus* (Douglas *et al.*, 2010). It is endemic to the island of Borneo, where it has been recorded in the Malaysian State of Sarawak (Das and Yaakob, 2007) and the Indonesian provinces of West and North Kalimantan (Auliya, 2006; Yaap *et al.*, 2012; Vergner, 2013). Little is known about its occurrence, distribution or ecology, but the seven sites from where it is known are all below ~300 m above sea level, in forested areas, in relatively flat terrain, suggesting the Earless Monitor Lizard is a lowland rainforest specialist. The conservation status of the species has not been evaluated using the IUCN Red List criteria, however, it appears to meet the criteria for Vulnerable on the basis of its restricted habitat, fragmented distribution and inferred habitat loss. More specifically, its area of occupancy is estimated to be <2000 km<sup>2</sup>, it is known from fewer than 10 locations, and there is an inferred decline in the area, extent and quality of the species' habitat (criteria B1ab (iii) in IUCN Red List terminology); if the species's area of occupancy turns out to be <500 km<sup>2</sup>, it would meet the criteria for Endangered.

After not having been observed for decades, in 2012 its rediscovery was announced (Yaap *et al.*, 2012) and international trade in the species soon commenced (Nijman and Stoner, 2014; Altherr, 2014). At present, the internet, especially through social networks, is facilitating this trade, either directly by enabling open sale and trade exchanges, or indirectly through discussions around the species. Presented here is an update on the illegal international trade in the species via the internet, information on current trade networks and countries involved. The authors consider that inclusion of the species in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) may help curb this trade and aid in conservation of the species.

#### LEGAL STATUS

The Earless Monitor Lizard is the only monitor lizard not currently listed in the CITES Appendices. It is, however, a totally protected species (meaning that any trade is prohibited) in its potential range States, i.e. in Malaysia since 1971, in Brunei Darussalam since 1978 and in Indonesia since 1980. Penalties for trading the species range from a fine of USD1600 and one year's imprisonment (Brunei Darussalam) to USD7850 and three years' imprisonment (Malaysia), to USD8600 and five years' imprisonment (Indonesia).



CHIEN C. LEE  
(RAINFOREST PICTURES OF TROPICAL ASIA)

**Earless Monitor Lizard *Lanthanotus borneensis*.**

#### FAR-REACHING TRADE

Monitoring of online trade activity revealed that at least 95 Earless Monitor Lizards have been offered for sale following the offtake, reported in Nijman and Stoner (2014), of 21 pairs from Kalimantan, Indonesia, in May 2014. Observations of such instances were made in the Czech Republic, France, Germany, Hong Kong, Indonesia, Japan, Malaysia, Russia, UK, Ukraine and the USA (Table 1). Documented routes are from within Europe, linking traders from Germany, France, the Czech Republic, the UK, and from Europe (as supplier) into the USA. The use of social media continues and now includes Instagram (Image 1).



**Image 1.**  
**Earless Monitor Lizard advertised on Instagram.**

Country/territory	No. of traders	Minimum
USA	9	22
Malaysia	5	19
Indonesia	7	17
Germany	6	17
Japan	2	7
UK	1	5
Hong Kong	1	3
Czech Republic	1	2
France	1	1
Russia	1	1
Ukraine	1	1
Total	35	95

**Table 1. Minimum number of Earless Monitor Lizards offered for sale online, May 2014–October 2015.**

Country	Minimum
Japan	8
Indonesia	5
The Netherlands	2
Hungary	4
Total	19

**Table 2. Earless Monitor Lizards found to be present but not offered for sale, May 2014–October 2015.**

Furthermore, at least 12 other specimens are believed to be exhibited in zoos: a heavily publicized captive breeding population at iZoo, a zoo based in Shizuoka prefecture, Japan, and the Budapest Zoo, Hungary. One professional photographer based in the Netherlands (it is believed that the photograph was taken in France) also exhibited an image of the species, however, none was offered for sale (Table 2). There appears to be no obvious geographic pattern in terms of where demand for this species has been registered. In 2014 the trade network apparently consisted of a relatively small number of people, which has subsequently expanded. Earless Monitor Lizards are currently being offered by traders who are likely capitalizing on the lack of an international trade control mechanism for the species once they are outside national protection in their range States.

International commercial trade continues. On 22 July 2015, a Facebook post (Image 2) was observed and the trader confirmed he was willing to ship to Canada from the USA, illustrating that the importation process fails to act as a barrier. While the numbers reportedly in trade may be moderate compared to some species, the trade is global in nature and is likely to be more extensive than



**Image 2. Facebook post offering Earless Monitor Lizards for sale (22 July 2015).**



**Image 3. At least 15 specimens offered by a seller in Malaysia (7 July 2015).**



**Image 4. Article in a reptile and amphibian hobbyist magazine, discussing the first “captive reproduction” of the Earless Monitor Lizard.**

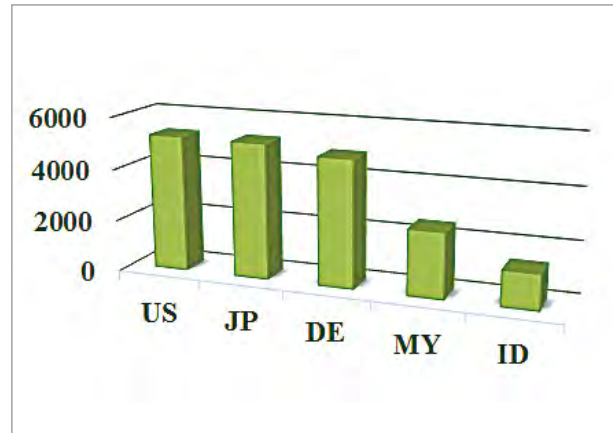
the few reports encountered. With no burden of proof on current traders to show the origin of their Earless Monitor Lizards and no paperwork necessary, the high prices in the international market make selling the species an attractive business prospect.

Post-2014, a local trade (specifically in Indonesia and Malaysia) has emerged, with prices given in local currency, implying a market at a national level within these range States. On 7 July 2015, an advertisement posted on Facebook offered “a bunch of Borneo Earless Monitors for sale, export available”. This is the first documented incidence of the species being offered for sale in Malaysia. Image 3 provides evidence of the quantity the seller is offering. The same seller was also offering Tigers for sale, which reinforces the notion that traders offering Earless Monitor Lizards are often also engaged in the trade of other charismatic Appendix I- or II-listed species. As with most commodities, geographical variance exists in terms of price, dependent on supply, stock and other variables (Table 3). As expected, prices are lower in range States but high prices elsewhere will continue to act as a key driver unless sufficient protection is put in place to ensure trade is regulated.

### Captive-born versus captive-bred

As indicated in the introduction, little is known about the biology of Earless Monitor Lizards. In fact, while eggs have been extracted from preserved specimens, until recently none had been laid by captive individuals (Sprackland, 1999); clutch size has been estimated at two, or possibly more (Sprackland, 2010). Shirawa (2015) indicated that iZoo was the first to have bred the species in 2014; the parent stock were wild-caught, making the offspring “captive-born” in CITES terminology (as would be the case if the egg-laying female had been imported gravid), and not “captive-bred” as widely claimed. In the authors’ searches on various forums they found no evidence to refute iZoo’s “first-ever” claim, and indeed there does not appear to have been any genuine captive breeding of the species to date. Furthermore, the current edition of *HerpNation*, a reptile and amphibian hobbyist magazine, features an article discussing the first “captive reproduction” of the Earless Monitor Lizard achieved at iZoo (Image 4) (Shirawa, 2015).

Despite this, traders from the USA (not elsewhere) have claimed in online forums that the specimens they offer for sale are hatched in captivity in Europe, so it is not illegal for them to be traded in the USA (no distinction is made in these discussions between captive-bred or captive-born). The importation of declared “captive-bred” (or what may actually be “captive-born”) Earless Monitor Lizards into the USA, circumvents any legal implications in relation to the *Lacey Act*. However, this Act renders any violation of national laws in the country of origin a criminal offence in the USA and given their protected status in range States, the importation of Earless Monitor Lizards, including captive-born or captive-bred specimens that may have derived from illegally acquired individuals, contravenes the *Lacey Act* and would allow the authorities in the USA to enforce the law.



**Table 3. Average prices (USD) quoted by country.** (USA, Japan, Germany, Malaysia and Indonesia.)

### THE CASE FOR CITES APPENDIX I-LISTING

There is strong justification to include the Earless Monitor Lizard in CITES Appendix I, thus making it clear to all Parties that international trade in the species is not permitted, and aiding in the effectiveness of national range State legislation. Importing countries are currently inhibited to take any action when individuals are imported as “captive-bred”, which therefore enables illegal trade to continue. None of the three actual and potential range States has permitted legal export of Earless Monitor Lizards, therefore by extension parent stock have been illegally obtained, taken from their natural habitat.

While the population size of this species is currently unknown, the impact of trade is inferred to be great. The few remaining populations are likely to become depleted if international commercial trade is not stopped. Given the paucity of data on the species’s occurrence, it is likely that if collectors and traders target one or two locations disproportionately, the impact on small, already fragmented populations will be significant.

Public awareness of both the protected status and conservation status appears to be deficient in the regions where the species occurs: an Appendix I-listing would not only result in higher fines and stronger international efforts to restrict the trade, but also increase both public awareness and national conservation measures.

Currently five species of monitor lizards are listed in Appendix I of CITES, with the other >70 species included in Appendix II; the Earless Monitor Lizard is not listed. Arguably, with the possible exception of the Komodo Dragon *Varanus komodoensis* (currently assessed as Vulnerable by IUCN), the Earless Monitor Lizard is more heavily affected by trade than the other four Appendix I-listed species: *V. bengalensis*, *V. flavescens*, *V. griseus* and *V. nebulosus*, which are all relatively common species and are either classified as being of Least Concern or have not yet been assessed.

## Progress towards Appendix I

Nijman and Stoner (2014) stated that there is strong justification for a CITES Appendix I-listing but that, in the interim, Malaysia, Indonesia or Brunei Darussalam should consider listing the species in CITES Appendix III. In April 2015, Malaysia submitted a proposal to list the species in CITES Appendix I (AC28 Doc.22.5) (CITES, 2015) for consideration at the 17th meeting of the Conference of the Parties (CoP17), due to take place in South Africa in September 2016. The proposal was first tabled during the 11th meeting of the ASEAN Experts Group on CITES 7–8 May 2015 in Bandar Seri Begawan (Brunei Darussalam) and was reviewed at the twenty-eighth meeting of the Animals Committee in Tel Aviv (Israel) on 30 August–3 September 2015. Initial feedback from the meeting reports that the proposal received strong support for the species to be tabled for discussion at CoP17.

## ACKNOWLEDGEMENTS

The authors wish to thank Sandra Altherr of Pro Wildlife for her continued support.

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## UPDATE

On 11 October 2015, a German national was arrested at Soekarno-Hatta International Airport in Jakarta as he attempted to smuggle eight Earless Monitor Lizards out of the country. The investigation by the Crime Directorate of Indonesia's Criminal Investigative Police continues.

# Assessment of the Availability of Ivory in the Vietnamese Market

*Nhuan Van Nguyen and Madelon Willemsen*

**T**he illegal ivory trade continues to be a major threat to the survival of the African Elephant *Loxodonta africana*. Viet Nam plays a role in ivory trafficking as an important transit country between Africa and China, as well as serving as an end-use market supporting local consumption of ivory products in various parts of the country. This survey assesses the visible ivory trade in 21 Vietnamese cities. Since earlier ivory surveys conducted in 2001 and 2008, the absolute number of ivory pieces on the market appears to have decreased, but it is not clear if the survey results from these disparate efforts are comparable. Since the 16th meeting of the Conference of the Parties (CoP16) to CITES, a CITES National Ivory Action Plan has been developed which aims to strengthen national laws and regulations to prevent illegal trade in ivory. Even though the visible market in ivory appears to be reduced in terms of ivory product availability, this survey does not provide a clear indication that the illicit market in ivory is indeed declining in Viet Nam. It is critical for the Vietnamese government to continue to increase law enforcement and penalize ivory sellers and traffickers. At the same time, strategies should be implemented to reduce the demand for ivory. Viet Nam's continued commitment to combat ivory trafficking and reducing consumer demand is required to support elephant conservation efforts in Africa and Asia.

## INTRODUCTION

The illegal trade in ivory has progressively escalated since 2007 due to resurgent demand, largely from the East Asian market (Milliken *et al.*, 2013). The increase in Asian demand for ivory has been spurred in recent years by rapid economic development and changes in consumption patterns in countries such as China and Thailand, with a growing number of citizens in general having more disposable income to spend on luxury products than ever before.

Viet Nam became a Party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1994, with the Vietnamese Management Authority situated under the Ministry of Agriculture and Rural Development. As such, Viet Nam has committed to adhere to governance systems to regulate international wildlife trade, enforcing the Convention through its national legislation.



**Fig. 1. Map of Viet Nam with the locations of the ivory surveys conducted in 2001, 2008 and 2014.** Round shapes represent locations surveyed in 2001, 2008 and 2014. Triangles represent the locations surveyed in 2008 and 2014. The orange stars represent locations only surveyed in 2014. Adapted from source: <http://vietnammap.facts.co/vietnammapofvietnammap.php>

The monitoring of illegal trade in ivory was mandated at CoP10 in Harare, Zimbabwe, in 1997 (Resolution Conf. 10.10 (Rev. CoP16)). The Elephant Trade Information System (ETIS) was developed and is managed by TRAFFIC in order to track trends in the illegal trade in ivory and to provide an information database to support decision-making on management, protection and enforcement needs for elephants. ETIS is now the world's most comprehensive elephant products database, holding some 23 000 records of relevant seizures. Analyses of the ETIS records to elucidate trends and identify countries most heavily implicated in illegal trade have been submitted to each meeting of the CITES CoPs since 2002 as a formal agenda item.

At CoP16 in Bangkok, Thailand, in 2013, eight countries in Africa and Asia were identified as "countries of major concern" in the ETIS analysis (Milliken *et al.*, 2013). In Asia, China and Thailand were identified as the principal end-use markets and Hong Kong, Malaysia, the Philippines and Viet Nam were seen as the main transit countries/territories (Milliken *et al.*, 2013). All these countries/territories were mandated to submit time-

Year	No. of locations	No. of shops surveyed
2001	3	267
2008	8	669
2014	21	1614

**Table 1. No. of locations and no. of shops assessed in each of the three surveys.**

Sources: Martin and Stiles, 2002; Stiles 2008

bound National Ivory Action Plans (NIAP) to combat illegal ivory trade and strengthen control of the trade in legal ivory markets. Viet Nam submitted its NIAP in May 2013 as per the agreed deadline and has been part of a CITES oversight process under the direction of the Standing Committee ever since.

A subsequent review of the NIAPs shows that Viet Nam has made some progress in taking measures to stem illegal trade in ivory (CITES, 2014). A number of governmental decrees and directives reflect an ongoing commitment from the Vietnamese government. In March 2014, the Prime Minister issued a directive prioritizing enforcement at all levels and across all ministries to combat poaching and trafficking of African Elephant ivory and rhinoceros horn. Under current laws and regulations, however, it remains permissible to sell worked ivory that was obtained before the country’s 1992 ivory trade ban (Council of Minister’s Decree 18/HDBT). The law opens up the opportunity for illicit trade of ivory obtained illegally post-1992 to be passed off as ivory acquired before 1992 (Stiles, 2009). Despite Viet Nam’s commitment to address illegal ivory trade, Viet Nam remains one of the key transit countries for ivory, whilst the domestic market for ivory has remained relatively modest when compared to neighbouring China and Thailand (Stiles, 2008; Milliken, 2014). Frequent large-scale seizures of ivory demonstrate that shipments are being trafficked to Viet Nam from or via countries such as the United Arab Emirates, the Democratic Republic of the Congo, Mozambique and Malaysia (Agence France Presse, 2015; Tuoi Tre News, 2015; Wambulwa, 2015). Given the relatively small size of the Vietnamese domestic ivory market, it is likely that these large shipments are intended to be trafficked further overland to other countries, most probably China, which shares a long, porous border with Viet Nam.

In Viet Nam, current demand for ivory pieces is not based on a deeply-rooted cultural tradition (Stiles, 2009) as demand for ivory has only grown in popularity since the early 1900s. In this regard, French colonial administrators sought ivory carvings of the art forms that they observed in wood and stone and Chinese merchants began ordering ivory products to meet this demand (Stiles, 2004). Stiles (2009) determined that most buyers of larger ivory products were businessmen from China and Thailand, whilst local Vietnamese people mostly purchased smaller religious pendants and figurines. Because rapid economic development in Viet Nam has led to an increase in the consumption of luxury goods,

and an increasing number of foreign tourists are now visiting Viet Nam, the current status of the illicit ivory trade in the country requires evaluation.

In Viet Nam, TRAFFIC has undertaken two market surveys in the past: in 2001, markets in three cities were surveyed (Ho Chi Minh, Ha Noi, and Vung Tau) (Martin and Stiles, 2002); in 2008 the number of survey sites increased to a total of eight (Stiles, 2008). This paper presents the results of a further assessment of the availability of ivory in 1614 shops across 21 locations in Viet Nam, conducted in 2014 (Table 1 and Fig. 1).

## OBJECTIVES AND METHODOLOGY

Market surveys were conducted from 14 March to 18 August 2014 to assess the prevalence of ivory products for sale in retail outlets across 21 locations throughout the country (Fig. 1). Surveys were conducted by a Vietnamese researcher, who was able to identify ivory. The surveys collected information on the number of items for sale, size and types of items, and price data. Information on the origin of the ivory pieces and current buyers was also sometimes gathered through informal interviews with ivory sellers. Photographs of the outlets were taken, where possible, to determine and assist in verifying and recording the numbers and types of ivory products on sale. The locations surveyed were selected, based on earlier published reports and papers (Martin and Stiles, 2002; Stiles, 2004; Stiles, 2008). Additional sites were selected based on information gleaned from guidebooks and the internet, with a focus on antique and souvenir shops and popular tourist sites for local and international visitors. Different types of shops were surveyed, including market souvenir stalls, antique shops, souvenir shops, jewellery shops, “Feng Shui” lifestyle shops and supermarkets. The exchange rates of USD1=VND21 150 and CNY1=VND3300 were used in this report to analyse the prices of ivory products. No ivory was purchased during this survey.

## RESULTS

In 2014, a total of 1614 outlets were surveyed in 21 localities throughout Viet Nam. Eighty-five of these outlets (5%) were found to have a total of 2300 ivory items for sale. Fig. 2 shows these locations in order of the highest percentage of shops found with ivory on offer. Buon Me Thuat city was found to have the highest percentage of shops (50%) offering ivory.

In 2001, Martin and Stiles (2002) surveyed the ivory retail market in three locations (Ho Chin Minh, Ha Noi and Vung Tau). In 2008, Stiles (2008) increased the number of locations surveyed to eight, including the three previous locations plus Phu Quoc, Ha Tien, Nha Trang, Hue and Ha Long. The 2014 survey significantly increased not only the number of locations, but also the number of shops surveyed (Table 2). It is difficult to discern trends for a variety of reasons; for example, it is not known if the same shops were surveyed in the same



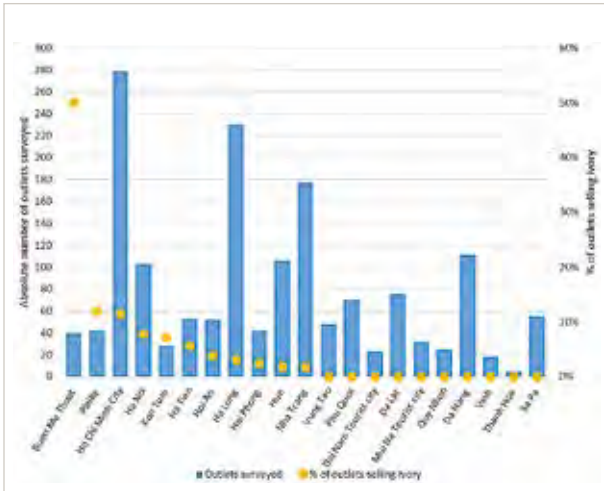


Fig. 2. The 2014 locations ordered by the highest percentage of shops found selling ivory.

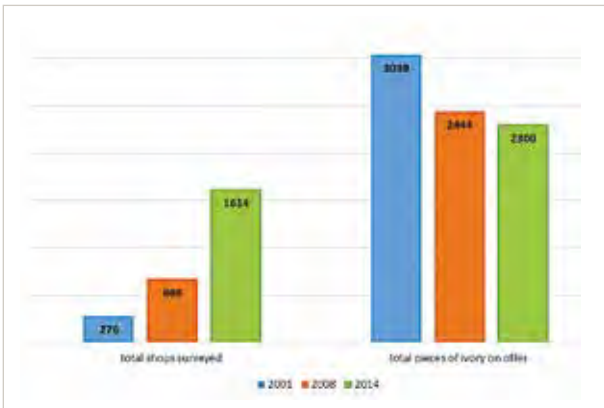


Fig. 3. Comparison of the total number of shops surveyed and the total number of ivory items found during the surveys in 2001, 2008 and 2014. Sources: Martin and Stiles, 2002; Stiles, 2008.

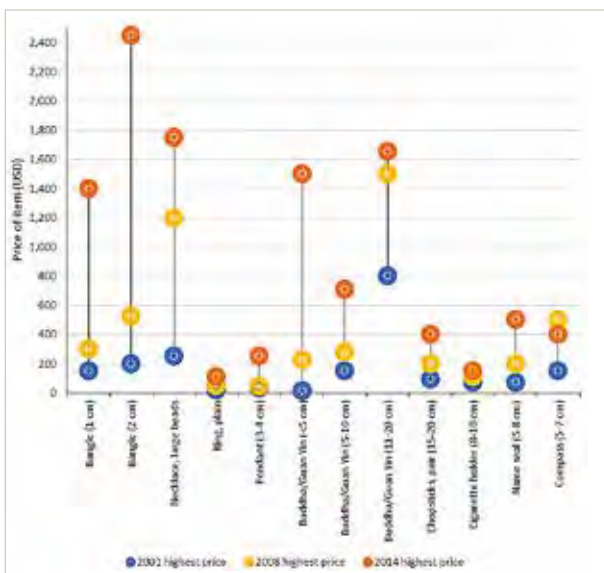


Fig. 4. The highest price (in USD) of some of the most common ivory items compared for the three surveys. Sources: Martin and Stiles, 2002; Stiles, 2008

locations over time, or whether physical markets are now less important than internet or social media channels for obtaining ivory products in Viet Nam. It can, however, be clearly seen that despite a much expanded coverage in the most recent survey, the total number of ivory items found on sale was less than in the previous surveys (Fig. 3).

### DESCRIPTION OF SURVEY OUTLETS AND ITEMS FOUND

A summary of the 2014 survey findings for selected cities, namely, Buon Me Thuat, Ho Chi Minh City, Ha Noi, Ha Long and Nha Trang, are described below and contextual information is provided to gain insight into the ivory market in these locations.

**Buon Me Thuat City, Dak Lak province:** Buon Me Thuat and its surroundings is a tourist attraction due to its proximity to sites of natural beauty and national parks. With a population of 300 000, it is the largest city in Dak Lak province and is close to the Cambodian border. This city was not included in the earlier surveys, but a recent increase in tourism warranted its inclusion in the 2014 survey.

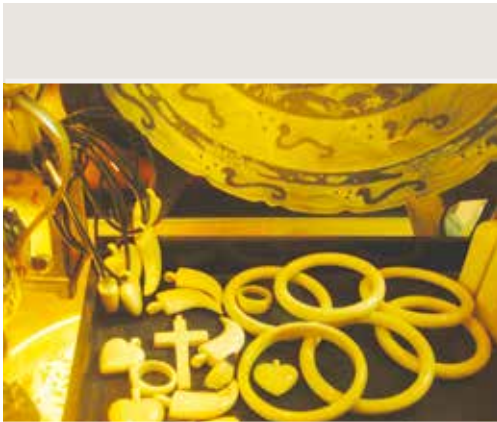
In Buon Me Thuat and its associated Don Village tourist site, half (50%) of the 40 outlets that were surveyed had ivory for sale. This represents a far greater proportion of retail shops with ivory when compared to any other location in the 2014 survey (Table 2). A total of 1282 ivory items were observed, which was the highest number of ivory pieces as well as the highest number of ivory items per shop of all the locations surveyed in 2014. One souvenir shop on Phan Boi Chau Street had 218 ivory products for sale. Two different outlets from the same company also offered, on request only, ivory chips. These were claimed by the sellers to work as a treatment for sore throat and cold when ground up and ingested.

**Ho Chi Minh City (HCMC):** In the previous surveys, HCMC was identified as a major trade location for ivory (Stiles, 2009), therefore the greatest number of shops (279) were surveyed in 2014. Eleven percent (32) of these outlets were found to be selling ivory (Table 2). The An Dong market had the largest number of ivory products, with 73 pieces found in a single shop.

**Ha Noi:** In total, 103 outlets were surveyed in Ha Noi, mostly in the Old Quarter. Eight of these outlets (8%) were found to sell ivory (Table 2), with a total of 169 ivory items on offer. One outlet in Hang Gai Street was found to have 53 items on offer, whilst in Ly Thai To Street, one

Locations	2001			2008			2014				
	No. of shops surveyed	No. selling ivory	Total no. of pieces	No. of shops surveyed	No. selling ivory	Total no. of pieces	No. of shops surveyed	No. selling ivory	% shops with ivory	Total no. of pieces	Av. no. of pieces per shop selling ivory
<b>Ho Chi Minh City</b>	<b>99</b>	<b>37</b>	<b>2262</b>	<b>251</b>	<b>49</b>	<b>1776</b>	<b>279</b>	<b>32</b>	<b>11</b>	<b>516</b>	<b>16</b>
<b>Ha Noi</b>	<b>157</b>	<b>13</b>	<b>777</b>	<b>227</b>	<b>10</b>	<b>407</b>	<b>103</b>	<b>8</b>	<b>8</b>	<b>169</b>	<b>21</b>
Vung Tau	20	0	0	17	0	0	48	0	0	0	0
Phu Quoc				26	1	4	70	0	0	0	0
Ha Tien				33	4	113	53	3	6	37	12
<b>Nha Trang</b>				<b>27</b>	<b>0</b>	<b>0</b>	<b>177</b>	<b>3</b>	<b>2</b>	<b>71</b>	<b>24</b>
Hue				59	8	141	106	2	2	44	22
<b>Ha Long</b>				<b>29</b>	<b>1</b>	<b>3</b>	<b>230</b>	<b>7</b>	<b>3</b>	<b>55</b>	<b>8</b>
Hai Phong							42	1	2	8	8
Dai Nam tourist Site (Thu Dau Mot)											
Da Lat							23	0	0	0	0
Mui Ne tourist site							75	0	0	0	0
<b>Buon Me Thuat</b>							<b>32</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Quy Nhon							<b>40</b>	<b>20</b>	<b>50</b>	<b>1282</b>	<b>64</b>
Kon Tum							25	0	0	0	0
Pleiky							28	2	7	39	20
Da Nang							42	5	12	63	13
Hoi An							111	0	0	0	0
Vinh							52	2	4	16	8
Thanh Hoa							18	0	0	0	0
Sa Pa							5	0	0	0	0
Total	276	50	3039	669	73	2444	1614	85	5%	2300	27

**Table 2. Number of shops and ivory items for sale in 2014, 2008 and 2001.** The highlighted cities are described in the text. Sources: Martin and Stiles, 2002; Stiles, 2008.



PHOTOGRAPHS: TRAFFIC

**Fig. 5. Images showing assorted ivory pieces on sale at outlets in Ha Noi, one of the key locations in Viet Nam for the production of items crafted from ivory.**

outlet had only one bangle (priced at USD286). The types of ivory pieces on offer were notably more diverse than in the other locations and included bangles, necklaces, rings, earrings, pendants, Buddha/Guan Yin figurines, chopsticks, name seals, and a compass (Fig. 5). Ha Noi is one of the key production locations where ivory pieces are crafted from raw ivory (Stiles, 2009). This may indicate that the proximity to the producers could be related to the diversity of items on offer.

**Ha Long:** Ha Long in Quang Ninh province is the gateway to Ha Long Bay, a World Heritage site. A large number of Vietnamese and international tourists visit Ha Long Bay and the city's economy is mostly based on tourism income. A total of 230 outlets were surveyed here and seven were selling ivory (3%), equating to 55 ivory products.

**Nha Trang:** Nha Trang is a beach city in Khanh Hoa province in south central Viet Nam. This city is already popular with Vietnamese tourists, and now its beaches and scuba diving are attracting an increasing number of backpackers, but also more affluent tourists from the Asian continent. A total of 177 shops were surveyed in this location but only three were found to be selling ivory (1.7%). One outlet was selling two ivory bracelets priced at USD1600 each. Another outlet specializing in *Aquilaria* (Agarwood or Eaglewood) furniture and other items had 39 ivory pieces on display, priced in VND.

## BUYERS

It is presumed that the currency in which the price is listed or quoted may indicate the nationality of the most common buyer in that area. Both observations and questions to particular sellers substantiate the fact that ivory is sold to both foreign tourists and Vietnamese nationals. For example in HCMC, the majority of the ivory buyers in the two markets are assumed to be tourists from China as prices were quoted in Chinese Yuan. The HCMC silver and gold shops that also offered ivory (particularly the smaller, religious pendants and figurines) appear to be targeting Vietnamese buyers with prices advertised in VND. In Dak Lak and Ha Tien, the majority of the ivory buyers are assumed to be Vietnamese tourists as prices there were quoted in VND. In Ha Noi, prices were mostly given in USD when enquiries were made, which may indicate that the buyers of ivory pieces are likely to be international tourists. In Ha Long, the majority of prices were in Chinese Yuan, and the sellers further claimed that buyers of ivory pieces are likely to be from China. When the researcher pretended to be a tourist guide, the sellers were willing to offer a 20% commission for ivory bought by new customers. It would be useful to assess regularly tourist locations such as Buon Me Thuat, Nha Trang and Ha Long to gain a better understanding of the impact of tourism on physical ivory markets. When interviewed, sellers claimed that their customers believe that owning ivory helps to prevent, variously, evil spirits, bad luck, typhoid, as well as providing health benefits.

**RETAIL PRICES**

There has been a noticeable increase in prices of the most common types of ivory items for sale compared to the earlier surveys in 2001 and 2008 (Fig. 4). Prices were taken from the first quoted price by the seller (i.e. the starting price without negotiations) or the listed prices, as was done in the earlier surveys.

The price of ivory continued to increase exponentially from 2001 to 2014 (Fig. 4 and Table 3). The 2014 survey found the cheapest items offered were rings and earrings, at USD5, and the most expensive items being the larger bangles, with a starting price range of USD378 to USD2450.

**DISCUSSION AND CONCLUSION**

In summary, the results of this study indicate that the overall availability of ivory items in Viet Nam appears to be on the decline. In 2014, fewer ivory items were observed on offer than was the case in 2001 and 2008, even with a major increase in the number of shops surveyed and the locations visited. But whether this represents hard evidence of an overall reduction in this market remains to be determined.

The apparent decline in the physical market could in part be the result of decreased demand, but is more likely to reflect increased pressure and law enforcement by the national authorities or a growing perception that ivory trade is likely to attract government attention so that only a few products are displayed. This latter possibility is conceivably supported by the fact that craftsmen were

found to be producing more ivory in 2008 compared to 2001 (Stiles, 2008), and that ivory is also found to be traded extensively online (La Fontaine, 2015; TRAFFIC, 2015a). New avenues of trade for elephant ivory on the internet and through social media may play a more important role than the visible physical markets.

Whilst the open availability of ivory has decreased, the average price of ivory items has increased since 2001. Increasing prices could be the result of lower supply, growing notions of exclusivity or attributable to the rise in cost of living associated with Viet Nam’s inflation rate, an increase of 110 points on the Consumer Price Index (Trading Economics, 2015). At the same time, however, growing prosperity in Viet Nam allows consumers to spend more money on “luxury goods” such as ivory. There is an indication that the demand for ivory by international tourists has an effect on the market in Viet Nam as prices of ivory items are quoted in US Dollars and Chinese Yuan.

It is crucial to continue to monitor and evaluate the Vietnamese ivory market. Surveys of the physical markets, interviews with craftsmen working ivory and interviews with the sellers to gain insights into the buyers need to take place on a regular basis. This survey has looked at the “visible” ivory markets only. Future ivory surveys in Viet Nam should, where possible, include an assessment of the online ivory market as well as a survey amongst the craftsmen to assess the amount of ivory pieces being produced. This would provide an indication of the amount of ivory in the Vietnamese market and some understanding as to whether this crafted ivory is being sold openly or is disappearing in the illicit trade.

Type	Size (cm)	2001 price range	2008 price range	2014 price range
<b>Jewellery</b>				
Bangle	0.5	–	50–95	95–189
Bangle	1	70–150	58–300	100–1400
Bangle	2	60–200	203–525	378–2450
Necklace, large beads		75–250	300–1195	250–1750
Ring, plain		10–20	10–50	5–112
Pair of earrings		–	50–100	5–21
Pendant	3–4	25–30	25–45	200–250
<b>Figurines</b>				
Buddha/Guan Yin	<5	15	181–225	71–1500
Buddha/Guan Yin	5–10	30–150	35–280	378–709
Buddha/Guan Yin	11–20	200–800	600–1500	945–1655
<b>Misc. items</b>				
Chopsticks, pair	15–20	36–95	40–200	200–400
Cigarette holder	8–10	35–70	30–110	100–150
Name seal	5–8	20–72	55–200	70–500
Compass	5–7	150	300–500	400
Compass	10–14	350–500	1000	–
Lamp (carved hollow tusk)	40	500–2000	5000	–
Painted plaque	5–14	20–35	55–150	–

**Table 3. Prices (USD) of worked ivory items in 2001, 2008 and 2014. The price ranges were determined by the starting price of the items and reflects the lowest and the highest starting prices given by sellers for similar items. Sources: Martin and Stiles, 2002; Stiles, 2008**

It is possible that, with China's efforts to reduce the illegal ivory trade in its domestic market with increased law enforcement efforts, and countries such as Thailand slowly joining efforts to combat the ivory trade, Viet Nam's role in illegal trade could increase due to its relative lack of law enforcement and punitive measures. Recently, a large number of seizures in the seaport of Da Nang show the inherent adaptability of the illegal trade of ivory (TRAFFIC 2015b). It is vital, therefore, to continue to monitor and analyse ivory seizures and the trade chains of ivory so that interventions to stem the ivory trade can be recommended to Viet Nam's national law enforcement agencies.

A strong legislative and regulatory framework, effective law enforcement and punitive measures are demonstrably key to addressing the illegal wildlife trade in the short term. However, it is also necessary to address consumer demand for ivory in the longer term. It is therefore essential that as the Vietnamese government enforces the law and serves punitive measures on ivory sellers and traffickers, TRAFFIC and other non-governmental organizations work concurrently with key partners in the country to reduce the demand for ivory. While the Vietnamese government is making headway with improving law enforcement efforts, it would benefit from expanding the suite of law enforcement efforts. Collaboration with importing and exporting countries to identify perpetrators moving ivory illegally through their borders would greatly improve efforts to eradicate this problem. Only through these joint efforts can the global poaching of elephants be addressed.

## ACKNOWLEDGEMENTS

Funding for this study was provided by the Polifund project, implemented by GIZ on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). This survey could not have taken place without the facilitation and support of Naomi Doak. The authors also thank Sarah Stoner and Kanitha Krishnasamy and two anonymous reviewers for their helpful comments on the manuscript.

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THE TRAFFIC BULLETIN SEIZURES AND PROSECUTIONS SECTION IS SPONSORED BY THE FORESTRY BUREAU, COUNCIL OF AGRICULTURE, TAIWAN: COMMITTED TO SUPPORTING CITES ENFORCEMENT

The following section features a selection of seizures and prosecutions reported between April and September 2015. Sources are cited at the end of each country section. Readers are referred to the TRAFFIC website ([www.traffic.org/media-reports/](http://www.traffic.org/media-reports/)) for regular updates on cases reported from around the world.

## BIRDS

**INDONESIA:** On 4 May 2015, harbour police at Tanjung Perak port, Surabaya, caught a passenger disembarking with two birds packed in jerry cans; a search of the boat uncovered some travel bags that were found to contain 21 Yellow-crested Cockatoos *Cacatua sulphurea* (CITES I) that had been placed in plastic water bottles. Officials had to cut the birds free; seven subsequently died.

According to BirdLife, this species has declined extremely rapidly owing to international trade and widespread deforestation within its range, with an estimated global population of fewer than 7000 individuals.

On 12 June 2015, two people were arrested in Langkat, Sumatra; the beaks or casques of 12 Helmeted Hornbills *Rhinoplax vigil* (CITES I) were confiscated, together with firearms. Langkat is an important entry point for poachers trespassing in the Gunung Leuser National Park (GLNP). The suspects' operation involved 30 hunters who poached the birds inside Indonesia's Leuser landscape—a continuous forest covering more than 25 000 km<sup>2</sup>, most of which lies in the province of Aceh, including GLNP.

Helmeted Hornbills are one of Indonesia's most hunted bird species. In recent years, international trade for their casques has increased sharply, owing to demand for their use as carved decorations. The suspects confessed to selling at least 124 casques within six months to a Chinese middleman.

A shipment of Helmeted Hornbill casques was seized with pangolin scales and other wildlife in Hong Kong in May 2015 (see Pangolins).

CNN: <http://cnn.it/1EWRUxz>; 7 May 2015  
Newswise: <http://bit.ly/1MTgldW>, 19 June 2015

## ELEPHANTS

see also under **Other / Multi-seizures**

**BENIN:** In August 2015, a former eco-guard with CENAGREF (Centre National de Gestion des Réserves de Faune) was sentenced to 18

**CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora)** establishes international controls over trade in wild plants and animals, or related products, of species that have been, or may be, threatened due to excessive commercial exploitation. Parties have their own legislative instrument by which to meet their obligations under CITES. The species covered by CITES are listed in three Appendices, according to the degree of protection they need:

**APPENDIX I** includes species threatened with extinction which are or may be threatened by trade. Trade in specimens of these species is permitted only in exceptional circumstances. An export permit from the country of origin (or a re-export certificate from other exporting countries) and an import permit from the country of importation are required.

**APPENDIX II** includes species not necessarily yet threatened, but which could become so if trade is not strictly controlled. Species are also included in Appendix II if they are difficult to distinguish from other species in Appendix II, in order to make it more difficult for illegal trade to take place through misidentification or mislabelling. An export permit from the country of origin (or a re-export certificate from other exporting countries) is required, but not an import permit.

**APPENDIX III** includes species that any Party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation and as needing the co-operation of other Parties in the control of trade. Imports require a certificate of origin and, if the importation is from the State that has included the species in Appendix III, an export permit is required.

All imports into the European Union of CITES Appendix II-listed species require both an export permit/re-export certificate and an import permit.

months' imprisonment and ordered to pay USD13 000 for killing an elephant (CITES I) and its baby for ivory.

*The Eagle Network, August 2015*

**CHINA:** On 7 September 2015, it was reported that an antique shop owner called Tai of Shandong province had been gaoled for 15 years for smuggling 18 ivory (CITES I) tusks into China (131.36 kg). Qingdao Customs found the tusks in 7 parcels arriving by post from Japan in October 2014. Police traced the suspect from the recipient's telephone number.

In September 2015, it was reported that a woman in Beijing had been gaoled for 6.5 years for smuggling six ivory (CITES I) pieces into China (14.5 kg) that she had purchased in Côte d'Ivoire. The woman was stopped at Beijing international airport in December 2013 with the ivory in her luggage. She claimed that she had purchased the ivory from a Chinese person as souvenirs. The pieces had been wrapped in aluminium foil and prosecutors alleged this was to try to prevent the items showing on airport X-ray machines.

<http://news.sina.com.cn/o/2015-09-08/doc-ixhghuf8218843.shtml>; *South China Morning Post*: <http://bit.ly/1Gpv8kR>, 16 September 2015

**FRANCE:** On 27 May 2015, Customs officials at Paris-Roissy Charles de Gaulle Airport seized 136 kg of raw elephant ivory (CITES I) from two suitcases in transit from Democratic Republic of Congo to Viet Nam, labelled as "spare parts". The dozen ivory tusks had been cut into 39 pieces and concealed under sheets of aluminium plates.

*French Customs*: <http://bit.ly/1Ggl3C1>, 11 June 2015

**HONG KONG:** A number of shipments of ivory (CITES I) have been seized at Hong

Kong International Airport in recent months, several of which have involved the same modus operandi of concealment of items in tailor-made vests and arriving from African countries via Dubai, United Arab Emirates:

On 7 August 2015, a man travelling from Harare, Zimbabwe, via Dubai, was arrested in possession of 15 kg of ivory (CITES I) pieces concealed in a tailor-made vest he was wearing; another 15 kg of ivory products were concealed in a tailor-made vest in the hand luggage of a man arriving from Abuja, Nigeria, via Dubai, on 24 August.

On 2 September, authorities seized a parcel of 24 kg of ivory sent from Zimbabwe, via Amsterdam, the Netherlands, declared as "decorative tiles". On 6 September, 51 kg of ivory pieces were seized from two inbound airmail parcels, again declared as "decorative tiles" and using the same route from Zimbabwe. On 25 September, a man arriving from Harare, Zimbabwe, via Dubai, was arrested after officials seized 13 kg of suspected worked ivory products from a tailor-made vest found in hand luggage. On 29 September 2015, 16 kg of suspected ivory pieces similarly concealed were found in the luggage of a man arriving from Abuja, Nigeria, via Dubai.

*Hong Kong Customs press releases*: [www.info.gov.hk/gia/general/201508/07/P201508070420.htm](http://www.info.gov.hk/gia/general/201508/07/P201508070420.htm), 7 August 2015; <http://bit.ly/1JApais>, 24 August 2015; [www.info.gov.hk/gia/general/201509/04/P201509040446.htm](http://www.info.gov.hk/gia/general/201509/04/P201509040446.htm), 4 September 2015; [www.info.gov.hk/gia/general/201509/26/P201509260213.htm](http://www.info.gov.hk/gia/general/201509/26/P201509260213.htm), 26 September 2015; *The Standard*: <http://bit.ly/1W5rjs5>, 7 September 2015; *South China Morning Post*: <http://bit.ly/1JTk2Kv>, 29 September 2015

**MALAWI:** In August 2015, brothers Patrick and Chancy Kaunda were each fined MK2.5 million (USD5500) at the High Court of Malawi after pleading guilty to charges of ivory trafficking and money laundering; they chose to pay the fine instead of serving the seven-year gaol term for their involvement in the illegal

trade in 2.6 t of elephant ivory (CITES I). These are reportedly the harshest sentences ever handed down for wildlife crimes in the country. Brighton Kumchedwa, Director of Parks & Wildlife, added, "The fine is the highest in the history of wildlife in Malawi. However we are aware that this is not commensurate with the sentencing of other countries, and with this in mind we look forward to the imminent review of the Wildlife Act and associated legislation."

*African Conservation Foundation:*  
<http://bit.ly/1W45lkb>, 5 August 2015

**MOZAMBIQUE:** Over one tonne of ivory was seized in May 2015 with rhinoceros horns (see under Rhinoceroses)

**SINGAPORE:** On 19 May 2015, the Agri-Food & Veterinary Authority of Singapore (AVA), with the support of Singapore Customs and the Immigration & Checkpoints Authority, seized a shipment of two containers from Kenya, destined for Viet Nam, which held 3.7 t of illegal ivory (CITES I) declared as "tea leaves". Concealed among bags of tea, authorities uncovered some 1783 pieces of raw ivory tusks (whole/cut), as well as four pieces of rhinoceros (CITES I) horns and 22 pieces of canine teeth believed to be from African big cats. One man and his two sons were arrested at their home in Kenya for their alleged involvement in the case, which is under investigation and follows the interception of another 3 t of Kenyan ivory in Thailand.

*Joint media release: Agri-Food & Veterinary Authority and the Singapore Customs:* <http://bit.ly/1NnsZG8> 19 May 2015; *The Star (Kenya):* <http://allafrica.com/stories/201506040374.html>, 5 June 2015

**SWITZERLAND:** On 6 July 2015, Customs officials at Zurich airport seized 262 kg of ivory that three Chinese men had dispatched from Tanzania. Estimated to derive from up to 50 elephants, the ivory (CITES) had been cut into 172 pieces and packed in eight suitcases, together with 21 teeth and claws of Lion *Panthera leo* (CITES II). The shipment was being transported from Tanzania's capital, Dar es Salaam, to Beijing via Zurich. It is reported that the trio were charged and fined (amount not reported).

*www.usnews.com/news/world/articles/2015/08/04/swiss-customs-seize-578-pounds-of-ivory-en-route-to-china*, 4 August 2015; *The Citizen:* <http://bit.ly/1jTkCle>, 17 August 2015

**UGANDA:** On 4 June 2015, it was reported that aviation police had seized six boxes in transit to Singapore which contained over 740 kg of ivory (plus 100 ivory bangles) that had eluded airport security. The ivory was registered in the names of a Ugandan and was being sent to a company in Singapore dealing in ivory. The tusk markings indicate that the ivory was from outside Uganda. Five security personnel were arrested for alleged connivance to export the ivory; the Ugandan suspect is on the run.

*Kfm:* <http://bit.ly/1KefhoA>, 4 June 2015



MUHAMMAD ALZAHRI

## HELMETED HORNBILL *Rhinoplax vigil*

Several shipments of Helmeted Hornbill casques have been seized recently in Hong Kong and Indonesia. One of Indonesia's most hunted bird species, in recent years demand for their casques—often referred to as "golden ivory"—has increased sharply on the international market to supply demand for their use for carving decorative items.



◀ Hornbill casques and a sack of pangolin scales seized with other wildlife products by Hong Kong Customs and marine police in May 2015.

*Photograph: Hong Kong Customs*

On 30 June 2015, border police at Ha Tien International Border Gate and Kien Giang Province seized 387 kg of elephant tusks in a lorry travelling from Cambodia. The case is being investigated.

*www.thanhniennews.com/society/65-kgs-of-smuggled-rhino-horns-ivory-busted-at-hanoi-airport-42265.html*, 17 April 2015; <http://english.vietnamnet.vn/fms/society/135037/social-news-4-7.html>, 4 July 2015

## MARINE / FRESHWATER

**AUSTRALIA:** On May 2015, at Warrnambool Magistrates' Court, Cuong Van Hoang, Nhan Ngoc Hoang and Vinh Thanh Pham pleaded guilty to fisheries offences. The trio were arrested at Griffith Island, Port Fairy, after being observed by authorities fishing and carrying bags of abalones (304 specimens, 173 under the 13-cm size limit). Two of the men, who were charged with further offences relating to the possession of commercial mesh nets, were fined AUD7500 and the third, who had been keeping watch during the fishing operation, was fined AUD5000. All were sentenced to one month in gaol, suspended for two years.

*The Standard (Australia):* <http://bit.ly/1RW8dii>, 25 May 2015

## UNITED ARAB EMIRATES:

On 7 May 2015, it was reported that police at Dubai airport had seized 84 pieces (300 kg) of raw ivory (CITES I) that had originated from Côte d'Ivoire, bound for Viet Nam. The consignment was to be handed over to the Ministry of Environment and Water and would be destroyed.

In July 2015, police seized a total of 622 kg of ivory from travellers in transit through Dubai airport in five separate incidents, and involving passengers travelling from African countries to the USA and Asia.

*Khaleej Times:* <http://yhoo.it/1QSYOr1>, 7 May 2015; [www.emirates247.com/news/emirates/622kg-ivory-worth-dh5m-seized-in-dubai-2015-08-25-1.601353](http://www.emirates247.com/news/emirates/622kg-ivory-worth-dh5m-seized-in-dubai-2015-08-25-1.601353), 25 August 2015

**VIET NAM:** On 16 April 2015, Customs officers at Noi Bai Airport, Ha Noi, discovered 18 suspected ivory (CITES I) pieces (60 kg) and three rhinoceros (CITES I) horns (4.86 kg) packed in two boxes arriving from France. The case is under investigation.

## SEIZURES AND PROSECUTIONS

**CAMEROON:** One person has been sentenced at a court in Buea to two years' imprisonment after being arrested in April 2015 in possession of nine marine turtle shells; the defendant was also ordered to pay USD10 000 damages to the government.

*The Eagle Network, August 2015*

**CHINA:** Between March and May 2015, the China Coast Guard (CCG) impounded 140 vessels used in the trade in red coral, detained 80 suspects and seized large amounts of coral, a protected species. It is reported that cases of red coral poaching are on the rise in coastal provinces such as Zhejiang, Fujian and Guangdong, severely harming the marine environment. The CCG has set up checkpoints targeting vessels without names, numbers, certificates or home ports.

*Eco-Business: <http://bit.ly/1LLpgCX>, 26 May 2015*

**ECUADOR:** In May 2015, police seized around 200 000 sharks fins which were about to be illegally exported to Asia. The fins were discovered after raids on nine locations in the port city of Manta. Six people, including a Chinese national, were arrested.

Interior Minister Jose Serrano said at least 50 000 sharks had been killed by the traffickers. He said the authorities had "dealt a major blow to an international network that trafficked shark fins". "We must end these criminal networks that are only interested in their own economic interests and are destroying the ecosystem."

*BBC News: <http://bbc.in/1PSlwTI>, 29 May 2015*

**SOUTH AFRICA:** On 11 May 2015, a raid on a house in Texas, Hangberg, led authorities to an operation involving five people who were discovered cleaning and packing bags with abalones. The suspects fled when approached. Eleven bags each containing 100 abalones (45 kg/bag) and one bag containing 70 abalones (30 kg) were confiscated and handed over to Marine Coastal Management.

On 12 May 2015, a joint effort between members from Port Elizabeth K9-Unit, Kabega Park Crime Prevention Unit and Abalone Task Team led to one arrest in Westering in Port Elizabeth and the seizure of 7570 abalones.

On 12 May 2015, police attached to Philippi SAPS acting on information found 8300 unshelled abalones at a house at 6th Avenue Philippi. No arrests at time of report.

On 5 July 2015, two men were arrested for being in possession of 2915 abalones when they were apprehended in their car near Rivieronderend, Western Cape.

On 5 August 2015, police arrested two suspects and seized over 4000 abalones concealed in a coffin being transported in Beaufort West, bound for Johannesburg. One of the suspects is reportedly a former police officer previously convicted of poaching and illegal abalone trade.

On 14 August 2015, it was reported that a man had been arrested after some 6965 abalones were discovered in his vehicle after he was apprehended following a high-speed chase in the Western Cape.

On 26 August 2015, police in East London recovered 1576 units of frozen unshelled abalones (10 kg) and 669 dried abalones following a raid on a house in Gonubie. Items linked to the illegal harvesting of abalone such as diving equipment and weighing scales were also confiscated. A suspect was arrested.

On 29 August 2015, at O.R.Tambo International Airport, a 100 kg-consignment of abalones arriving from Cape Town and disguised as frozen fish, was seized following a routine check; one person was arrested when he came to collect the cargo.

On 15 September 2015, a suspect was arrested while driving erratically and was found to be transporting 6824 shucked abalones.

*AllAfrica.com: <http://allafrica.com/stories/201505121471.html>, 11 May 2015; <http://allafrica.com/stories/201505130974.html>, 12 May 2015; <http://allafrica.com/stories/201505140824.html>, 13 May 2015; [www.thenewage.co.za/159906-1008-53-Cape\\_police\\_arrest\\_man\\_for\\_possession\\_of\\_abalone\\_worth\\_R150000](http://www.thenewage.co.za/159906-1008-53-Cape_police_arrest_man_for_possession_of_abalone_worth_R150000), 23 May 2015; [www.thenewage.co.za/164061-1008-53-Two\\_people\\_arrested\\_for\\_possession\\_of\\_abalone](http://www.thenewage.co.za/164061-1008-53-Two_people_arrested_for_possession_of_abalone), 6 July 2015; [iol news: http://bit.ly/1WSIPOf](http://bit.ly/1WSIPOf), 7 August 2015; [iol news: http://bit.ly/1XjUa9o](http://bit.ly/1XjUa9o), 14 August 2015; [iol news: http://bit.ly/1GT033R](http://bit.ly/1GT033R), 26 August 2015; [www.news24.com/SouthAfrica/News/R100-000-worth-of-abalone-sized-at-OR-Tambo-20150830](http://www.news24.com/SouthAfrica/News/R100-000-worth-of-abalone-sized-at-OR-Tambo-20150830), 30 August 2015; [Times Live: <http://bit.ly/1Fd4tHk>](http://www.timeslive.com/159906-1008-53-Cape_police_arrest_man_for_possession_of_abalone_worth_R150000), 15 September 2015*

## PANGOLINS

All pangolin species are listed in CITES Appendix II, with a zero quota for Asian species.

See also under Other / Multi-seizures

**HONG KONG:** On 6 May 2015, Customs and the Marine police seized 129 kg of suspected pangolin *Manis* scales, live tortoises, lizards, spiders, and some 10 kg of Helmeted Hornbill *Rhinoplax vigil* (CITES I) casques, plus a large haul of electronic goods. Several men were discovered by the authorities loading boxes of goods onto a speedboat at Rambler Channel Public Cargo Working Area; several suspects fled in the speedboat. One arrest. The items were retrieved from 150 boxes and 30 bags. The investigation is continuing.

*Hong Kong Government press release: <http://bit.ly/1kqFIOD>, 7 May 2015*

**INDIA:** On 11 May 2015, Madhya Pradesh forest department officials arrested 13 people involved in the smuggling of pangolins *Manis* to China and Viet Nam; two kilogrammes of pangolin scales were seized. The accused allegedly confessed to poaching and trafficking 100 pangolins from Madhya Pradesh to China over the previous 12 months, employing tribal people to collect the animals from the wild.



◀ Poached abalone shells line the shoreline after being washed ashore on Robben Island, South Africa.

*Photograph: Peter Chadwick / WWF-Canon*



On 29 May 2015, police in Kohima, the capital of Nagaland, north-east India, uncovered a shipment of at least 10 t of pangolin *Manis* scales during a routine car check. Six people travelling in three cars were detained. Ginseng *Panax* (500 kg) was also seized.

*The Times of India*: <http://bit.ly/1K6cMWq>, 12 May 2015; <http://wildlifeneews.co.uk/2015/05/indian-police-seized-10-tonnes-of-pangolin-scales/>, 30 May 2015

**INDONESIA:** On 23 April 2015, at Belawan seaport, Medan, Sumatra, authorities seized five tonnes of frozen pangolins *Manis*, 77 kg of pangolin scales, and 96 live pangolins. A suspect who was arrested allegedly dealt and exported pangolins that he ordered from local dealers in Aceh and north Sumatra. In order to avoid detection, the suspect had exported the cargo of pangolins from a secondary port to a cargo ferry offshore, where it was obscured by other containers. The cargo ferry then docked at Belawan port where the container was to be transferred to a vessel destined for China via Hai Phong Seaport in Viet Nam. The exporter reportedly also shipped live pangolins to Penang, Malaysia, through a remote seaport in Medan.

On 8 July 2015, Customs officials at Surabaya's Juanda International Airport foiled an attempt to smuggle 455 (1390 kg) dead pangolins *Manis* to Singapore. Suspicious of a man with 43 cartons he claimed were full of fish, officers checked the boxes to find the pangolins packed with fresh fish.

*Newswise*: [www.newswise.com/articles/indonesian-national-police-seize-major-shipment-of-pangolins-arrest-smuggler](http://www.newswise.com/articles/indonesian-national-police-seize-major-shipment-of-pangolins-arrest-smuggler), 27 April 2015; *Mongabay*: <http://bit.ly/1ZXs2uYI>, 9 July 2015

**MALAYSIA:** On 10 September 2015, authorities foiled an attempt to smuggle 97 live pangolins *Manis* across the country's northern border into Thailand. The pangolins were found in two cars at a house in the village of Padang Buloh in the State of Kedah. One arrest. The pangolins were subsequently kept at a wildlife centre in the State and would be released back into the wild.

[www.news24.com/Green/News/Nearly-100-live-pangolins-saved-in-Malaysia-anti-smuggling-raid-20150910](http://www.news24.com/Green/News/Nearly-100-live-pangolins-saved-in-Malaysia-anti-smuggling-raid-20150910), 10 September 2015

**VIET NAM:** On 17 August 2015, authorities rescued 56 Sunda Pangolins *Manis javanica* (232 kg) from various locations in Nga Son district, Thanh Hoa Province, the largest incidence in which officials rescued pangolins being illegally sold in Viet Nam. The animals were to be released in the wild. A Chinese Pangolin *Manis pentadactyla* was among a further seven pangolins seized from Pu Mat National Park in Nghe An Province and taken into the care of the Carnivore and Pangolin Education Centre, a joint-programme between Save Vietnam's Wildlife and Cuc Phuong National Park which were involved in the earlier rescue of the 56 specimens.

*Viet Nam News*: <http://bit.ly/1gXY3kb>, 17 August 2015

**ZIMBABWE:** Nine-year gaol terms have been imposed for pangolin offences in a number of recent cases:

In May 2015, Noel Holman and Tendai Musatyira of Harare each received mandatory nine-year gaol terms after being convicted in a Harare courtroom of possessing a pangolin. The pair was apprehended by authorities on 18 January 2015. Acting on information, police joined Zimparks officials masquerading as buyers; the duo was apprehended after a pangolin contained in a sack was presented to the "buyers" to view. They have since filed an application for bail pending appeal at the High Court.

On 18 June 2015, Gilbert Nyamuziwa Karanda and Oliver Kakumura of Harare were each sentenced to nine years in gaol for possessing a pangolin carcass. A third person is on the run.

On 8 August 2015, at Chiredzi Magistrates' Court, Mozambique national Blessing Aron was sentenced to nine years' imprisonment for the possession of a pangolin in violation of the *Parks & Wildlife Act*. The pangolin was released into a safe environment.

*Newsday*: <http://bit.ly/1Gi90cf>, 21 May 2015; <http://allafrica.com/stories/201506190111.html>, 19 June 2015; *Tikki Hywood Trust*, 16 August 2015

## REPTILES / AMPHIBIANS

**CHINA:** On 4 August 2015, at Guangzhou Airport, Guangdong, forest police arrested two people arriving from Madagascar with 298 Radiated Tortoises *Astrochelys radiata* (CITES I) in their luggage; an airport worker reportedly helped the duo to clear Customs checks. The case is under investigation.

In August 2015, Customs officials at Xiamen airport, Fujian Province, arrested a Chinese national after an X-ray image of his carry-on luggage looked suspicious. On opening his luggage, they found what were later identified as 182 gall bladders of Reticulated Pythons *Python reticulatus* (CITES II). The case is under investigation.

*China Wildlife Conservation Association*, [www.cwca.org.cn/news/tidings/ff808081471ed293014efb222e6e5037.html](http://www.cwca.org.cn/news/tidings/ff808081471ed293014efb222e6e5037.html), 5 August 2015; [http://digi.dnkb.com.cn/dnkb/html/2015-08/15/content\\_391128.htm](http://digi.dnkb.com.cn/dnkb/html/2015-08/15/content_391128.htm), 15 August 2015

**INDIA:** On 25 July 2015, at Chennai airport, Customs officials seized 50 live Indian Star Tortoises *Geochelone elegans* (CITES II) from the luggage of a passenger bound for Malaysia. On 2 July, 60 Indian Star Tortoises were seized from the luggage of another passenger and seven days later, 41 specimens of this species, also bound for Malaysia, were seized. Forest department officials reportedly suspect the involvement of a gang in the sourcing and smuggling of this species (see also pages 73–78 of this issue).

On 9 August 2015, at Kempe Gowda International Airport, Bangalore, two people arriving from Chennai were arrested for trying to smuggle 59 Indian Star Tortoises *Geochelone elegans* (CITES II) and 20 Spotted Black Terrapins [believed to be Black Spotted Turtles *Geoclemys hamiltonii* CITES I] to Malaysia. The reptiles, which had been bound using tapes to restrict their movements, were moved to a PFA (People for Animals) wildlife rehabilitation centre.

<http://timesofindia.indiatimes.com/city/chennai/Malaysia-bound-flyer-held-with-suitcase-full-of-star-7tortoises/articleshow/48220382.cms>, 26 July 2015; *Bangalore Mirror*: <http://bit.ly/1Gi98IT>, 14 August 2015

**JAPAN:** In early May 2015, at Chubu Airport, Aichi Prefecture, a couple was caught trying to smuggle some 400 turtles including Yellow Pond Turtles *Mauremys mutica* (CITES II) and Japanese Pond Turtles *M. japonica* (CITES II) out of the country. The turtles, valued in China for their medicinal properties and as pets, had been placed inside socks, and packed in suitcases. The couple's nationality and their destination have not been disclosed.

*The Asahi Shimbun*, <http://bit.ly/1NU4cfH>, 25 May 2015

**MADAGASCAR:** On 29 September 2015, at Antananarivo's Ivato International Airport, Customs and border police officials scanning luggage discovered 771 wild native tortoises in two wooden boxes being sent as freight to Kuala Lumpur, Malaysia, via Mauritius. The seizure was described by Customs as the largest ever of its kind at the airport. It included eight Ploughshare Tortoises *Astrochelys yniphora* (CITES I)—considered to be the world's rarest tortoise—and 763 Radiated Tortoises *A. radiata* (CITES I); both species—classified by the IUCN Red List of Threatened Species as Critically Endangered—are found only in Madagascar.

The contents of the containers had been misdeclared and the tortoises concealed beneath clothing. Twenty Radiated Tortoises are understood to have died subsequently; the surviving specimens were handed over to the Turtle Survival Alliance. The Ploughshare Tortoises have been sent to the Durrell Conservation Trust for rehabilitation, before their release into the wild (see also pages 79–84 of this issue).

*TRAFFIC*: <http://bit.ly/1MU4q3e>, 5 October 2015

**PHILIPPINES:** In June 2015, over 4000 endangered turtles were confiscated from a well-known syndicate of poachers in the Philippines. Some 3800 specimens were Philippine Forest Turtles *Siebenrockiella leytensis* (CITES II), a Critically Endangered species that is endemic to the island of Palawan; historically this species was known from just four specimens, before being rediscovered in 2004 in northern Palawan where it is known to have a very restricted range. These specimens were destined for the illegal food and pet trade markets in East Asia. The Katala Foundation based on Palawan was alerted to this massive confiscation: to cope with such large numbers of turtles, a coalition of turtle conservation

## SEIZURES AND PROSECUTIONS

groups rapidly united and sent veterinarians and additional manpower, supplies and funds to the Philippines. The Director of Katala's Foundation's Philippine Freshwater Turtle Conservation Program, Dr Sabine Schoppe, and her small team found a temporary location at the Palawan Wildlife Rescue and Conservation Center to manage and triage the confiscation and created suitable makeshift ponds. Some 2828 turtles have been released to date and after an initial peak of deaths in the first days, very few further deaths had occurred. Approximately 505 turtles remained in poor condition at the time of the report and had been started on a treatment regime.

*Turtle Conservancy:* <http://bit.ly/1GpDSHN>, 29 June 2015

**SPAIN:** On 15 July 2015, it was reported that some 40 Spur-thighed Tortoises *Testudo graeca* (CITES II) that had been left in crates, apparently abandoned in the street in Malaguete, Malaga, were seized by the authorities. The specimens were to be examined with the aim of returning them to the wild.

*Spanish News Today:* [http://spanishnewstoday.com/endedangered-native-spanish-tortoises-dumped-in-m%C3%A1laga\\_21848-a.htm#VabOuNoaySN](http://spanishnewstoday.com/endedangered-native-spanish-tortoises-dumped-in-m%C3%A1laga_21848-a.htm#VabOuNoaySN), 15 July 2015

**TAIWAN:** On 16 July 2015, Tainan Coast Guard officials seized a total of 3876 turtles, including 2286 Chinese Box Turtles *Cuora flavomarginata* and 920 Yellow Pond Turtles *Mauremys mutica* (both CITES II), 469 Reeves' Turtles *Mauremys reevesii* (IUCN Endangered), and one Keeled Box Turtle *Cuora mouhotii* (IUCN Endangered). The specimens were believed to be bound for mainland China.

*Yam News:* <http://bit.ly/1W4kWQK>, (in Chinese), 18 July 2015

## RHINOCEROSSES

All species and populations of Rhinocerotidae are listed in CITES Appendix I except the South African and Swaziland populations of *Ceratotherium simum simum* which are listed in CITES Appendix II.

See also under **Other/Multi-seizures**

**CZECH REPUBLIC:** On 19 June 2015, at Prague 6 district court, three Vietnamese nationals were convicted of the illegal export of rhinoceros horns; two received gaol terms of five years and the third to three years after they were caught trying to export to Viet Nam the horns (6.7 kg) of a rhinoceros hunted by a Czech hunter in South Africa. The consignment was seized at Václav Havel Airport in December 2013 following a routine x-ray baggage check; the horns had been concealed under layers of resin, plastic wrap and tar in a parcel containing electrical insulation material.

*Prague Post:* <http://bit.ly/1G9AqC>, 19 June 2015

**HONG KONG:** On 27 July 2015, at the freight delivery centre at Hong Kong International Airport, Customs officers seized 10 pieces of suspected rhinoceros horns (6.71 kg) in three express parcels mixed with wood products. Each item had been wrapped in foil and plastic sheets. The parcels had arrived on different flights on 26 and 27 July from Pemba, Mozambique, via Johannesburg, South Africa. The slabs were suspected to have been cut from two whole horns, and believed to be intended for delivery in separate consignments to evade detection. The case was handed over to the Agriculture, Fisheries and Conservation Department for follow-up action.

*Hong Kong Customs press release:* <http://bit.ly/1RWaz0H>, 29 July 2015

**INDIA:** On 1 May 2015, Gohpur police in Biswanath police district apprehended nine rhinoceros poachers at several locations in Gohpur and Bandardewa, among them an Arunachal police inspector. One rhinoceros horn was recovered.

*www.assamtribune.com/scripts/detailsnew.asp?id=may0215lat054*, 2 May 2015

**KENYA:** On 23 May 2015, at Jomo Kenyatta International Airport, Nairobi, a Vietnamese citizen in transit to Ha Noi, was arrested for smuggling seven pieces of rhinoceros horn, rhinoceros tails and Lion *Panthera leo* (CITES II) teeth (total 12 kg) out of Maputo, Mozambique.

*http://en.starafrika.com/news/kenya-nabs-vietnamese-for-alleged-rhino-horn-smuggling.html*, 25 May 2015

**MOZAMBIQUE:** On 3 May 2015, police in central Maputo seized 4.6 kg of rhinoceros horn and large sums of foreign currency from two Mozambicans and two South Koreans resident in South Africa and believed to be part of an international ring of traffickers in rhinoceros horn. The items were found in a car the group was using.

*http://allafrica.com/stories/201505060127.html*, 5 May 2015

It is reported that 12 of 65 rhinoceros horns seized in early May 2015 were stolen from a police strongroom in Matulo, Maputo province, on 22 May. A number of arrests have been made in connection with the latest theft. Mozambican police confirmed on 2 June that four individuals detained in connection with the theft of the 12 rhinoceros horns are senior police officers. The 65 horns and 340 elephant tusks (1.1 t) were found at a house on the outskirts of Maputo.

The seizure was originally heralded as a significant breakthrough in international efforts to clamp down on the criminal syndicates behind rhinoceros poaching and the smuggling of horn from Africa to Asia, although considerable confusion still exists over the number and nationality of people arrested in connection with the record bust. However, news of the police strong-room theft represents a serious setback in efforts to follow up the seizure with significant investigations that could help break a major trafficking network.

"TRAFFIC again urges Mozambique to seek the assistance of INTERPOL in providing the specialist support needed when significant seizures are made, to ensure that vital law enforcement opportunities are not squandered," said Tom Milliken, TRAFFIC's Elephant and Rhino Programme Leader. "Mozambique should share with INTERPOL all evidence relating either to the original seizure or the subsequent theft."

The theft is a significant blow to the newly elected government, which has publicly signalled its intent to address the country's poor law enforcement record and corruption.

"While there are encouraging signs that the political will exists to get to grips with the corruption and crime that is undermining Mozambican society, this latest law enforcement lapse will come as a huge setback. Mozambique now has an opportunity to act on its stated commitments to stamp out corruption and demonstrate to the world that it is serious about tackling wildlife crimes, but a failure to do so will result in a serious loss of credibility for the new government," said Milliken.

*TRAFFIC:* <http://bit.ly/1MEd5UU>, 15 May 2015; <http://bit.ly/1ZXv7LH>, 1 June 2015; *News Ghana:* <http://bit.ly/1GTayVO>, 2 June 2015

**SOUTH AFRICA:** On 6 May 2015, four members of Middelburg Flying Squad Unit were arrested in Mpumalanga. The constables had allegedly seized a rhinoceros horn and cash from a vehicle that they had stopped while on duty. Instead of arresting the five occupants, they reportedly demanded a bribe for the horn's release. The five suspects handed themselves over to members of the Organised Crime Unit in Middleburg and provided details of the event. A subsequent sting operation led to the arrest of the four constables and seizure of the horn.

*Sowetan Live:* [www.sowetanlive.co.za/news/2015/05/08/four-cops-arrested-for-possession-of-rhino-horn-corruption](http://www.sowetanlive.co.za/news/2015/05/08/four-cops-arrested-for-possession-of-rhino-horn-corruption), 8 May 2015

On 31 August 2015, at White River Magistrates' Court, Mpumalanga, Mozambican nationals Phinias Sithole and France Nkuna, were convicted and each sentenced to 11 years' imprisonment after being arrested in Kruger National Park on 27 October 2014, armed with a hunting rifle and an axe. They were sentenced to five years in gaol for possession of an unlicensed firearm, five years in gaol for unlawful possession of ammunition and one year in gaol for trespassing.

"This conviction will serve as a deterrent to other would-be poachers; they will know that the task teams will stop them in their tracks even before committing the crime," said national police spokesperson, Brigadier Vishnu Naidoo.

*MY Lowveld:* <http://bit.ly/1MTnfW2>, 3 September 2015

**USA:** On 20 May 2015, in a federal court in Florida, Christopher Hayes, the President and owner of an auction house was sentenced to 36 months in gaol followed by two years of supervised release for his role in the purchase,

sale and smuggling of rhinoceros horns and objects made from rhinoceros horn, elephant ivory and coral that were smuggled from the USA to China. Hayes' corporation, Elite Estate Buyers Inc., located in Florida, was ordered to pay a USD1.5 million fine to the Lacey Act reward fund. The court also banned the corporation from trading wildlife during a five-year term of probation.

Hayes and his company reportedly sold six horns of Black Rhinoceroses *Diceros bicornis* (CITES I); two of the horns were sold to Ning Qiu, a Texas resident who was involved in smuggling the horns to China. Qiu pleaded guilty to being part of a broader conspiracy to smuggle rhinoceros horns and items made from rhinoceros horns to Zhifei Li, the owner of an antiques business in China and the ringleader of a criminal enterprise that smuggled 30 rhinoceros horns and objects made from rhinoceros horn and elephant ivory from the USA to China. Qiu was sentenced to 25 months in gaol on 14 May 2015, in Frisco, Texas, and Li to a gaol term of 70 months in New Jersey in June 2014.

Elite and Hayes also admitted selling items made from rhinoceros horn, elephant ivory and coral to the president of an antiques business in Canada, who they then directed to a local shipper who agreed to post the items in Canada without the required permits. That individual, Xiao Ju Guan, was sentenced to 30 months in gaol on 25 March 2015 in New York.

The prosecution of Elite and Hayes is part of Operation Crash, a continuing effort by the Special Investigations Unit for the Fish and Wildlife Service's Office of Law Enforcement, in co-ordination with the Department of Justice to detect, deter and prosecute those engaged in the illegal killing of rhinoceroses and the unlawful trafficking of rhinoceros horns and elephant ivory.

US Department of Justice: <http://1.usa.gov/1M6RWIG>, 20 May 2015

**VIET NAM:** On 11 May 2015, police in Nghe An seized 31 rhinoceros horns (37 kg) and arrested two men as they disembarked from a railway station with the horns concealed in three bags. During questioning, one of the suspects confessed that he had been hired to transport the consignment from Ho Chi Minh City to Nghe An. The case is under investigation.

Thanhni News (Viet Nam): <http://bit.ly/1NnH4TP>, 10 May 2015

## FLORA

**Red Sandalwood (also known as Red Sanders) *Pterocarpus santalinus* is listed in CITES Appendix II.**

**HONG KONG SAR:** On 9 July 2015, Customs officials at the Kwai Chung Customhouse Cargo Examination Compound seized a container holding 10 600 kg of logs of suspected Red Sandalwood from a container arriving from India by sea. The shipment was declared as "glass flower pots".

On 22 September 2015, Customs officials and marine police seized 446 kg of suspected Red Sandalwood being loaded by four people onto speedboats at Tsam Chuk Wan, Sai Kung. The suspects fled on one of the boats. The case is under investigation.

Hong Kong Customs press releases: <http://bit.ly/1LEJ7NA>, 9 July 2015; <http://bit.ly/1NnHzgT>, 22 September 2015

**INDIA:** It was reported on 4 September 2015, that some 13 000 t of Red Sanders had been seized in Andhra Pradesh, 12 573 cases had been booked, 7354 vehicles seized and 19 852 people arrested for involvement in the illegal cutting and transportation of Red Sanders in the State, according to the State's Minister for Forests, Environment, Science and Technology in a written reply to a question in the AP assembly. The reporting period was not specified. The reply stated that 12 armed mobile teams and 19 observation posts with 40 CCTV cameras had been deployed. A special task force has been established to curb organized Red Sanders smuggling and an amendment to the AP Forest Act 1967 was also proposed as a deterrent against illegal cutting and smuggling of Red Sanders trees, the reply stated.

Business Standard: <http://bit.ly/1PAi9jhl>, 4 September 2015

In early May 2015, 20 t of Red Sanders was seized from a container in Korampallam, Tuticorin.

On 12 May 2015, 2700 kg of Red Sanders was seized from a lorry on Jharsa Chowk flyover, Gurgaon, after police, acting on information, put up barricades. Four suspects, who were arrested, had brought the wood from Khushkhera in Rajasthan, destined for a warehouse in Delhi.

On 16 May 2015, two policemen in Kadapa District were suspended for alleged dereliction of duty in connection with the theft of 18 Red Sanders logs from the premises of a police station in Vontimitta town. Three other policemen from Sambepalli police station were also suspended for alleged involvement in the smuggling of Red Sanders. The trio reportedly had supported the smugglers in transporting the logs from Dudyala and Yerramorampalli.

On 19 May 2015: a police constable in Kalamboli was arrested for allegedly conspiring with smugglers and abetting the crime; he is being held in custody. Four others were arrested. The case relates to an incident on 6 April 2015, when a container loaded with 7.5 t of smuggled Red Sanders arrived from Tamil Nadu and was delivered to a warehouse in Kalamboli steel market. The contraband, which was to be exported, had been sent from Tamil Nadu by a man, who is still at large.

On 28 May 2015, police in Kadapa district, Andhra Pradesh, arrested 72 people and confiscated 77 logs weighing 1.5 t. The smugglers had tried to dupe the police by disguising themselves as a marriage party. Woodcutter blades and axes were seized, together with 77 logs being transported on a bus. On 5 June 2015, it was reported that a Chinese suspect detained for smuggling Red Sanders had told police that large quantities of Red Sanders are being sent to Dubai, mainly by sea.

On 29 June 2015, the anti-poaching flying squad of the Tirupati Wildlife Division seized more than a tonne of Red Sanders logs in Devarakonda in the Chamala range of the Seshachalam hills after they came across a group loading logs into vehicles; there were several arrests, though a number of people fled.

On 14 July 2015, Kadapa district police arrested a timber merchant and alleged international Red Sanders smuggler in Navrangpur village in Gurgaon district of Haryana, Kadapa. The suspect is accused in two cases relating to Red Sanders smuggling in Obulavaripalle and Pedlimarri police stations. Information leading to his arrest was provided by three recently-arrested Red Sanders smugglers. The accused are reported to have smuggled nearly 120 t of Red Sanders logs out of the country to Dubai, Nepal and China.

On 17 August 2015, three alleged smugglers were arrested and 2 t of Red Sanders (122 logs) recovered by Red Sanders Anti-Smuggling Task Force officers. The suspects were reportedly associates of a known international Red Sanders smuggler. Their modus operandi involved procuring the wood from other smugglers, transporting it as waste paper, fruit and vegetables, and supplying the logs to smugglers in Karnataka, Tamil Nadu, Maharashtra, Delhi and other northern States of the country with links to international smugglers.

[www.business-standard.com/article/pti-stories/3-red-sanders-smugglers-held-logs-worth-over-rs-2-cr-seized-115081700839\\_1.html](http://www.business-standard.com/article/pti-stories/3-red-sanders-smugglers-held-logs-worth-over-rs-2-cr-seized-115081700839_1.html), 17 August 2015; <http://bit.ly/1jTz21>, 2 May 2015; Times of India, 14 May 2015: <http://bit.ly/1Fi5ziN>; Deccan Herald: <http://bit.ly/1LnPj8g>, 16 May 2015; Times of India: <http://bit.ly/1W5AicS>, 24 May 2015; The New Indian Express: <http://bit.ly/1W4edGe>, 30 May 2015; The Hindu: [www.thehindu.com/news/national/andhra-pradesh/dubai-a-thriving-hub-of-red-sanders-smuggling/article7284277.ece](http://www.thehindu.com/news/national/andhra-pradesh/dubai-a-thriving-hub-of-red-sanders-smuggling/article7284277.ece), 5 June 2015; [www.thehindu.com/news/national/andhra-pradesh/rs-2-cr-worth-red-sanders-logs-seized-smugglers-held/article7368517.ece](http://www.thehindu.com/news/national/andhra-pradesh/rs-2-cr-worth-red-sanders-logs-seized-smugglers-held/article7368517.ece), 30 June 2015; The New Indian Express: <http://bit.ly/1PAaWzK>, 19 July 2015

## OTHER / MULTI-SEIZURES

Operation COBRA III, the biggest ever co-ordinated international law enforcement operation targeting the illegal trade in endangered species, has led to the recovery of a huge amount of wildlife contraband, including over 12 t of elephant ivory and at least 119 rhinoceros horns.

European seizures included 11 439 dead and live specimens, almost 2000 parts and products, and over 6 t of timber, plants and animal parts. In addition, 100 000 pills of traditional Asian medicine were confiscated. Several individuals have been arrested and investigations are continuing in many countries.

Conducted in two phases between mid-March and the end of May 2015, Operation Cobra saw the participation of law enforcement teams and agencies from 62 countries in Europe, Africa, Asia and America. The operation was organized by the Association of Southeast Asian Nations Wildlife Enforcement Network (ASEAN-WEN) and the Lusaka Agreement Task Force (LATF), and supported by numerous international agencies and organizations such as Europol and INTERPOL.

Europol: <http://bit.ly/1RnVPqo>, 18 June 2015

**BANGLADESH:** On 6 September 2015, skins and body parts of Bengal Tigers *Panthera tigris tigris* (CITES I) and other wildlife products were seized at Dhaka City Corporation (DCC) Market in Gulshan-2. A raid of a leather shop at the market yielded skulls of a Tiger and Fishing Cat *Prionailurus viverrinus* (CITES II), skins of Tiger, deer and snake, animal bones and a further 20 bags and belts made from skins of Tiger, snake, Fishing Cat and monitor lizards *Varanus* spp. (CITES I/II). The shopkeepers reportedly escaped.

[www.thedailystar.net/backpage/tiger-skins-body-parts-seized-139138](http://www.thedailystar.net/backpage/tiger-skins-body-parts-seized-139138), 7 September 2015

**CHINA:** In April 2015, Shangluo police, Shanxi Province, spent six months investigating and subsequently arresting 50 suspects from more than 20 provinces and cities; some 1000 national first-class protected animals were seized. The first arrested suspects were Liu Liang, Gou Yu and Wang Xiao who were respectively sentenced to five years, 10

years and three years in gaol (suspended for five years) and fined CNY20 000 (USD3000), CNY15 000 and CNY10 000.

On 3 July 2015, border police at Jimunai, Xinjiang, found packages of Chinese Caterpillar Fungus *Ophiocordyceps sinensis* (15.66 kg), the skin of a bear *Ursus* (CITES I) and 35 bear paws concealed in a car. The driver confessed that a Kazakhstan national had paid him to transport the items to China.

On 7 August 2015, at Yuwang district court, Kaifeng city, a Mr Li was sentenced to three years' imprisonment, suspended for four years and fined CNY20 000 (USD3000). This follows his arrest in 2014 when forest police raided his shop in Kaifeng city and seized 68 ivory pieces (1.5 kg) (CITES I), one piece of Saiga Antelope *Saiga tatarica* (CITES II) horn and one piece of Helmeted Hornbill *Rhinoplax vigil* (CITES I) product.

On 18 August 2015, it was reported that the former director of Liupanshui Zoo, Guizhou province, Mr Yin, had been sentenced to 11 years' imprisonment and fined CNY100 000 (USD15 700) for purchasing five Francois' Langur *T. francoisi* (CITES I) from local hunters. Mr Yang and Mr Zhao during 2011 and 2014. Mr Zhao was given a 15-years prison sentence, and fined CNY150 000 (USD23 565) for hunting, transporting and selling three monkeys; Mr Yang was given a 10-year prison sentence and fined CNY50 000 (USD7800) for hunting and selling two monkeys.

China Wildlife Conservation Association: <http://bit.ly/1PAj2bx>, 10 July 2015 [in Chinese]; [www.jisi.gov.cn/News/szsm/xinj/201507/20150713111641\\_13679.html](http://www.jisi.gov.cn/News/szsm/xinj/201507/20150713111641_13679.html), 13 July 2015; [www.cwca.org.cn/news/tidings/ff808081471ed293014f05a4215150e8.html](http://www.cwca.org.cn/news/tidings/ff808081471ed293014f05a4215150e8.html), 7 August 2015 [in Chinese]; [www.cwca.org.cn/news/tidings/ff808081471ed293014f488ef10f534f.html](http://www.cwca.org.cn/news/tidings/ff808081471ed293014f488ef10f534f.html), 20 August 2015

**UGANDA:** A woman arrested with the skin of a Cheetah *Acinonyx jubatus* (CITES I), antelope horns, skins of Serval *Leptailurus serval* (CITES II), python (CITES I/II) skin and other contraband has been sentenced to 1.5 years in gaol and fined USD280.

The Eagle network, August 2015

**VIET NAM:** The port of Da Nang has been the entry point into the country for a number of shipments involving elephant, rhinoceros and pangolin products in recent months, in sharp contrast to previous ivory seizures that have taken place in either Hai Phong port or Mong Cai province, further north in the country.

On 13 August, Customs at Tien Sa port, Da Nang, seized a shipment of almost 600 kg of elephant ivory and 142 kg of rhinoceros horns declared by a local company as marble and imported from Mozambique.

This was followed by a seizure on 21 August of over 2 t of ivory inside a container full of timber from Nigeria. The recipient of this shipment was the same as the one on 13 August. On 25 August, Customs in Da Nang seized 1023 kg of tusks and over 4 t of pangolin scales that reportedly arrived from Malaysia. The tusks were hidden among sacks of beans in a shipment weighing nearly 20 t. The confiscation of a large amount of ivory, pangolin scales and rhinoceros horn by authorities shows the vigilance of Viet Nam Customs. However, it is worrying as it also points to Da Nang as a new port of entry for illegal wildlife trade in Viet Nam.

"With ivory and other wildlife smuggling at the forefront of global attention and enforcement efforts, traffickers are constantly exploring new routes and ports to exploit in the movement of illicit goods. The seizures in Da Nang are a perfect illustration of this," said Madelon Willemsen, TRAFFIC's Head of Office in Viet Nam.

"Although some ivory processing in Viet Nam does take place and may actually be increasing, the evidence suggests that most of the raw ivory imported into Viet Nam is re-exported to China using land routes over the terrestrial border in the far north. Thus, trafficking through Da Nang represents increased transport costs as it is much further away from the Chinese border than the port of Hai Phong where most seizures of transit trade in the past occurred," said Tom Milliken, TRAFFIC's Elephant and Rhino Programme Leader.

[www.traffic.org/home/2015/9/24/spotlight-on-da-nang-as-new-conduit-in-global-ivory-traffic.html](http://www.traffic.org/home/2015/9/24/spotlight-on-da-nang-as-new-conduit-in-global-ivory-traffic.html), 24 September 2015

Seizures undertaken in numerous countries during Operation Cobra III, conducted between March and May 2015, led to the recovery of shipments containing (below, left to right) ivory, plants and coral in Italy, Sweden and Poland, respectively.



## INDIAN STAR TORTOISES:

Shop sales fall as internet trade increases

Serene C.L. Chng and Jamie Bouhuys



PANDIVAN V / FLICKR CREATIVE COMMONS: <https://creativecommons.org/licenses/by-nc/2.0/>

### INTRODUCTION

The Indian Star Tortoise *Geochelone elegans* is a popular stalwart of the exotic pet trade in Malaysia, largely owing to its striking geometric markings. Although last assessed to be common throughout parts of its range in northwestern and southeastern India, eastern Pakistan and northern and eastern Sri Lanka (Das, 2002), populations were in decline due to illegal collection for the international pet trade as well as habitat loss (Choudhury *et al.*, 2000).

This paper reports on the successes of initiatives undertaken by TRAFFIC over the past decade following the launch of *Demand Driven: The Trade of Indian Star Tortoises Geochelone elegans in Peninsular Malaysia* (Shepherd *et al.*, 2004), which reported on the findings of surveys of pet and aquarium shops in the Greater Kuala Lumpur area undertaken in late 2003. The successes are demonstrated by pet and aquarium shop surveys in 2014 showing only a handful of Indian Star Tortoises for sale. Additionally, this paper reports on information relating to online trade in the species that was collected in 2014 and 2015. It also seeks to highlight two crucial conservation concerns that remain: the possibility that Indian Star Tortoises imported into Malaysia with permits declaring them to be captive-bred are actually wild-caught, and that, although the sale of Indian Star Tortoises in physical shops has fallen dramatically, the online trade is increasing.

### BACKGROUND AND LEGISLATION

The Indian Star Tortoise is currently assessed by the IUCN Red List as being of Least Concern (Asian Turtle Trade Working Group, 2000) but this status needs updating. It has been listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) since 19 July 2000. Additionally, India has posted a suspension *CITES Notification No. 1999/39* that bans trade in wild Indian flora and fauna, including Indian Star Tortoises (CITES, 1999). The species is fully protected in India and Pakistan, from where no exports are allowed. Exports from Sri Lanka are allowed with permits but only for scientific research purposes.

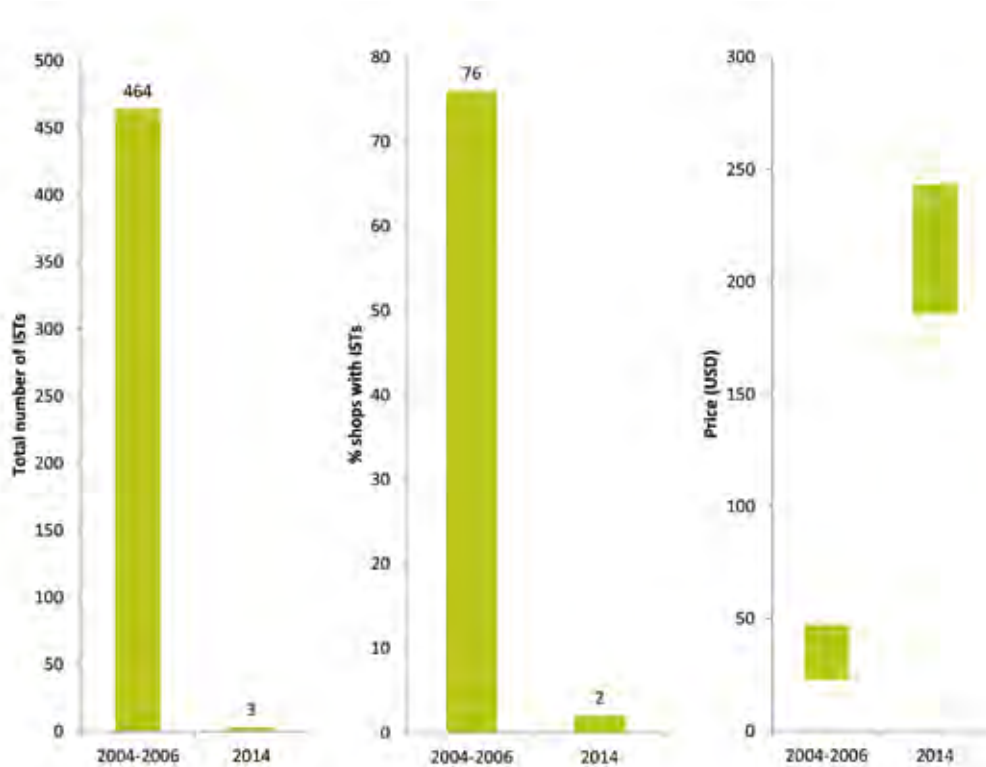
In late 2003, TRAFFIC carried out a study of pet and aquarium outlets in Greater Kuala Lumpur to document the Indian Star Tortoise trade (Shepherd *et al.*, 2004). Following the release of the report, much has been done to raise the profile of the species and to ensure that illegal trade was reduced.

Recommendations by TRAFFIC to the Malaysian authorities focused on the role of Malaysia in the international Indian Star Tortoise trade (e.g. Anon., 2007; Lenin, 2007) and its inadequate wildlife trade laws. This was tied into a joint campaign with three other NGOs and supported by others in the conservation community calling for wildlife laws to be updated (WWF, 2008). After attracting media attention and collecting thousands of signatures for the petition, the NGOs were involved in a consultative process to see the new, improved laws passed.

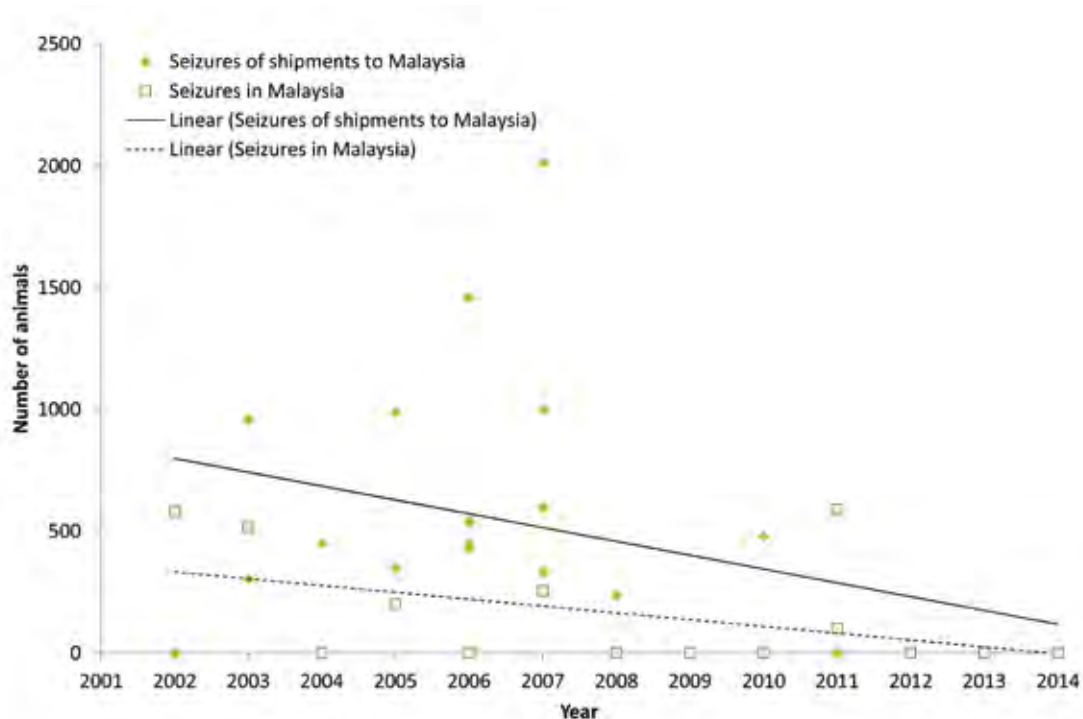
In 2008 and 2010, the Malaysian Government introduced two new laws: the *International Trade of Endangered Species Act 2008* regulates the import, export and/or possession of CITES-listed species, including the Indian Star Tortoise, through a permit system. Offenders are liable to a fine of up to MYR100 000 (USD28 570) for each animal, part or derivative of a scheduled species, but not exceeding MYR1 million (USD285 700), imprisonment of up to seven years, or both. The fine for offences committed by a corporate body such as a registered business is up to MYR200 000 (USD57 140) not exceeding MYR2 million (USD571 400), and the director, manager and officer of the corporate body may be jointly charged in court.

The Indian Star Tortoise is also on the Protected list of the *Wildlife Conservation Act 2010*, meaning that any import, export, re-export, trade and/or possession requires a licence. The Act is applicable to Peninsular Malaysia and the federal territory of Labuan, and infringement can result in a fine of up to MYR100 000 (USD28 570) and/or imprisonment of up to three years. Under the *Wildlife Conservation (Commercial Captive Breeding) Regulations 2013*, which came into operation on 1 March 2013, commercial breeders are required to apply for permits from the Ministry of Natural Resources and Environment.

Important steps have been made based on the 2004 report to improve enforcement successes in Malaysia.



**Fig. 1.** Comparison of results between the survey in 2004–2006 and 2014, showing (a) the dramatic decrease in number of Indian Star Tortoises for sale; (b) percentage of shops surveyed; and (c) the increase in the price range.



**Fig. 2.** Seizures of Indian Star Tortoises in Malaysia and purported to be destined for Malaysia, 2002–2014. Note that years where there were no seizures are depicted on the graph as “0 animals”.

Illegal trade in Indian Star Tortoises has been included as a case study in trainings for enforcement officials in Malaysia, conducted by TRAFFIC, for years after the launch of the report, and more than 400 copies of the report and over 100 CDs containing the report have been distributed to enforcement officers.

TRAFFIC also continued raising public awareness of the illegality of selling and keeping Indian Star Tortoises. Methods include working with the Malaysian media (e.g. Tan, 2007; Tan, 2008; Augustin, 2011), distributing car stickers featuring the Indian Star Tortoise and using the Indian Star Tortoise when promoting the Wildlife Crime Hotline run by the Malaysian Conservation Alliance for Tigers (MYCAT) through avenues ranging from community outreach programmes to publicity in local publications and social media. Members of the public are urged to look out for and report Indian Star Tortoises (and other protected species) being kept or traded illegally. MYCAT passes these reports on to the Malaysian wildlife authorities, who in turn take enforcement action.

A number of these articles were further circulated online in reptile hobbyist forums such as the Pets Wonderland subforum in Lowyat.net, a popular internet website in Malaysia covering a multitude of discussion topics. TRAFFIC was frequently mentioned in discussions on how the new laws would affect owners and buyers of Indian Star Tortoises (L.A. Shepherd, *in litt.*, 2 February 2015).

## METHODS

Surveys were conducted in Greater Kuala Lumpur in 2004–2006 and 2014. In the first survey, 25 pet and aquarium shops selling freshwater turtles and tortoises were surveyed between 2004 and 2006, with some shops visited multiple times. A total of 94 visits were made. In the second survey, 85 shops, including some from the first survey, were visited once each between May and August 2014. Shops were selected by calling to ask if they sold tortoises and freshwater turtles, and all were visited except in instances where the shop was closed or could not be found. In addition to observation of tortoises in stock, conversations with shop owners and employees were held to gather information including the origin of their stock, retail prices, availability of new stock and recommendations for bringing tortoises out of the country. All observations of trade were reported to the Department of Wildlife and National Parks (DWNP) for further action.

For the online trade survey carried out between November 2014 and 16 February 2015, classified advertising sites and thematic websites based in Malaysia were selected using search terms likely to lead to websites selling turtles and tortoises including: tortoise(s), turtle(s), *kura kura*, *labi labi*, for sale, buy, sell, Malaysia and advertisement. A total of 17 websites as well as the social media site Facebook were searched for advertisements. Information collected was based on what was posted in the advertisements and was not verified with the seller; the locations of the sellers were all listed to be in Malaysia.

Prices are given in US dollars (USD), using an exchange rate of USD1=MYR3.50 (OANDA, December 2014).

Information on Indian Star Tortoise seizures from 2002 to 2014 was collected from the seizures and prosecutions sections of the *TRAFFIC Bulletin*, news media and an earlier analysis by Babu and Stengel (2011). Information on imports of Indian Star Tortoises to Malaysia from 2000 to 2013 was obtained from the UNEP-WCMC CITES trade database (UNEP-WCMC, 2015).

## RESULTS

In the first survey carried out between 2004 and 2006, at least 464 Indian Star Tortoises were observed on 64 out of a total of 94 visits to the shop sample. This averages out at five animals per visit, with 76% of the shops carrying Indian Star Tortoises ( $n=25$ ). On one occasion, a shop had a large number of hatchlings, the total of which had to be estimated. Prices ranged from USD23 for a small hatchling to USD57 for a medium-sized animal (Fig. 1).

In the second survey carried out in 2014, of the 85 shops surveyed only three Indian Star Tortoises were recorded in two shops. One of the three animals was reportedly sold moments before the researcher spoke to shop staff. This works out at only 2% of the shops carrying Indian Star Tortoises—a dramatic decrease from a decade earlier. Prices ranged from USD186 to USD243, up to a 956% increase in prices compared to the 2004–2006 surveys (Fig. 1). Two more shops claimed to be out of stock of Indian Star Tortoises at the time of the survey.

The online surveys found that at least 1023 Indian Star Tortoises were offered for sale in 185 separate advertisements dating from September 2006 to February 2015. This averages out at 1.8 advertisements a month. Most advertisements were on Malaysian online classified advertisement sites such as Mudah.my, Adpost.com/my and GetitMalaysia.com (114 advertisements; 61%), as well as on Facebook (63 advertisements; 34%). At least 144 were advertised by what appeared to be businesses (78%).



**A TRAFFIC car sticker raising awareness about illegal wildlife trade, featuring an Indian Star Tortoise.**

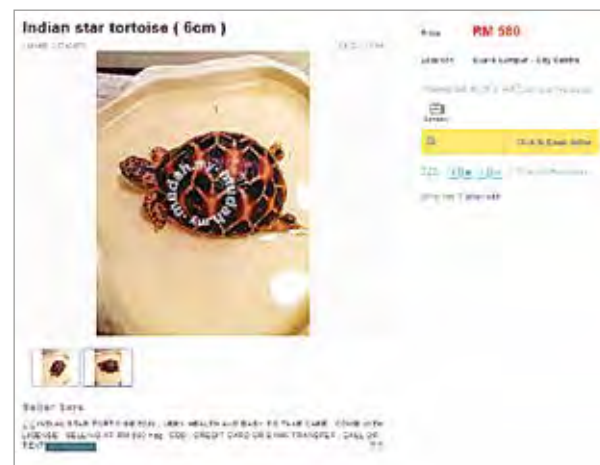
Advertised prices ranged from USD2.20 to USD688.50 per animal, with the exception of one seller asking for USD3000 per animal. The median price was USD112.68. It should be noted that some of these advertisements could be fraudulent or speculative in cases where the trader has not yet obtained the animals for sale.

Six seizures of a total of 2239 Indian Star Tortoises were reported in Malaysia between 2002 and 2014. In addition, 15 more seizures in India and Bangladesh of 10 595 Indian Star Tortoises were purportedly destined for Malaysia (Fig. 2). There has been a downward trend in seizures of the species involving Malaysia, with none reported from 2012 to 2014 in Malaysia or of shipments destined for Malaysia. This coincides with a 2012 importation of individuals listed as captive bred from Jordan. It should be noted that the seizures data collected for this analysis are not exhaustive and many are from unofficially verified media reports. As such, they represent an unknown proportion of the total trade. Furthermore, as seizures also reflect enforcement or reporting efforts, this trend may not necessarily reflect a decrease in trade levels.

## DISCUSSION

The data suggest that the availability of Indian Star Tortoises in physical pet and aquarium shops has dropped drastically over the past decade, but online trade is emerging as an issue of conservation concern. This could be attributed to new wildlife legislation coming into force, increased enforcement action taken against traders openly displaying Indian Star Tortoises and greater awareness amongst casual buyers regarding the legal and conservation status of the species. The far higher asking prices in the 2014 survey may reflect the reduced availability of Indian Star Tortoises and/or awareness of the illegality of international trade in the species. One retailer said that the tortoise for sale in his shop was from India (from where exports are illegal) and stated that specimens were hard to acquire. He also said that export permits were not necessary as specimens were easy to conceal in luggage, while another retailer said that permits could be obtained to keep the animals but not to export them. This indicates awareness by retailers that trade in Indian Star Tortoises is regulated, even though none said that the trade was illegal. In *ad hoc* observations between 2010 and 2013, many dealers told TRAFFIC staff that they no longer stock Indian Star Tortoises as it is illegal (C.R. Shepherd, *in litt.*, 30 January 2015). It is important to note that pet and aquarium shop surveys have focused on Greater Kuala Lumpur, and exclude other important commercial centres in Peninsular Malaysia such as Penang, Ipoh and Johor Bahru.

The reduced number of Indian Star Tortoises in pet and aquarium shops likely indicates increased enforcement efforts in Malaysia, and is a positive step forward in reducing trade—the lack of availability and increased prices reduces opportunistic buying and sends a message to the public that this species is not to be kept as a pet. However, the trade via social media, with direct contact with suppliers, and kept largely within closed circles of hobbyists is a concern.



**Fig. 3. Screen capture of an advertisement on Mudah.my, showing a hatchling being advertised by a business selling exotic pets.**

Globally, huge volumes of wildlife are advertised over the internet (Wu, 2007; IFAW, 2014). Reptiles were found to be the second-most widely traded wildlife commodity after ivory in a recent study (IFAW, 2014). It is difficult to compare the numbers from online surveys to those undertaken at pet and aquarium shops due to the different survey methodology employed, but it is clear that large numbers of Indian Star Tortoises are being sold online, and increasingly so in recent years. Interestingly, plenty of the advertised animals are hatchlings, which are likely to be animals hatched in captivity as wild-caught animals tend to be older (Fig. 3). To the authors' knowledge, there are no registered breeding operations within Malaysia.

Imported animals accompanied by CITES permits stating that they were captive-bred from the exporting country are considered to be legitimate by DWNP. In 2014, at least two instances of Indian Star Tortoises being sold were reported to MYCAT's Wildlife Crime Hotline. DWNP investigated the reports and informed MYCAT that these animals were captive bred in Jordan and re-exported via Taiwan with the necessary documentation in 2013 (P.M. Wong, *in litt.*, 21 January 2015).

There were only six CITES trade records between 2000 and 2013 of Indian Star Tortoises imported by Malaysia (Fig. 4). Most of these were reportedly captive-bred or hatched in captivity, despite the species not being easy to breed in captivity on a commercial scale (Outhwaite *et al.*, 2014; Shepherd *et al.*, 2004). Analyses of CITES trade data for the species highlighted erratic patterns that raise concerns that the species is being laundered—illegally caught in range States and imported using export documents falsely claimed to have been issued by non-range States such as Kazakhstan and Jordan, where the animals are supposedly being bred (Outhwaite *et al.*, 2014; IUCN/SSC Tortoise & Freshwater Turtle Specialist Group, 2010). It is likely that Indian Star Tortoises imported into Malaysia with permits declaring them to be captive-bred are actually wild-caught.



Seventy-eight percent of the online advertisements were posted by businesses, and others may be affiliated to pet trade businesses despite not stating this. Many have retail space yet choose to advertise Indian Star Tortoises online: three of these shops were surveyed and no Indian Star Tortoises were seen. This suggests that shops selling protected species are shifting their operations online to avoid detection, as well as to tap into the market of buyers online. More must be done by classified advertisement websites to regulate posts, including those relating to protected wildlife. On Mudah.my, the rules stipulate that any animals traded must follow the *Wildlife Protection Act of Malaysia 1972*, the *Fisheries Act 1985* and the provisions set out under CITES (Mudah.my, 2015). However, neither Adpost.com nor GetitMalaysia.com refer to the sale of protected wildlife as pets in their rules or terms and conditions (Adpost.com, 2015; GetitMalaysia.com, 2015), making it possible for sellers to advertise online without flouting the websites' conditions. Classified advertisement websites are urged to include specific rules as Mudah.my has done. Social media is far more complicated to police, and with a sharp rise in advertisements for pet tortoises and freshwater turtles and tortoises being advertised in that arena, compared to other online platforms (Bouhuys and Van Scherpenzeel, 2015), it is clear that social media needs to be more closely monitored and regulated.

## CONCLUSIONS

Since the commercial pet trade in Indian Star Tortoises was first identified as a problem in Malaysia (Shepherd *et al.*, 2004), significant strides have been taken towards reducing the scale of the trade. Advocacy, targeted lobbying and awareness-raising based on information

collected from research by TRAFFIC and others raised the profile of the species and the issue of illegal trade resulted in two new wildlife laws being passed in Malaysia that afford legal protection to Indian Star Tortoises and other species.

The 2014 market survey conclusively shows that there has been a drastic drop in the number of Indian Star Tortoises sold in shops. This reflects the effectiveness of new wildlife legislation, successful follow-up enforcement efforts and/or increased awareness of the general public regarding the illegality of the Indian Star Tortoise trade. The near-disappearance of the species from pet stores and aquaria greatly reduces availability to the general public, reducing walk-in "impulse" buys and the misconception that the Indian Star Tortoise is a common species that can be kept legally without a permit.

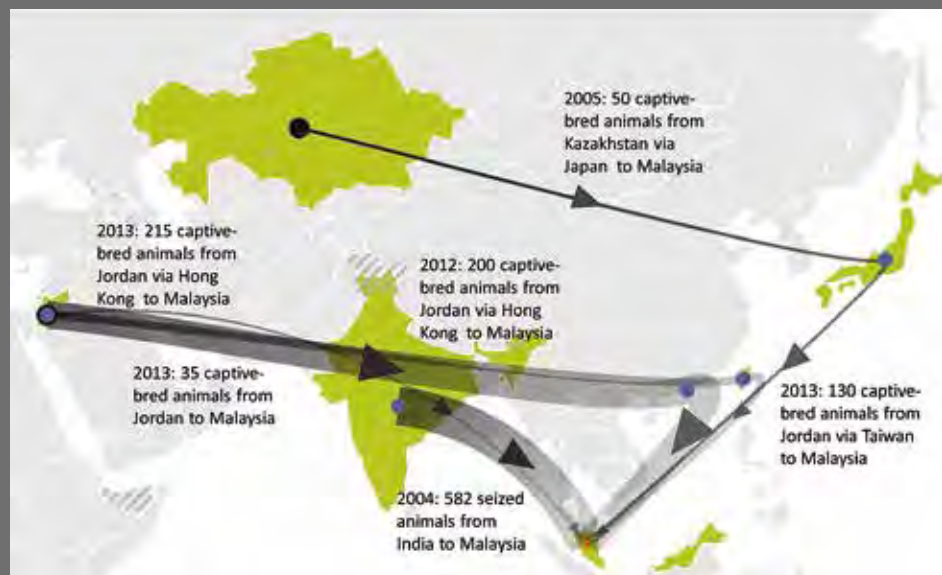
Even as we celebrate these successes, new challenges are arising. The threat of illegal trade to Indian Star Tortoises persists as the trade shifts online, where efforts must now be focused. This will create new challenges in monitoring and eliminating trade of the species, as it is particularly difficult to monitor online trade comprehensively and prove the legality of wildlife being advertised (IFAW, 2014). The possible laundering of Indian Star Tortoises declared to be captive-bred is another factor that requires attention in order to ensure that the trade in Indian Star Tortoises does not threaten populations in the wild.

## ACKNOWLEDGEMENTS

Indraneil Das and Loretta Ann Shepherd are thanked for their review of the original manuscript.

**Fig. 4. CITES trade records of Indian Star Tortoises *Geochelone elegans* imported by Malaysia, 2000–2013.**

Sources: UNEP-WCMC (2015);  
Map created using TradeMapper:  
<https://trademapper.aptivate.org/>



The thickness of lines indicate the volume of trade; black dots indicate the country of origin, blue the exporting or re-exporting countries and orange (Malaysia) the importing country.

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## A case study of the Ploughshare Tortoise and the role zoos can play in conservation

Roopali Raghavan, Sonja Luz, Chris R. Shepherd, Richard Lewis, Paul Gibbons and Eric Goode

### INTRODUCTION

The illegal trade of live animals is a serious problem throughout South-east Asia: as enforcement efforts to combat illegal wildlife trade in the region improve, increasing numbers of live animals are confiscated. This can present a challenge of how to manage them appropriately post-confiscation. Relevant government departments, zoos and conservation/welfare non-governmental organizations (NGOs) commonly care for confiscated wildlife. Suitable handling of these sometimes very large numbers of animals is difficult and the quality of care and facilities varies greatly. Policies and legislations governing the post-seizure handling of such wildlife are also variable. Confiscated specimens often cannot be repatriated and in such cases, providing adequate lifelong care for them becomes an overwhelming burden and in many cases a welfare issue. Of particular conservation concern are those cases that involve threatened species. As a modern zoo, Wildlife Reserves Singapore (WRS) has adequate facilities and expertise to address this problem in Singapore, where the number of animals confiscated is relatively small. Between 2005 and June 2014, WRS received a total of 1406 live animals. These confiscations do not include native wildlife brought into WRS, rescued from conflict situations, which undergo medical examinations and if physically healthy, are reintroduced into appropriate habitat in the wild. Only 4% of the animals confiscated were of native fauna. The authors recognize the urgent need for developing capacity and policies to address the issues of managing confiscated live animals and believe that high end rescue facilities in all countries in South-east Asia are needed to address these issues adequately. Such facilities need to join forces and show transparency and a willingness to adopt modern tools of wildlife management and conservation. In this paper, the authors illustrate a case study for managing confiscated Critically Endangered Ploughshare Tortoises *Astrochelys yniphora*. They present the collaborative approach being taken to ensure these animals remain a valuable part of the efforts being taken to ensure the survival of the species.

### BACKGROUND

Wildlife trade involves a diverse range of live animals and plants or their parts and derivatives that provides an income for people and generates considerable revenue nationally (TRAFFIC, 2008). While much is traded



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**The Critically Endangered Ploughshare Tortoise *Astrochelys yniphora* continues to be threatened by demand for the illegal pet trade. International co-operation to safeguard this species has never been more urgent.**

nationally, there is a large volume of wildlife that is traded internationally (Stoett, 2002; Schlaepfer *et al.*, 2005; Nijman and Shepherd, 2007). International trade in many species is regulated and monitored according to the provisions set out in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Wildlife trade is a multi-billion dollar business that affects an ever-increasing number of species around the world, and if not properly managed can become a serious conservation concern (Stoett, 2002). Population growth, increasing buyer power, and globalization have led to a rise in demand for wildlife and this has occurred in developed, emerging and developing nations alike (Nijman, 2009). A study that monitored global wildlife trade in CITES-listed species over 10 years (1998–2007) found that over 35 million animals were exported in this period, of which 30 million (~300 species) were wild-caught (Nijman, 2009). These numbers do not include illegal or undeclared international trade nor species not covered by CITES, whose numbers are expected to be significantly larger than levels of reported exports (Sodhi *et al.*, 2004; Blundell and Mascia, 2005). In Asia, the unsustainable trade in wildlife has been identified as one of the main conservation challenges (Nijman, 2009), with more South-east Asian species under greater threat than species in any other part of the world (Rao *et al.*, 2014). South-east Asia is both a centre for the consumption of wildlife products and a key supplier to external markets, with demand being met by both legal and illegal trade (TRAFFIC, 2008).

South-east Asia is typically defined as the area that includes Brunei Darussalam, Cambodia, Indonesia, Lao

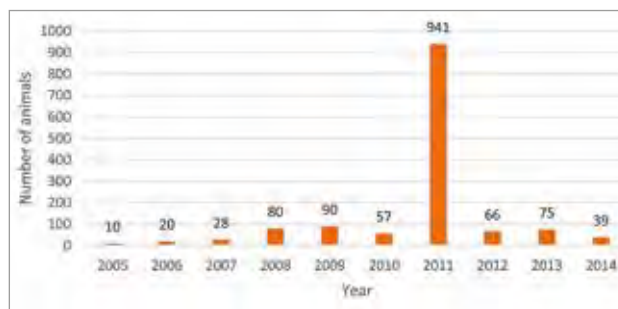
People’s Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Timor Leste, Thailand and Viet Nam. The region has been identified as a region where wildlife trade poses a disproportionately large threat to species (TRAFFIC, 2008; Rao *et al.*, 2014). All South-east Asian nations are signatories of CITES, with the exception of Timor Leste.

It is important to note that most wildlife trade streams pass through a limited range of trade hubs in the region, confined mainly to ports, airports and markets, of which there are a large number in countries such as Indonesia, Malaysia, Singapore, Thailand and Viet Nam (Nijman, 2009). These hubs provide opportunities to maximize conservation efforts.

The number and quality of laws and regulations governing wildlife trade in South-east Asia have increased and improved over recent years, providing stronger mechanisms for controlling illegal and unsustainable trade (TRAFFIC, 2008). As measures to restrict illegal wildlife trade are implemented in the region, the increase in the number of live animal confiscations and the need to manage and sustain them in non-native captive conditions become a frequently occurring reality. Any solution needs to address incentives for better management of the rescued live animals, with special reference to those species most under threat (Grieser-Johns and Thomson, 2005).

**Wildlife Reserves Singapore’s efforts to reduce illegal wildlife trade and disposal of confiscated live animals**

Singapore is a significant player in the regional and global wildlife trade. In 2012 alone, a gross import of 116 032 live animals and a gross export of 1 339 879 animal skins was reported to CITES (CITES, 2014). During



**Fig. 1. The number of confiscated animals received by Singapore Zoo between 2005–June 2014.**

the financial year 2012–13, the authorities in Singapore intercepted illegal imports of wildlife on 13 occasions, which involved species covered by CITES (AVA, 2013). WRS (Wildlife Reserves Singapore, the parent body of the Singapore Zoo, Night Safari, River Safari and Jurong Bird Park) has been receiving confiscated animals from the Agri-food & Veterinary Authority (AVA), the CITES authority in Singapore, for over two decades.

WRS recognizes the need to work closely with organizations like TRAFFIC, other NGOs, and more importantly, governments, to ensure efficient ways to confiscate wildlife from illegal trade and repatriate confiscated animals, where possible, or to participate in holding assurance colonies of confiscated specimens of threatened species.

Singapore Zoo has received a total of 1406 confiscated animals (123 species) from AVA and the Singapore police from 2005 up until June 2014. Fig. 1 indicates the numbers received per year over this period.

Details on confiscations	All confiscations	Excluding single 2011 confiscation
<b>(a)</b>		
Total number	1406	482
Amphibians	2.63 %	7.68 %
Arachnids	1.49 %	4.36 %
Fish	1.07 %	3.11 %
Mammals	7.40 %	21.58 %
Reptiles	87.41 %	63.28 %
<b>Details of reptile confiscations</b>		
<b>(b)</b>		
Crocodiles	0.24 %	0.98 %
Lizards	9.52 %	38.36 %
Snakes	4.15 %	16.72 %
Tortoise and freshwater turtles	86.09 %	43.93 %

**Table 1. (a) Breakdown of the total number of confiscated animals received based on their taxonomic group; (b) Details of reptiles received based on their taxonomic group.**

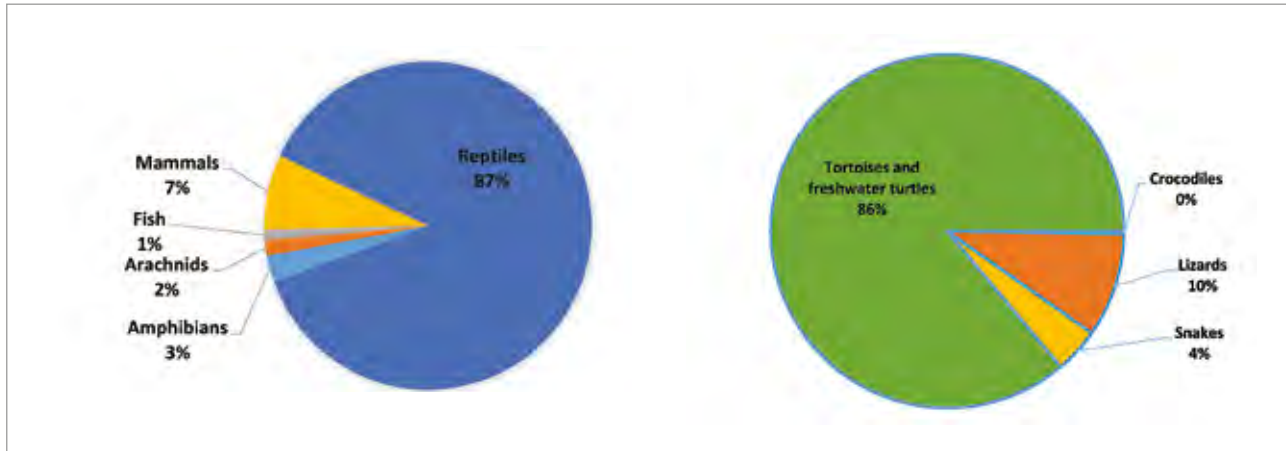


Fig 2. Breakdown of total number of confiscated animals received based on their taxonomic group.

The high number of animals in 2011 compared to other years is due to a large confiscation of 924 Red-eared Slider *Trachemys scripta* hatchlings.

Discounting the large confiscation of Red-eared Sliders, the authors examined the data over the years (Table 1; Fig. 2) and found that reptiles—principally tortoises and freshwater turtles—consistently formed the majority of the confiscated animals.

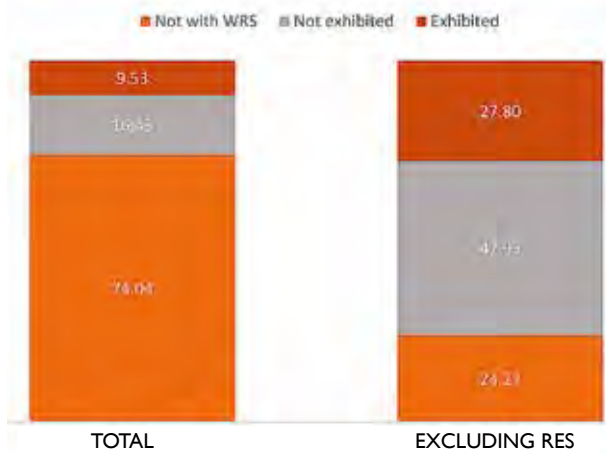
The procedure followed for the animals once they are received by Singapore Zoo is similar to quarantine protocols typically followed for wildlife and as per the IUCN Guidelines for the placement of confiscated animals (IUCN, 2000). This includes a thorough check to evaluate their health and condition. The animals are monitored in quarantine until the investigation into their confiscation is completed. Based on whether they are native or not, they are evaluated for suitability for release into the wild. Native animals (around 4% of the confiscations during the study period) deemed capable of survival in the wild are micro-chipped and released in suitable habitats in collaboration with the National Parks Board of Singapore.

The majority of the animals seized are not native to Singapore and in most cases, sending them back to the native range country for safe repatriation is not an option available to the zoo (IUCN, 1998) due to a lack of resources, uncertainty of origin, and a variety of other reasons. Depending on the age, size, species and health, a decision is made on whether the animals will be retained by WRS, or if they need to be euthanized. Euthanasia was performed on 924 Red-eared Sliders due to their poor health. Any animals going to be absorbed into WRS collections in the various parks are microchipped for individual identification and retained. Only around 37% of the animals retained by WRS are exhibited in the parks. The remaining 63% are housed within the parks but not displayed (see Fig. 3).

The authors believe that responsibly managed zoos with good financial standing have a distinct advantage over less well-equipped facilities to serve as functional entities for rescued wildlife. They have trained veterinary specialists who provide the animals—which are often in conditions of extreme stress—with appropriate medical attention. In the long term, the existing infrastructure as well as husbandry knowledge of zoos can be called upon for the safekeeping and management of wild animals. This is also the best solution from a financial perspective. Particularly in the case of highly threatened species, the microchipping of animals for individual identification and the security of being located within a zoo will be advantageous.

#### Strategies for Critically Endangered species threatened by illegal wildlife trade: the case of the Ploughshare Tortoise

Among the tortoises and freshwater turtles seized, the Ploughshare Tortoise *Astrochelys yniphora* is one of the species of greatest concern. It is assessed as Critically Endangered by the IUCN Red List of Threatened Species (IUCN, 2014) and is restricted to a 25 to 60 km<sup>2</sup> range around Baly Bay in northwestern Madagascar (Durrell *et al.*, 1989). Over the past few decades, populations of this species have been depleted as a result of local/regional consumption and habitat destruction; the illegal pet trade has contributed to a recent sharp decline, with numbers in the wild currently estimated at fewer than 500 mature individuals (Leuteritz and Pedrono, 2008). The species is now restricted to five small subpopulations which are discontinuous from each other, with an estimated area of occupancy of about 12 km<sup>2</sup> (Leuteritz and Pedrono, 2008). The threat of poaching persists, and studies on population dynamics and threat impacts estimate that the species is almost certain to go extinct within the next generation if current threats continue unabated.



**Fig. 3. Details of status of confiscated animals received by WRS between 2005–June 2014, including (and excluding, right) the 294 Red-eared Sliders.** “Not with WRS” includes animals that have died, been reintroduced, handed over to another authority or were euthanized.

(Leuteritz and Pedrono, 2008). The species is protected under national law in Madagascar and is also included in CITES Appendix I, trade in specimens of which is permitted only in exceptional circumstances.

There are a large number of affluent wildlife buyers, especially in South-east Asia where controls can be lax, hence there is a market for such exotic pets (i.e. non-indigenous species) (Nijman and Shepherd, 2007). Numerous species of tortoises are traded as pets in major cities in East and South-east Asia and their supply and demand appears to be increasing throughout South-east Asia, with an increase in species diversity on offer and in the number of retail outlets specializing in these species (Shepherd *et al.*, 2004; Shepherd and Nijman, 2007; Nijman and Shepherd, 2011).

The Durrell Wildlife Conservation Trust established a conservation programme for the Ploughshare Tortoise in 1986, working closely with the government of Madagascar and local people to safeguard the species (Durbin *et al.*, 1996). The initial goal of the programme, called Project Angonoka, was the establishment of a captive-breeding project. By December 2004, the project had 224 captive-bred juveniles from 17 founder adults (10 males, seven females) and a reintroduction programme began in 2005. Since the 1990s, the programme also focused on ecological research on the species in the wild, and developing conservation strategies with the surrounding local communities. This included creating firebreaks in the habitat, with the assistance of local communities, as well as the creation of a national park to safeguard this species and the remaining forests (Durbin *et al.*, 1996).

Poaching of the Ploughshare Tortoise for the pet trade has been rampant since the 1980s. The fact that trade is illegal and that the species is listed in CITES Appendix I does not appear to be a deterrent to the poachers. Over 200 live Ploughshare Tortoises have been confiscated globally in recent years (Table 2) of which at least 73 have died or disappeared. Kiester *et al* (2013) also estimated at least 218 Ploughshare Tortoises are held illegally in China, Germany, Indonesia, Italy, the Philippines, Singapore and Thailand, based on insider information and internet and market surveys. Shepherd (pers. obs., 2014) suggests the numbers of Ploughshare Tortoises held illegally in South-east Asia are much higher—perhaps double the number suggested by Kiester.

Singapore Zoo currently holds three Ploughshare Tortoises confiscated by AVA; two sub-adults (less than seven years of age) were received in 2009 and one individual less than two years old, in 2014. These animals are being retained at Singapore Zoo with the objective of establishing an assurance colony for the species in Singapore in the future. Wildlife Reserves Singapore is working in close collaboration with TRAFFIC, Durrell

Country/territory	Entity	Confiscated	Died or Disappeared
Madagascar	DWCT Antananarivo	88	18
Madagascar	Private owner, Antananarivo	12	0
Madagascar	Croc Farm	20	13
Madagascar	Direction de Forêts	5	5
Thailand	Government	76	64
Hong Kong	Kadoorie Farm	40	1
Malaysia	Government	6	2
Singapore	Singapore Zoo	4	1
Germany	Frankfurt Zoo	4	1
Japan	Nogeyama Zoo	4	0
United Arab Emirates	Sharjah Breeding Center	4	0
China	Kunming	3	3
Taiwan	Taipei Zoo	2	2
Taiwan	Ping Tung Rescue Center	2	0
Comoro Islands	Government	1	1
USA	Fish & Wildlife Service	1	0

**Table 2. Ploughshare Tortoise confiscations from 2008 to present.** Sources: Kiester *et al.*, 2013; Gibbons *pers. com.* 2015.

Institution	Male	Female	Unknown	Total
<b>Asia (2 institutions, 8 individuals)</b>				
Nogeyama Zoological Gardens, Yokohama, Japan	2	1	2	5
Singapore Zoological Gardens, Singapore	0	0	3	3
<b>Middle East (1 institution, 4 individuals)</b>				
Sharjah Breeding Centre for Endangered Arabian Wildlife, United Arab Emirates	0	0	4	4
<b>Islands of the Indian Ocean (1 institution, 12 individuals)</b>				
François Leguat Giant Tortoise Reserve, Rodrigues, Mauritius	4	7	1	12
<b>Europe (4 institutions, 16 individuals)</b>				
Durrell Wildlife Conservation Trust, Jersey	0	0	4	4
North of England Zoological Society, Chester, UK	0	0	4	4
Frankfurt Zoological Garden, Germany	0	2	2	4
Rotterdam Zoo, Netherlands	0	0	4	4
<b>North America (4 institutions, 31 individuals)</b>				
Honolulu Zoo, Hawaii, USA	0	1	0	1
Turtle Conservancy, California, USA	1	2	18	21
Zoo Atlanta, Georgia, USA	0	0	5	5
Knoxville Zoological Gardens, Tennessee, USA	0	0	4	4

**Table 3. Holding records for captive Ploughshare Tortoises in professionally managed collections outside Madagascar.<sup>1</sup>**

<sup>1</sup>This table lists only those animals that are included in the ISIS database (ZIMS, 2015) and those held as per the personal knowledge of the authors; there may be a few animals in captivity that are not included here.

Wildlife Conservation Trust, and Turtle Conservancy on Ploughshare Tortoise conservation.

Table 3 provides details of Ploughshare Tortoises held in captivity outside the range country, across the world. Twelve institutions across five regions currently hold 71 individuals, the majority of which are yet to attain sexual maturity. It is pertinent to note that all of these individuals are confiscations from illegal wildlife trade. Owing to their young age, none of these captive populations has been reported breeding over the last 12 months. The individual organizations will be unable to contribute significantly to the conservation of the Ploughshare Tortoise due to the small numbers that they hold, hence regional collaboration is required to house reasonable-sized groups together in order to maximize breeding opportunities. Singapore Zoo will work in collaboration with the other zoos for the subsequent breeding and management of the assurance colony.

Ploughshare Tortoises continue to be traded as pets due in large part to their beautiful high-domed shells and their increasing rarity, despite trade being illegal. As a result, conservation organizations have resorted to a drastic measure to prevent the species from becoming extinct—the engraving of identification codes onto the animals' shells along with internal microchipping in order to reduce their black market value and allow for

quick identification. Engraving a tortoise's shell makes it less desirable to traffickers and easier for enforcement agencies to trace. The carapaces of two juvenile tortoises housed at Singapore Zoo were engraved with codes at a highly visible event in 2013, and are part of the global record of individuals held in captivity, in collaboration with the Turtle Conservancy, Durrell Wildlife Conservation Trust, and TRAFFIC.

Singapore Zoo and relevant partners took advantage of the engraving of identification codes to spread awareness amongst the public on the threats to the Ploughshare Tortoise due to the illegal pet trade and the need for public support to reduce demand for this endangered species (Shepherd, 2013). This outreach event, entitled "Tattoo the Tortoise" was held on 16 December 2013 at Singapore Zoo and included presentations by experts working on the conservation of this species and an exhibition open to the public. These activities provided an opportunity for the public, governments and other relevant bodies to learn about the dire situation facing these animals, and what they can do to help secure more stable Ploughshare Tortoise populations. This also served as a platform to educate zoo visitors on the issues and drivers of illegal wildlife trade, raise awareness of the plight of the Ploughshare Tortoise and build support to tackle the illegal trade in the species.

## CONCLUSIONS

The authors recognize the urgency for developing conservation capacity addressing the disposal of confiscated live animals and believe that more well-equipped, and possibly government-funded rescue facilities in the South-east Asian region are urgently needed to improve management of such issues. Such facilities, whether run as NGOs or connected to zoos, need to form closer associations and show transparency and willingness to adopt modern tools of wildlife management and conservation. A direct link to the in-situ research community also has to be established to help ensure scientifically monitored approaches to reintroduction programmes.

Zoos across South-east Asia should get more actively involved in conservation capacity-building and contribute to efforts to combat illegal wildlife trade in the region; they can also provide financial or in-kind support to assist regional agencies and NGOs in this endeavour. Zoos must work closely with government bodies and NGOs to repatriate confiscated animals to their country of origin.

Collaborative efforts between various organizations is immediately required for effective conservation. The current information, and in some cases, transparency about the status of Critically Endangered confiscated animals in the South-east Asia region needs to be remedied with immediate effect.

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TRAFFIC, the wildlife trade monitoring network, is the leading non-governmental organization working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

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