

VOL. 29 NO. 2

2

# TRAFFIC

B U L L E T I N



**IVORY IN CAMBODIA**

**ONLINE WILDLIFE TRADE IN THE PHILIPPINES**

**SUSTAINABLE HARVESTING OF MEDICINAL  
PLANTS IN VIET NAM**

**MALAYSIA'S ROLE IN THE PANGOLIN TRADE**

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

OCTOBER 2017

# 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.



JURGEN FREUND / WWF

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

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. Five 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.



WWF / MARTINA LIPPUNER

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)).



BRENT STIRTON / GETTY IMAGES / WWF



ROGER LEGUEN / WWF

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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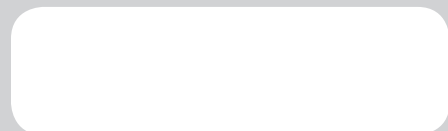
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African Elephant *Loxodonta africana*  
(© naturepl.com / Jeff Vanuga / WWF)

**Photographs this page, from top:**  
Seizure of pangolin scales, Malaysia  
(© Kanitha Krishnasamy);  
Carving ivory, Cambodia  
(© Trang Nguyen);  
Shark fins seized in Hong Kong  
(© Hong Kong Customs)

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# TRAFFIC

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The likely failure of global efforts to meet the ambition of the Aichi biodiversity targets agreed by the vast majority of the world's governments in 2010 has long been predicted. A prominent review, published in the journal *Science*<sup>1</sup> as early as late 2014, concluded that “despite accelerating policy and management responses to the biodiversity crisis, the impacts of these efforts are unlikely to be reflected in improved trends in the state of biodiversity by 2020”, the agreed deadline for most of the targets set. Already, there is a flurry of inter-governmental consideration and learned thought hoping to shape the post-2020 biodiversity conservation agenda. Such efforts clearly have strategic importance, but the risk is that the unfinished business of the current decade may be put aside while we plan what comes next.

## EDITORIAL

An analysis by TRAFFIC in 2012 concluded that action on the threats and opportunities arising from trade in wild animals and plants would contribute to all but four of the 20 Aichi targets. Indeed an enormous amount of progress has been made over recent years: new regulatory measures under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); strong national actions in many countries around the world; real progress with sustainability standards and voluntary certification; and positive commitments for action by businesses involved in wildlife trade chains.

Unfortunately, the challenges have grown just as quickly: rapidly expanding new markets for some very scarce wildlife commodities; and a fast-changing law enforcement environment as global communications, transport and money flows evolve and virtual markets become commonplace. Furthermore, it is clear that wildlife trade has now attracted serious criminal involvement at unprecedented levels, attracted by perceptions of low risk and high reward. The trend overall for biodiversity impacted by wildlife trade is indeed unlikely to be improving.

With this harsh reality in mind, TRAFFIC has recently established its *Programme Strategy to 2020*, as a strong institutional commitment to informing, encouraging and supporting action on wildlife trade issues in the remainder of the current decade. At its heart is the quest to gather credible and persuasive evidence about wildlife trade, which has been fundamental to TRAFFIC's work for over 40 years, along with carefully considered plans for mobilizing this knowledge to influence actions by governments, businesses and individuals to ensure positive conservation and development outcomes. Since the need for transformative action is urgent, we will focus our efforts in the coming years on two main streams of work: action to enhance systems for sustainable, legal wildlife trade; and action to help strengthen responses to wildlife crime and illegal trade.

<sup>1</sup>Tittensor, D.P. et al., (2014). A mid-term analysis of progress toward international biodiversity targets. *Science* 346(6206): 241–244. <http://bit.ly/2zDDrr8>.

The former is critical, because the fact, too often lost among the headlines nowadays, is that the majority of wild-sourced animals and plants and their products in world commerce today are legally traded, often without regulatory or other sustainability safeguards and with minimal benefits flowing to people living in the areas from where wildlife is sourced. For much of this trade, involved businesses and consumers are hardly aware that they are using wildlife at all, never mind cognizant of the impacts of their actions. There is enormous potential for rapid improvement in this situation through mobilization of innovative assessment and traceability tools that can drive both conservation gain and positive impact on human well-being. Moreover, promoting and using such systems is often in the direct interest of businesses using wildlife goods, whether this be wild plants used for herbal teas and cosmetics, timber used to make wooden furniture or marine species used in seafood products.

Third-party certification of sustainability and related traceability systems are available through schemes such as the Marine Stewardship Council, Forest Stewardship Council and FairWild. More creative and rigorous use of the sustainable trade verification framework that can be provided through CITES Appendix II implementation, is eminently achievable.

By contrast, the challenges of wildlife trade crime have been illuminated by an increasingly bright media spotlight over recent years. This has prompted much needed attention by governments, international organizations and a wide range of implicated businesses, from airlines and internet service providers to banks and insurers. This attention is critically important: organized crime has brought immense pressure to conservation efforts for many exploited species, and the negative impacts on the security of local people and law enforcers from source to markets are clear. Remedial action is needed across the trade chain to make illicit wildlife trade more difficult, to increase the risks to illegal traders and to reduce rewards from crime through more discerning consumption choices. With strong momentum in global efforts to tackle wildlife trade crime, major gains are achievable in the short-term, but the pressure to make solutions work needs to be maintained by all involved. Some great initiatives and ideas emerging in recent years are still used by exception not the norm, such as forensic and “follow-the-money” investigation techniques, controlled deliveries and preventative measures by e-commerce businesses.

There is little doubt that action on wildlife trade in the context of the Aichi targets, reducing pressures of illegal and unsustainable activities and enhancing benefits from sustainable trade, will be unfinished business by 2020. It is indeed important to think ahead to new approaches and longer-term solutions. That said, targets need to be taken seriously. There is still time to deliver not just greater action, but real impact on wildlife trade trends by the end of this decade. The pre-2020 conservation agenda is no less important now than when it was first conceived.

**Steven Broad**, Executive Director, TRAFFIC  
E-mail: [steven.broad@traffic.org](mailto:steven.broad@traffic.org)

SAKET BADOLA has been appointed Head of the TRAFFIC team based in Delhi, India. Dr Badola joins TRAFFIC on deputation from the Indian Forest Service.

JING CHEN has been appointed Programme Manager to work on TRAFFIC flagship species/enforcement support and leads the planning and co-ordination of wildlife cybercrime and ivory/rhinoceros horn supply reduction projects in a range of countries including China. Jing is based in the China office, Beijing.

## bulletin board

LINDSEY HARRIS was appointed to the Europe team, based in Cambridge, effective May 2017, and will principally be analysing and interpreting European wildlife trade data.

UMA KANAPATHY joined TRAFFIC in June 2017 as Communications Officer, based in the South-east Asia office in Kuala Lumpur, Malaysia.

MUANDAO "KEAW" KONGWANARAT was appointed Social and Behavioural Change Communications Programme Officer in September 2017 and is based at the IUCN Asian Regional Office in Bangkok, Thailand.

CHRIS R. SHEPHERD left TRAFFIC in June after a period of four years as Regional Director of the South-east Asia office, Kuala Lumpur, Malaysia. Chris's long association with TRAFFIC began in 1999 when he started as a Programme Officer where issues on bird and reptile trade in Indonesia commanded most of his attention. During the 18 years, he built and strengthened TRAFFIC's programme in South-east Asia and beyond. In June 2017, KANITHA KRISHNASAMY was appointed Acting Regional Director for TRAFFIC in South-east Asia.

KHUONG NGUYEN joined the TRAFFIC team in Viet Nam in August 2017 as a Programme Officer, responsible for work on Medicinal and Aromatic Plants (MAPs) and timber; THUY NGUYEN, who has been working with the MAPs team in the Viet Nam office, left TRAFFIC in October 2017.

### traffic websites

[www.traffic.org](http://www.traffic.org) (English)  
[www.traffic.org/news-french](http://www.traffic.org/news-french) (French)  
[www.trafficchin.org](http://www.trafficchin.org) (Chinese)  
[www.trafficj.org](http://www.trafficj.org) (Japanese)

The *TRAFFIC Bulletin* is available on [www.traffic.org](http://www.traffic.org)



TRAFFIC Board members and other TRAFFIC staff.

## New TRAFFIC Board

A new governance structure for TRAFFIC has been developed with guidance from IUCN and WWF—both TRAFFIC founders. The newly appointed trustees of the TRAFFIC International charity, registered in the UK, are:

Mark Halle  
 (Chair, Senior Fellow, International Institute for Sustainable Development (IISD));  
 Jeremy Eppel  
 (Co-Founder, Eppel Sustainability Ltd);  
 Joshua Ginsberg  
 (President, Cary Institute of Ecosystem Studies);  
 Aimé Nianogo  
 (Regional Director, IUCN, Central and West Africa);  
 Jon Paul Rodríguez  
 (Chair, IUCN Species Survival Commission);  
 Jane Smart  
 (Global Director of IUCN's Biodiversity Conservation Group and Director, IUCN Global Species Programme);  
 Ginette Hemley  
 (Senior Vice President, Wildlife Conservation, WWF US);  
 Margaret Kinnaird  
 (Wildlife Practice Leader, WWF International);  
 Li Lin  
 (Director of Global Policy and Advocacy, WWF International)

The principle focus of the Board will be on guiding TRAFFIC to achieve its 2020 goal to help reduce the pressure of illegal and unsustainable wildlife trade on biodiversity, and enhance the benefits to wildlife conservation and human well-being that derive from trade at sustainable levels.

## SUPPORTER ACKNOWLEDGEMENT

TRAFFIC thanks those who have kindly donated to the *TRAFFIC Bulletin*. We would particularly like to acknowledge the generous contribution by Chris Huxley, former Head of the Wildlife Trade Monitoring Unit of the Conservation Monitoring Centre, where the TRAFFIC headquarters office was based during the 1980s.

Production of the *TRAFFIC Bulletin* depends in large part on the generosity of our readers. If you can help us raise the vital funds to ensure that this publication continues to be published, we would love to hear from you. Please see the back page for details or visit <http://www.traffic.org/donate/>. Thank you.

Report by Serene C.L. Chng

The Helmeted Hornbill *Rhinoplax vigil* has faced unprecedented levels of poaching in recent years to supply the illegal trade for ivory from its casque, resulting in a plunge in wild populations and the species being uplisted to Critically Endangered in 2015 (Collar, 2015; Beastall *et al.*, 2016; BirdLife International, 2016). Seizures data illustrate the sharp increase in poaching and illegal trade; EIA, TRAFFIC, Born Free Foundation and others compiled at least 59 separate seizure incidents involving a minimum of 2878 Helmeted Hornbill casques, skulls and products between 2010 and April 2017. Hotspots within Indonesia and China have been identified from these seizures (Map 1).

The main source of the seized casques is Indonesia, in particular Kalimantan and Sumatra—the only States in the species's range in the country; the casques then exit Indonesia either to mainland China or Hong Kong via Jakarta (Chng *et al.*, in prep.). In China, the main consumer country, notable entry points were at Shenzhen and Hong Kong (Chng *et al.*, in prep.; Beastall *et al.*, 2016), while the city of Putian in Fujian Province was identified as the centre of the casque



ELIZABETH JOHN / TRAFFIC

## HELPING THE HORNBILL KEEP ITS HEAD

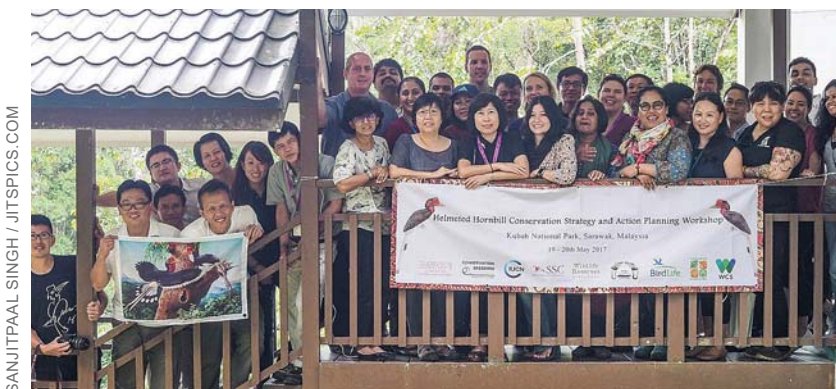
carving industry (EIA, 2016). Markets in Vientiane offering hornbill casques are also shown to target Chinese nationals, as divulged by sellers and reinforced by the observations of casque products advertised in Mandarin (EIA, 2016; Krishnasamy *et al.*, 2016). Evidence indicates that organized crime networks are behind this trade, with gangs of poachers operating in Indonesia supported by middlemen and traders (Martyr, 2014; Mongabay, 2014), and worked casques being smuggled into Lao PDR (EIA, 2015; Krishnasamy *et al.*, 2016).

In order to identify what action can be taken to tackle this problem, the first-ever workshop on Helmeted Hornbill Conservation and Action Planning was held in Sarawak, Malaysia, from 19–20 May 2017. This landmark event brought together 36 experts, implementers and decision-making authorities including governments from China, Indonesia, Malaysia and Thailand, non-governmental organizations, hornbill experts and researchers, conservationists and funders from 28 organizations who convened in Kubah National Park. The event, held on the back of the 7th International Hornbill Conference, aimed to develop jointly the Helmeted Hornbill Conservation Strategy and Action Plan in an effort to safeguard this species from extinction and to prioritize conservation action and interventions. This initiative was driven and supported by a number of organizations including the IUCN SSC Asian Species Action Partnership, the Hornbill Research Foundation, the Wildlife Conservation Society, BirdLife International and Wildlife Reserves Singapore; TRAFFIC was also a key contributor. ▶



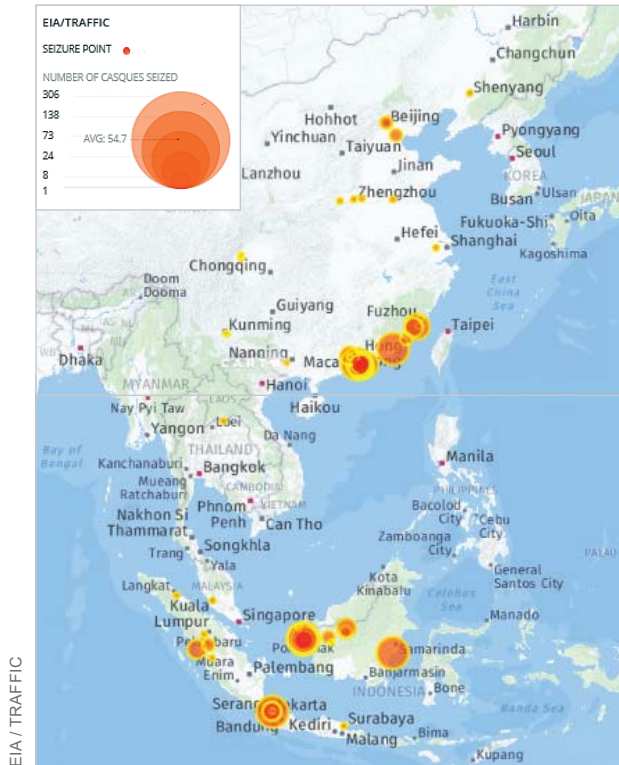
ELIZABETH JOHN / TRAFFIC

△ **HELMETED HORNBILL** parts observed at a shop in Vientiane during market surveys carried out in Lao PDR between April and July 2016. The species—the largest of all the Asian hornbills—occurs in Brunei Darussalam, Indonesia, Malaysia, Myanmar and Thailand, and is scarce throughout its range. Unlike the casque of other hornbill species, that of the Helmeted Hornbill is made from solid keratin which makes it suitable for carving. The carvings are prized commodities, particularly among Chinese communities (Krishnasamy, 2016).



SANJITPAAL SINGH / JITSPICS.COM

Participants of the Helmeted Hornbill conservation planning workshop.



MUHAMMAD ALZAHRI

**Map (left) showing locations of Helmeted Hornbill seizures between 2010 and April 2017. The size of the dot indicates the number of casques seized. Helmeted Hornbill *Rhinoplax vigil* (right).**

► The workshop agreed on a vision for the survival of Helmeted Hornbills, along with the identification of issues threatening the species and corresponding objectives to address these. Discussions were built around four main themes: 1) building knowledge of distribution, ecology and biology; 2) understanding and mitigating the impact of habitat loss, fragmentation and degradation; 3) trade: law enforcement and policy; and 4) trade: disrupting the trade chain from poacher to consumer.

It was also agreed that the Helmeted Hornbill Working Group would be formalized under the IUCN umbrella to co-ordinate, drive and enable the effective implementation of actions to safeguard the species, and provide advice and support to government agencies, NGOs and research institutions working to save the species. This process will be led by a small team of six individuals, comprising two co-ordinators, and a lead each for the Trade, Research, Habitat and Capacity Development sub-groups. Discussion from the workshop is being compiled to finalize the Conservation Strategy, which will also feed directly into the outcomes from the 17th meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in relation to Resolution Conf. 17.11 on *Conservation of and trade in helmeted hornbill*.

## ACKNOWLEDGEMENTS

The author thanks Wildlife Reserves Singapore and the US Department of State for supporting TRAFFIC's participation and input into the Helmeted Hornbill Working Group, and to the workshop organizing committee for sharing information.

## REFERENCES

- Beastall, C., Shepherd, C.R., Hadipraksarsa, Y. and Martyr, D. (2016). Trade in the Helmeted Hornbill *Rhinoplax vigil*: the 'ivory hornbill'. *Bird Conservation International* 26(2):137–146.
- BirdLife International (2016). *Rhinoplax vigil*. *The IUCN Red List of Threatened Species 2016*: e.T22682464A92947540. <http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22682464A92947540.en>. Viewed 26 July 2017.
- Collar, N.J. (2015). Helmeted Hornbills *Rhinoplax vigil* and the ivory trade: the crisis that came out of nowhere. *BirdingASIA* 24:12–17.
- EIA (2015). *Sin City: Illegal Wildlife Trade in Laos' Golden Triangle SEZ Special Economic Zone*. Environmental Investigation Agency, London, UK.
- EIA (2016). *Illegal trade seizures: Helmeted Hornbills—Mapping the Crimes*. <https://eia-international.org/illegal-trade-seizures-helmeted-hornbills>.
- Krishnasamy, K., Leupen, B. and O.C., Or (2016). *Observations of the Helmeted Hornbill Trade in Lao PDR*. TRAFFIC, Malaysia. 24 pp.
- Martyr, D.J. (2014). *Kerinci Seblat Sumatran Tiger Protection and Conservation*. Cambridge, UK: Flora & Fauna International. [http://www.21stcenturytiger.org/assets/21tiger/Project\\_PDFs/Indonesia/Kerinci\\_Seblat\\_tiger/FFI\\_KerinciSeblatFinalreport2013.pdf](http://www.21stcenturytiger.org/assets/21tiger/Project_PDFs/Indonesia/Kerinci_Seblat_tiger/FFI_KerinciSeblatFinalreport2013.pdf). Viewed January 2014.
- Mongabay (2014). *Pemburu Rangkong Diringkus Tim Patroli TNKS Jambi*. <http://www.mongabay.co.id/2014/05/12/pemburu-rangkong-diringkus-tim-patroli-tnks-jambi/>.

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## Cambodia's increasing role in the African ivory and rhinoceros horn trade

Report by Thomas Gray, Tom Milliken, Khem Vuthravong and Suwanna Gauntlett

Tackling the current African Elephant and rhinoceros poaching crisis is an urgent need (Sutherland *et al.*, 2014) and a major focus of conservation effort and political will. Particular efforts have been aimed at combating the transcontinental trafficking of ivory and rhinoceros horn from Africa to Asia. Effective law enforcement requires understanding and identifying key trafficking pinch points—the weak links connecting sources of ivory and rhinoceros horn in central, eastern, and southern Africa with the markets for high-value wildlife products in Asia, particularly those in China and Viet Nam (Ayling, 2013).

Since 2011, there have been at least 15 seizures of African Elephant *Loxodonta africana* ivory and six seizures of African rhinoceros horn in Cambodia, whilst 24 ivory and rhinoceros horn seizures have occurred in other countries which reported Cambodia as part of the illicit trade chain (Table 1). Most recently, in September 2017, 1.35 t of ivory was seized in Ho Chi Minh City, Viet Nam, arriving from Benin, bound for Cambodia via Cat Lai Port, and on 11 October, eight rhinoceros horns (weight not reported) were seized at Suvarnabhumi International Airport, Bangkok, from two Chinese nationals reportedly in transit from Zambia to Cambodia.

This trade amounted to nearly 13 t of ivory and at least 124 kg of rhinoceros horn, with the greatest quantities of ivory seized reported in 2016. As a consequence, Cambodia was identified as a “country of secondary concern” in the analysis of illegal ivory trade presented by the Elephant Trade Information System (ETIS) to the 17th meeting of the Conference of the Parties to CITES (CoP17) in 2016 (Milliken *et al.*, 2016). Cambodia's emerging role in the rhinoceros horn trade was also noted at the meeting. Cambodia has also been included in the Convention's intersessional National Ivory Action Plan (NIAP) process since 2014 to address a range of issues associated with illegal trade in ivory.

Most consignments seized by Cambodian authorities have occurred at the country's two international airports: in Phnom Penh, Cambodia's capital city, and Siem Reap, gateway to the country's major tourist attraction, Angkor Wat (Table 2). The most recent seizure of rhinoceros horn was in November 2016 and involved over 35 kg of horn—the single largest volume of rhinoceros horn seized in Cambodia (Down and Phan, 2016). The seized ivory and rhinoceros horn came from at least six African countries (Angola, Kenya, Mozambique, Namibia, South Africa, Uganda) and passed through a number of regional aviation hubs in Africa, the Middle East and Asia (Addis Ababa, Bangkok, Doha, Dubai, Singapore, Seoul) before arriving in Cambodia.

In addition, in August 2016 and in May 2014, two large ivory seizures were made at the international port of Preah Sihanoukville, Cambodia's only deep water port. These involved, respectively, over 600 kg of raw ivory shipped from Mozambique hidden in a consignment of corn, and more than 3000 kg coming from Kenya via Malaysia in a shipment of beans. In 2016, more than one tonne of raw ivory destined for this port was seized in Kenya's port of Mombasa prior to export and, in 2011, nearly three tonnes of ivory was seized in Kenya and in Malaysia from Kenya, in two separate seizures, before reaching Preah Sihanoukville. Most recently, in December 2016, more than 1300 kg of elephant tusks, 10 large cat skulls, 82 kg of carnivore bones and 137 kg of pangolin *Manis* spp. scales were seized from Phnom Penh Dry Docks, hidden in hollowed-out timber shipped from Mozambique.

The bulk of the trade in which suspects have been identified has involved Vietnamese nationals—both in the seizures made in Cambodia and those made elsewhere but involving Cambodia in the trade chain (Table 3). In addition, in April 2017, police in Hanoi arrested three alleged members of a Vietnamese wildlife trafficking ring and seized a large amount of illegal products,

Year	SEIZED IN CAMBODIA					SEIZED OUT OF CAMBODIA				
	ELEPHANT IVORY		RHINOCEROS HORN			ELEPHANT IVORY		RHINOCEROS HORN		
	No. of seizures	Kg of seizures	No. of seizures	No. of horns	Kg of seizures	No. of seizures	Kg of seizures	No. of seizures	No. of horns	Kg of seizures
2017						1	1.356	2	8	>36.00
2016	2	1975.20	2	26	39.78	3	2326.00	0	0	0
2015	1	46.10	0	0	0	4	440.64	1	3	9.40
2014	5	3415.30	0	0	0	5	941.09	0	0	0
2013	7	264.60	3	13	21.50	2	156.10	0	0	0
2012	0	0	1	6	17.90	2	72.17	0	0	0
2011	0	0	0	0	0	4	2879.86	0	0	0
Total	15	5701.20	6	45	79.18	21	6817.216	3	11	>45.40

Table 1. African Elephant ivory and rhinoceros horn seized in, going to, or coming from Cambodia, 2011–mid October 2017.

Place of seizure	2016	2015	2014	2013	2012	2011	Total
Phnom Penh International Airport	2	-	1	5	1	-	9
Siem Reap International Airport	-	1	1	5	-	-	7
Preah Sihanoukville sea port	1	-	1	-	-	-	2
Phnom Penh dry docks	1	-	-	-	-	-	1
Viet Nam border	-	-	1	-	-	-	1
Other	-	-	1	-	-	-	1
<b>Total</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>21</b>

**Table 2. Location and number of seizures in Cambodia, 2011–2016.**

including 36 kg of rhinoceros horn that reportedly came from Cambodia. There have been no reported seizures of African wildlife products at Cambodia’s borders in 2017 at the time of going to press (October 2017).

The data presented here suggest that Cambodia may be emerging as a transit hub for the illegal transcontinental trafficking of high-value wildlife products. Cambodia’s long and extremely porous borders with Viet Nam and Lao PDR make transporting wildlife products out of the country towards demand markets elsewhere in Asia relatively easy. Stronger enforcement, stricter penalties, and chances of detection at other entry points to Asia, particularly Bangkok, may have facilitated the emergence of Cambodia as a low-risk trafficking route.

Whilst there is little direct demand for rhinoceros horn or ivory in Cambodia from Cambodian nationals, there is evidence that shops and hotels in Phnom Penh and Seam Reap, catering principally to Chinese nationals on package trips, are increasingly selling carved ivory products (T. Gray, pers. obs., 2017; Trang and Frechette, 2017). This development, which may be exacerbated by changes to the legality of ivory markets in Thailand and China, requires greater vigilance.

Given the potential important role of Cambodia in transcontinental trafficking of African rhinoceros horn and ivory, a robust response by government law enforcement agencies and the global conservation community is required. Increased forensic analysis and improved criminal investigative capacity is required, whilst it is recommended that penalties for the possession and trade of non-native IUCN Threatened or CITES Appendix I species in the country are strengthened.

**REFERENCES**

Ayling, J. (2013). What sustains wildlife crime? Rhino horn trading and the resilience of criminal networks. *Journal of International Wildlife Law & Policy* 16(1):57–80.

Down, A. and Phan, S (2016). Rhino Horn Valued at up to \$7 Million seized at Airport. *Cambodia Daily*, 3 November 2016.

Milliken, T., Underwood, F.M., Burn, R.W. and Sangalakula, L. (2016). *The Elephant Trade Information System (ETIS) and the Illicit Trade in Ivory: a report to the 17th meeting of the Conference of the Parties*. CoP17 Doc. 57.6 (Rev. 1), CITES Secretariat, Geneva, Switzerland. 30 pp.

Sutherland, W.J., Aveling, R., Brooks, T.M., Clout, M., Dicks, L.V., Fellman, L., Fleishman, E., Gibbons, D.W., Keim, B., Lickorish, F. and Monk, K.A. (2014). A horizon scan of global conservation issues for 2014. *Trends in Ecology & Evolution* 29(1):15–22.

Trang, N. and Frechette, J.L. (2017). The market for elephant ivory in Cambodia. *TRAFFIC Bulletin* 29(2):65–72.

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Year	2017		2016		2015		2014		2013		2012		2011		Total
	SZ IN	SZ OUT	SZ IN	SZ OUT	SZ IN	SZ OUT	SZ IN	SZ OUT	SZ IN	SZ OUT	SZ IN	SZ OUT	SZ IN	SZ OUT	
Cambodia					1		2								3
China		1	2				1	2							6
Viet Nam		1			1	2	1	3	10	1	1	1			21
Other														1	1
Unknown			2	4	2		3		1		1			3	16
<b>Total</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>7</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>48</b>

**Table 3. Seizures of African Elephant ivory and rhinoceros horn involving Cambodia in the trade chain, and the country of nationality of suspects, 2011–mid October 2017.**

SZ In = a seizure made in Cambodia; SZ Out = a seizure made elsewhere but involving Cambodia in the trade chain.

## ALTERNATIVELY EFFECTIVE: A CONFERENCE ON SUBSTITUTES TO BEAR BILE IN TRADITIONAL CHINESE MEDICINE IN MALAYSIA

Report by Lalita Gomez

**S**un Bears *Helarctus malayanus* in Malaysia face an uncertain future owing to the threat they face from illegal hunting, primarily driven by the demand for their parts for use in traditional Chinese medicine (TCM). In 2010, TRAFFIC assessed the scale and availability of bear parts in 13 countries and territories across Asia, and Malaysia was flagged both as a key source and consumer of bear bile medicines. In 2012, a country-wide assessment of the bear bile trade in Malaysia by TRAFFIC revealed that almost half (48%) of TCM shops surveyed openly claimed to be selling and/or displayed gall bladder and/or bile that they claimed to be authentic. Furthermore, nearly 60% of all gall bladders observed for sale were reportedly sourced locally, a significant finding that demonstrates the vulnerability of Sun Bears—the only species of bear in the country—to being targeted for the use of their body parts in TCM. In 2014, TRAFFIC assessed bear seizures that had taken place across Asia between 2000 and 2011 and again Malaysia came out in the top five of 17 countries assessed in the illegal bear trade.

Recent poaching and seizure incidents as well as recent research by TRAFFIC continues to highlight the risks and emerging threats to the survival of Sun Bears in Malaysia. At least ten bears were killed—or were about to be before being rescued—for their parts in the eastern State of Sabah between 2015 and March 2017. Similar hunting pressure persists in Peninsular Malaysia, with documented cases in the Belum-Temengor Forest Complex (BTFC) where TRAFFIC and WWF-Malaysia have ongoing conservation programmes and where the use of guns and wire snares to trap bears and other wildlife has been observed. These incidents reveal the persistent and unrelenting threat to wild bear populations in Malaysia, despite their protection status in the country. The Sun Bear is a protected species in Malaysia—totally protected in Peninsular Malaysia and Sabah, and protected in Sarawak, meaning that hunting and trade is prohibited.

The prevalence of the Sun Bear trade in Malaysia prompted TRAFFIC, in collaboration with the Federation of Chinese Physicians and Medicine Dealers Association of Malaysia (FCPMDAM), to organize a one-day conference for practitioners of traditional medicine throughout the country.

This conference formed part of TRAFFIC's collaboration with the TCM industry in the country, which began in 2015 to reduce and ultimately stop the use of bears and other illegally sourced wildlife in traditional medicine treatments. The aim of the conference—entitled *Alternatively Effective*—was two-fold: to raise awareness of the alternatives to bear-based



**President of the Federation of Chinese Physicians and Medicine Dealers Association of Malaysia (FCPMDAM), Mr Ting Ka Hua, signing the pledge in support of the use of legally sourced wildlife ingredients.**

medicines and other wildlife parts used in TCM in order to alleviate the pressure on wild bear populations in Malaysia and neighbouring countries; and to encourage traditional medicine practitioners to use only legal wildlife resources.

About 80 practitioners, physicians, TCM lecturers and government officials attended the conference that also saw presentations from TRAFFIC, Dr Yibin Feng, Associate Director at the University of Hong Kong's School of Chinese Medicine, and Salman Saaban, Enforcement Director of Peninsular Malaysia's Department of Wildlife and National Parks.

TRAFFIC highlighted the scale of the threat to Asian bear species in general and specifically the threats to the Sun Bear from the bear bile trade in Malaysia, as is evident from the continued availability of bear bile products in the TCM retail market. A recent survey (June 2017) by TRAFFIC of over 100 TCM outlets in the Klang Valley (i.e. includes Federal Territory of Kuala Lumpur and State of Selangor in Peninsular Malaysia), revealed that more than half (76%) of these outlets sold bear bile products. These were mostly in the form of pills, reported by retailers as either pure or mixed with herbs and other animal bile. Some retailers openly displayed/advertised the availability of such products including products from China and South Korea, and at least one retailer offered to obtain bear gall bladders if there was a buyer.

Dr Feng, a specialist on substitutes for endangered species used as medicines, spoke to practitioners about his latest research on the various herbal alternatives to bear bile. He claimed the herbs, Chinese Goldthread *Coptis chinensis* (also known as *huanglian*) and some *Berberis* spp. are just as effective if not more so than bear bile in

► treating liver diseases, including cancer, and described the herbs as having better “anti-cancer invasion” and “anti-cancer metastasis” effects than bear bile, with, for example, up to 80% of cancer cells killed off following application of *huanglian* in comparison to 10–50% with bear bile.

Salman Saaban, the Enforcement Director with the Department of Wildlife and Natural Parks in Peninsular Malaysia, talked to participants about the laws in the country as they relate to the practice of traditional medicine and wildlife that can legally be used for such purposes. He also stressed the importance of strengthening the relationship between enforcement authorities and the TCM industry through open dialogues with practitioners throughout the country as a means to educate and raise awareness on the legality of using and selling wildlife products.

In closing, the president of the FCPMDAM stressed the responsibility that practitioners bear in cherishing and protecting wild resources. He reiterated the importance of supporting the efforts to end the use of illegal and endangered wildlife products in traditional medicine within the Malaysian Chinese traditional medicine community. Importantly, he urged practitioners to correct unfounded and inaccurate claims of the efficacy of wildlife used in traditional medicine and warned against any unlawful activity.

More than half of the participants present signed a declaration of support to use only wildlife permitted under Malaysia’s laws, to use only legally sourced ingredients and to support efforts to reduce the demand for wildlife-based medicinal products involving threatened species. It is hoped this translates into a commitment by practitioners to source and dispense responsibly wild animals and plants used for medicines and to educate their customers about sustainable alternatives, which will help to reduce the tremendous pressure on bears and many other wild animals now in demand as ingredients in traditional medicine preparations.

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## Complementary approaches: the role in tackling illegal wildlife trade

Report by Sabri Zain, Roland Melisch and Anastasiya Timoshyna

Recent decades have seen increasing global attention on the links between species conservation and sustainable management of wild fauna and flora. As far back as 1971, complementary approaches of protection and sustainable use of biodiversity was reflected in the Convention on Wetlands of International Importance especially as Waterfowl Habitat—better known as the Ramsar Convention<sup>1</sup>—where the term “wise use” was employed. At the momentous Rio Summit in 1992, the Convention on Biological Diversity (CBD)<sup>2</sup> was forged, with its first objective focused on “conservation” and the second on “sustainable use”. Article 8 of the Convention calls for the respect, preservation and maintenance of knowledge, innovations and practices of indigenous peoples and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity, and Article 10 focuses exclusively on sustainable use of biodiversity. The Addis Ababa Principles and Guidelines for the Sustainable use of Biodiversity (Anon., 2004) adopted by the Parties to the Convention in 2004 provide an additional framework to assist resource managers in ensuring that their use of biodiversity will not lead to a long-term decline.

In 2010, the tenth meeting of the Conference of the Parties (CoP10) to the CBD endorsed the Strategic Plan for Biodiversity 2011–2020 and Aichi Biodiversity Targets<sup>3</sup>. These have been accepted by other Conventions and sectors as a useful global framework to conserve, restore, and use biodiversity sustainably and to enhance its benefits to people. At CoP11 in Hyderabad, India, in 2012, the CBD agreed, for the first time, to 19 recommendations (CBD, 2012) on the harvesting and sustainable use of wild animals for food and non-food purposes, including for medicinal use.

The United Nations General Assembly (UNGA) Resolution 66/288 *The Future We Want* (UN General Assembly, 2012) later supported “mainstreaming the consideration of the socio-economic impacts and benefits of the conservation and sustainable use of biodiversity ... into relevant programmes and policies at all levels” and encouraged investments “which support the conservation and sustainable use of biological diversity”.

<sup>1</sup>The Ramsar Convention on Wetlands: [http://archive.ramsar.org/cda/en/ramsar-documents-texts-convention-on/main/ramsar/1-31-38%5E20671\\_4000\\_0\\_](http://archive.ramsar.org/cda/en/ramsar-documents-texts-convention-on/main/ramsar/1-31-38%5E20671_4000_0_); <sup>2</sup>Convention on Biological Diversity: <https://www.cbd.int/convention/text/default.shtml>  
<sup>3</sup>Strategic Plan for Biodiversity 2011–2020 and Aichi Biodiversity Targets: <https://www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-EN.pdf>

## of sustainable wildlife management



BRENT STIRTON / GETTY IMAGES / WWF-UK

**A woman and young boy with a pangolin and duiker, hunted for bushmeat, East Province, Cameroon.**

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The importance of sustainable management of wild animals and plants is indeed recognized in other international agreements such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on the Conservation of Migratory Species of Wild Animals (CMS), as well as in regional agreements.

More recently, the issue of poaching and illegal wildlife trade in particular has been at the forefront of global attention, at the highest level of government. The London Conference on Illegal Wildlife Trade in January 2014 saw heads of State, ministers and high-level representatives of 46 countries, including those most heavily impacted by poaching and illegal trade of wildlife, agree to a Declaration (Anon., 2014) committing them to take “decisive and urgent action” to tackle the global illegal wildlife trade. In July 2015, the UN General Assembly adopted its first-ever Resolution on *Tackling Illicit Trafficking in Wildlife* (69/314) (UN General Assembly, 2015).

Numerous measures to combat wildlife trafficking have also been adopted by individual countries at the highest levels of government. In 2013, the then President of the United States, Barack Obama, established a Presidential Task Force on wildlife trafficking and adopted a national strategy against wildlife trafficking. That same year, the Premier of the People’s Republic of China, Li Keqiang, vowed to combat elephant poaching and ivory smuggling, culminating in China’s historic announcement in December 2016 of its intention to close down its domestic ivory markets. In December 2015, China and 50 countries of Africa encompassed under the Forum on China-Africa Cooperation (FOCAC) agreed

on the FOCAC Johannesburg Action Plan (FOCAC, 2015), which not only included curbs on illegal wildlife trade but also encouraged co-operation on sustainable forest management. At the continental level, the African Union developed in 2015 an African Common Strategy on Combating Illegal Trade in Wild Fauna and Flora (African Union, 2015) and, in 2016, the European Union adopted its Action Plan against Wildlife Trafficking (European Commission, 2016).

These developments are encouraging and necessary, and have resulted in commitments by the international community to step up action against poaching and trafficking, with numerous measures being adopted at the national level by many of the countries concerned.

However, the political and policy dialogue in recent years has focused much of its attention on wildlife crime, with not enough consideration being given to sustainable and legal trade in wild animals and plants, its role in conservation and socio-economic development, and the commitments, measures and tools needed to fulfil that role effectively. Conservation efforts to address wildlife crime also appear to be focused on a small number of “charismatic” animal species, with the far larger scope of animal and plants species involved in legal and sustainable trade largely overlooked. Unfortunately, there is currently little appreciation that for efforts aimed at tackling illegal killing and trade in species to be effective and sustainable in the long term, they need to be complemented by efforts to ensure the sound management of wild species that take into account the socio-economic needs of human populations.

### **REDUCING OVERHARVESTING AND ILLEGAL TRADE, PROMOTING SUSTAINABLE MANAGEMENT**

A complementary and integrated approach is needed to address the biodiversity crisis that significantly reduces illegal and unsustainable use and trade thereof, and promotes sustainable management of wild animals and plants. Such an approach was highlighted in the aforementioned UN General Assembly Resolution on *Tackling Illicit Trafficking in Wildlife*, which “strongly encourages Member States to support, including through bilateral co-operation, the development of sustainable and alternative livelihoods for communities affected by illicit trafficking in wildlife and its adverse impacts, with the full engagement of the communities in and adjacent to wildlife habitats as active partners in conservation and sustainable use, enhancing the rights and capacity of the members of such communities to manage and benefit from wildlife.”

The London Conference on Illegal Wildlife Trade also recognized the importance of supporting “community efforts to advance their rights and capacity to manage and benefit from wildlife”, with one of its four main themes being sustainable livelihoods and economic development. Among the actions it recommends is promoting “the retention of benefits by local communities for the conservation and sustainable management of wildlife.” Following that, more than 70 researchers, community

representatives, government officials, UN agencies and NGOs from five continents met at a symposium on *Beyond enforcement: Communities, governance, incentives and sustainable use in combating wildlife crime*, developing a set of recommendations on engaging communities in combating the illegal wildlife trade (IUCN *et al.*, 2015).

At the continental level, the African Strategy on Combating Illegal Exploitation and Illegal Trade in Wild Fauna and Flora adopted by the African Union in May 2015 (African Union, 2015), outlines various actions related to sustainable wildlife management, including ensuring participatory development and implementation of programmes for local communities on “best practices in conservation and sustainable use of wildlife resources”. One of the objectives of the European Union’s Action Plan against Wildlife Trafficking, adopted in June 2016 (European Commission, 2016), is the need for “engagement of rural communities in the management and conservation of wildlife”.

These commitments illustrate that current efforts to reduce the impact of poaching and illegal trade of threatened species, for example by strengthening law enforcement, will also need to be supported by efforts to strengthen the effectiveness of systems that assure sustainable use and responsible trade of wildlife resources (such as through the effective development and implementation of wildlife management plans and quota-setting systems).

Similarly, increasing the direct and indirect risks for poachers and illegal traders, such as through increased deterrent penalties and prosecutions, must go hand-in-hand with increasing the direct and indirect benefits to harvesters, local communities and other stakeholders of sustainable management of and responsible trade in wildlife resources (such as through promotion and investment in sustainable use programmes). Reducing the rewards derived from poaching and illegal trade (for example by reducing consumer demand for illegal wildlife) will need to be complemented by increasing the rewards for responsible trade (such as through consumers preferring and retailers choosing sustainable wildlife goods).

As an illustration, TRAFFIC’s work with the traditional Chinese medicine community not only involves rejecting the use of Tiger or rhinoceros parts, but also includes promoting systems to trace and verify the use of sustainably harvested medicinal plants as alternatives to those ingredients. TRAFFIC is assisting a growing number of herbal product, food and other companies to implement the FairWild Standard to help assure consumers that their products are not only harvested within sustainable levels but also bring tangible economic benefits to the communities that collect these plants.

## MEETING WILDLIFE AND HUMAN NEEDS

It is important to recognize that products and services derived from wildlife can provide strong incentives to conserve biodiversity. Sustainable wildlife management can be viewed as a mechanism to promote biodiversity conservation while simultaneously meeting human

needs. Governments, international organizations and civil society must be encouraged to recognize sustainable wildlife management as a valuable tool in tackling the pressure on natural resources.

Overharvesting and poor management and unsustainable use of wildlife resources leads to biodiversity loss, loss of sustainable livelihoods and greatly reduced opportunities for socio-economic development. This, in turn, provides opportunities for poachers and illegal traders to encourage the involvement of local community members in their operations. Government policies, strategies and plans to address illegal wildlife killing and trade must also safeguard sustainable livelihoods and economic development opportunities for communities most impacted by illegal and unsustainable wildlife use. Illegal and unsustainable wildlife use can also be symptomatic of poor governance structures. The loss of wildlife resources due to poor sustainable wildlife management undermines good governance and can lead to corrupt practices. The socio-economic difficulties caused by this loss of sustainable livelihoods and poor governance structures can also undermine rule of law and threaten security. Implementing sound and accountable sustainable wildlife management approaches can help strengthen and improve the underlying governance structures that help support biodiversity conservation and meet the socio-economic needs of the stakeholders concerned.

Rural communities that live in close proximity to wildlife bear the brunt of conflict with wildlife and the detrimental effects of illegal and unsustainable wildlife trade. The livelihoods of these communities are most directly impacted by the loss of biodiversity and unsustainable use. At the same time, the benefits they derive from sustainable wildlife use and resource ownership provide powerful incentives for conservation. Recognizing these impacts and the positive role local communities can play in conservation and sustainable wildlife management, governments are encouraged to strengthen the role and direct participation and engagement of these local communities in the management of wildlife and other natural resources upon which they depend.

## MECHANISMS, TOOLS AND APPROACHES

The key to effective sustainable wildlife management is the availability and use of accurate and comprehensive scientific and traditional/local knowledge. In partnership with the relevant experts, international organizations, civil society, indigenous peoples and local communities, governments are encouraged to conduct more research to expand this body of knowledge, including that relating to the full range of human dependency on wildlife and biodiversity, the socio-economic value of species and how best to ensure their sustainable use, a secure conservation status for these species, effective sustainable wildlife management interventions, as well as lessons learned and best practices that can be shared.

A variety of mechanisms, tools and approaches already exist to assist governments and other stakeholders to protect and manage wildlife more effectively, as well as to

ensuring that harvest and use is sustainable. For example, the Non-Detriment Finding process within CITES is a valuable management tool used to ensure that harvest of Appendix II-listed species is maintained at levels that does not have detrimental effects on the population of these species. Certification systems also play an important role, such as the FairWild Standard, which not only promotes sustainability of plant harvests but also protects the rights of collectors, ensuring that harvesting does not threaten species, ecosystems or local communities. In partnership with the relevant international organizations, civil society and other experts, governments are encouraged to use these tools, mechanisms and approaches more effectively, and adaptively improve them or develop new tools and mechanisms to mitigate identified gaps or address new challenges in the management of wildlife.

As noted above, the international community has made numerous commitments towards encouraging sustainable wildlife management, in conjunction with other global efforts at ensuring species conservation and sustainable development. These commitments must now be turned into action on the ground. Governments are encouraged to implement these commitments, including supporting the efforts of source countries to meet their international obligations. The issue of sustainable wildlife management needs to be higher on the global political agenda, including international fora at the highest levels of government (such as the UN General Assembly and High Level Political Forum on Sustainable Development); the relevant regional economic integration organizations and other regional structures; and the relevant UN Conventions and other international agreements. Strategic partnerships must be forged with other sectors—such as industry and the economic development community—to seek their support and collaboration in implementing these commitments. More research needs to be done on the direct benefits of sustainable wildlife management to local economies and social development, as well as how

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**African Teak *Cylicodiscus gabonensis* tree trunk being marked in Western Ghana.** Trees that have been felled are marked to avoid illegal trade as part of the Ghana Forest Trade Network, an important component of the Global Forest Trade Network (GFTN). Key: W4=Forest District, SAX=Name of contractor, C/3318=Company number, S/2050=Authorization number given by Forest Commission, KI=Species Group (African Teak).



HARTMUT JUNGIUS / WWF

these benefits can be maximized. It is also imperative that involvement of indigenous peoples and local communities is integral to these efforts.

International organizations are already responding to this challenge. In 2013, a voluntary partnership was established comprising 14 international organizations (including TRAFFIC) with substantive mandates and programmes to promote the sustainable use and conservation of wildlife resources. The Collaborative Partnership on Sustainable Wildlife Management (CPW) provides a platform for addressing wildlife management issues that require national and supra-national responses and also works to promote and increase co-operation and co-ordination on sustainable wildlife management issues among its members and partners.

TRAFFIC is committed to working actively to support governments and other stakeholders to leverage these international instruments and mechanisms to ensure that sustainable wildlife management approaches play a key role in the conservation of species and the sustainable development of countries and their communities.

## REFERENCES

- African Union (2015). *African Strategy on Combating Illegal Exploitation and Illegal Trade in Wild Fauna and Flora in Africa*. [http://pfbc-cbfp.org/news\\_en/items/Africa-wildlife.html?file=docs/news/Janv-Fev%202016/African%20Strategy%20Strategy%20Africaine%20AU.pdf](http://pfbc-cbfp.org/news_en/items/Africa-wildlife.html?file=docs/news/Janv-Fev%202016/African%20Strategy%20Strategy%20Africaine%20AU.pdf).
- Anon. (2004). *Addis Ababa Principles and Guidelines*. <http://www.cbd.int/sustainable/addis.shtml>.
- Anon. (2014). *London Conference on Illegal Wildlife Trade Declaration*. [http://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/281289/london-wildlife-conference-declaration-140213.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/281289/london-wildlife-conference-declaration-140213.pdf).
- CBD (Convention on Biological Diversity) (2012). COP 11 Decision XI/25. <http://www.cbd.int/decision/cop/?id=13186>.
- European Commission (2016). *EU Action Plan against Wildlife Trafficking*. [http://ec.europa.eu/environment/cites/pdf/WAP\\_EN\\_WEB.PDF](http://ec.europa.eu/environment/cites/pdf/WAP_EN_WEB.PDF).
- FOCAC (Forum on China-Africa Cooperation) (2015). *Johannesburg Action Plan 2016-2018*. [http://www.focac.org/eng/ltada/dwjbzjjhys\\_1/t1327961.htm](http://www.focac.org/eng/ltada/dwjbzjjhys_1/t1327961.htm).
- IUCN, SULI, IIED, CEED, Austrian Ministry of Environment and TRAFFIC (2015). *Symposium Report, Beyond Enforcement: Communities, Governance, Incentives and Sustainable Use in Combating Wildlife Crime*, 26–28 February 2015, South Africa. <http://pubs.iied.org/pdfs/G03903.pdf>.
- United Nations General Assembly (2012). Resolution 66/288, *The Future We Want*. [www.un.org/en/ga/search/view\\_doc.asp?symbol=%20A/RES/66/288](http://www.un.org/en/ga/search/view_doc.asp?symbol=%20A/RES/66/288).
- United Nations General Assembly (2015). Resolution 69/314. *Tackling Illicit Trafficking in Wildlife*. [https://cites.org/sites/default/files/eng/news/pr/2015/UNGA\\_res\\_illicit\\_trade\\_wildlife.pdf](https://cites.org/sites/default/files/eng/news/pr/2015/UNGA_res_illicit_trade_wildlife.pdf).

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## Seizures of African pangolin scales in Malaysia in 2017

Report by Kanitha Krishnasamy and Chris R. Shepherd

### INTRODUCTION

Over recent decades, the trade in pangolins and their derivatives to meet demand for their meat and scales has escalated to unsustainable levels, threatening their continued survival in the wild (CITES, 2016a; CITES, 2016b). Sought after for use in traditional Asian medicines, the scales are in greatest demand at present, followed by the meat which is valued as a luxury dish (Wu *et al.*, 2004; Wu and Ma, 2007; Zhang and Yin, 2014; Nijman, 2015; Xu, 2016). There are eight species of pangolins in the world, with four found in Asia and four in Africa. The persistent demand in Asia for pangolin scales and meat has caused drastic declines of the Asian pangolins across large parts of their range, with the Sunda Pangolin *Manis javanica* and the Chinese Pangolin *Manis pentadactyla* appearing to be the most affected, and over time there has been a noticeable shift in the poaching and trade for the four pangolin species found in Africa; this shift has been observed since 2000 (Heinrich *et al.*, 2016), likely due in part to the establishment of a zero export quota by CITES for all Asian pangolins (Challender and Hywood, 2012; CITES, 2016; Gomez *et al.*, 2016; Heinrich *et al.*, 2016). Confirming this turn of events, large shipments of pangolins from Africa are increasingly being seized in Asia, and, alarmingly, in growing volumes (Anon., 2014a; Anon., 2014b; Cheng *et al.*, 2016; Heinrich *et al.*, 2016; Zhou, 2016). Although occasionally involving whole animals (dead/frozen), these seizures were largely of pangolin scales, reinforcing the fact that trade is fuelled to meet the demand for the scales for use in traditional medicines in Asia (TRAFFIC, 2015; Cheng *et al.*, 2016; CITES, 2016b; Heinrich *et al.*, 2016; Heinrich *in prep.*).

Malaysia is home to one species of pangolin, the Sunda Pangolin, and has generally been considered a source for pangolins in trade, intended mainly for the international market (Tuuga, 2009; Pantel and Anak, 2010; Challender *et al.*, 2014; CITES, 2016a; Heinrich *et al.*, 2016; Krishnasamy, 2016). In 2000, Malaysia was reported to have legally exported 21 270 pangolin skins to China, USA and Singapore for commercial purposes (CITES, 2016a). Further, between 2000 and 2012, Singapore and Japan are reported to have licensed re-exports of 48 596 skins that originated from Malaysia, for commercial purposes (CITES, 2016a). Investigation of logbooks seized by the Sabah Wildlife Department in 2009, revealed that one syndicate in the State of Sabah was alone responsible for some 22 200 Sunda Pangolins being killed and supplied illegally for trade over a 14-month period between May 2007 and January 2009 (Pantel and Anak, 2010). Some

local trade of pangolins for meat and traditional medicine has also been documented in the country, occasionally found for sale illegally in wild meat restaurants (Tuuga, 2009; Yuen, 2013; Arumugam, 2015; Anon., 2017).

### MALAYSIA AS A TRANSIT COUNTRY

On the international front, Malaysia is a notable transit country, with shipments of wildlife, their parts and products both legally traded and smuggled in and out from neighbouring countries, and increasingly from Africa, bound for other parts of Asia (Milliken *et al.*, 2013; Milliken *et al.*, 2016; CITES, 2016a; Cheng *et al.*, 2016; TRAFFIC, 2017a; TRAFFIC, 2017b). Malaysia's role as a transit hub for wildlife smuggling has been well documented for wildlife contraband from Africa such as ivory, rhinoceros horns, and Critically Endangered tortoises from Madagascar, all listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (TRAFFIC, 2010; Milliken *et al.*, 2013; Milliken *et al.*, 2016; Latiff, 2017; TRAFFIC, 2017a; TRAFFIC, 2017b). Recently, large seizures of pangolin scales from Africa, both in transit and those reportedly bound for Malaysia, have become frequent in the country, illustrated by the spate of seizures made by the Royal Malaysian Customs (RMC) Department. These occurrences highlight the vulnerability of the country and the region as an important transit point for high-value African wildlife and their parts heading to key consumer countries in Asia. This short note considers the seizures of African pangolin scales that have taken place in Malaysia over a four-month period in 2017 to contextualize the role of Malaysia in the smuggling of African pangolins.

### SEIZURES OF AFRICAN PANGOLIN SCALES IN MALAYSIA

Between May and August 2017, there were six confirmed seizures of African pangolin scales in Malaysia (Fig. 1), totalling 6695 kg. Apart from one seizure at Sepanggar Port in Kota Kinabalu Sabah, all of them took place at Kuala Lumpur International Airport (KLIA) air cargo terminal. These transactions involved no fewer than seven export and transit countries along the trade chains—Democratic Republic of Congo (DRC), Ethiopia, Ghana, Kenya, Nigeria, Turkey and the United Arab Emirates (UAE), with Dubai in the UAE, Turkey and the DRC each featuring twice, while Ghana was the reported source country in three of the six shipments. The shipments comprised between 288 kg and 5000 kg of pangolin scales (Fig. 1).

Two seizures, which took place in June within six days of each other and accounted for 10% of the seizures (or 682 kg) are of particular interest as the reported country of origin, airline used and false declaration on the shipping document were identical: Ghana (as country of origin), Turkish Airlines (as the method of transport) and oyster shell (declaration of goods). The similarities





◀ Fig. 1.

### Summary of African pangolin seizures in Malaysia, May–August 2017.

of the two shipments suggest that they might have been part of a single export deal from Ghana which was packed separately (in 12 and 16 boxes) as a means of transporting smaller volumes into Malaysia. In the five seizures involving air transportation, Malaysia was the reported end destination. In late July 2017, the Ghanaian authorities reportedly arrested three members of a wildlife trafficking syndicate who admitted smuggling pangolin scales to Malaysia (Bokpe, 2017). The media report stated that an accomplice in Nigeria was involved in shipping the scales from Ghana to Malaysia, and that a Chinese national was involved in the smuggling; it is unknown if this arrest refers to either one or both of the Ghana–Malaysia pangolin scale shipments that took place in June. This case points to a clear need to investigate the links between the individuals and countries involved in the trade chain.

Notably, in July 2017 Sabah Customs reported the seizure of 8000 kg of pangolin scales at Sepanggar Port in Kota Kinabalu, though the origin of the shipment has not been made public; authorities have not ruled out that this shipment—Malaysia’s largest pangolin scales seizure to date—could have originated from the African continent (Vanar, 2017). Investigations into this shipment, which arrived in Malaysia in 226 sacks each weighing between 30–50 kg, are ongoing, including efforts to conduct forensic DNA tests on the seized scales (Chan, 2017; Vanar, 2017). If this shipment is confirmed to have originated in Africa, Malaysia would be implicated in a minimum of 14 694 kg of African pangolin scales from seven shipments within a four-month period. Significantly, it highlights that Sepanggar Port in Sabah could potentially emerge as an important transit point for wildlife commodities from Africa being

smuggled through Malaysia, and requires continued vigilance: at least 13 000 kg of pangolin scales have been seized in Sepanggar Port alone, representing 86% of all the pangolin seizures described in this article. A seizure of 5000 kg of African pangolin scales in late August 2017 from Nigeria also included 3000 kg of ivory (Chan, 2017; TRAFFIC, 2017c; Vanar, 2017). In both the Sabah seizures, two local men, including one who owned the company that was reportedly shipping the scales to China, were arrested to aid with investigations (Chan, 2017; Avila, 2017; TRAFFIC, 2017c; Vanar, 2017). Investigations into these sea port seizures are ongoing and authorities have not yet confirmed if Malaysia was the end destination, or used as a transit route to other locations in the region. On the other hand, Malaysia was listed as the end destination in the five shipments of pangolin scales that originated from the DRC and Ghana, which were seized at the airports. The nature and scale of the seizures coupled with the fact the Malaysia does not possess an active market for these products, suggest that there may be parties in Malaysia functioning as consolidators and / distributors or redistributors of pangolin scales to other destinations in the region; further investigations are critical to improve understanding of the situation and to tackle associated problems effectively.

Besides these cases described above, at least four other significant seizures of African pangolin scales have taken place since 2014 involving Malaysia as part of the trade chain; these collectively amounted to more than 8000 kg of scales. In May 2014, Hong Kong Customs seized a container with 1000 kg of pangolin scales that came from Kenya via Malaysia but originated in Uganda (Anon, 2014b; CITES, 2016a). Days later, Hong Kong Customs again seized another container of

pangolin scales from Cameroon that had travelled via Malaysia, weighing 2340 kg. Authorities believed that the two shipments were connected and later arrested a Malaysian businessman in connection to the cases, the outcome of which is unknown (Anon, 2014b). In August 2015, Customs at the Da Nang port in Viet Nam seized 4002 kg of pangolin scales that were shipped together with 1023 kg of ivory (TRAFFIC; 2015; Heinrich *et al.* 2016). This shipment was reportedly from Malaysia; however, given that it was mixed with African Elephant *Loxodonta africana* ivory, it is likely that it originated from the African continent and had transited Malaysia prior to arrival in Viet Nam. Finally, in December 2016, it was reported that 670 kg of African pangolin scales had been seized in Cameroon, reportedly destined for Malaysia (VOA News, 2016).

## CONCLUSIONS

These incidents highlight the fact that Malaysia is being used as a transit point for pangolins—scales in particular—adding another group of CITES Appendix I-listed species being shipped from Africa through Malaysia. These seizures also draw attention to the fact that Malaysia's role involves large volumes being sent via containerized shipments by sea as well as smaller-scale shipments of pangolin scales transported by air. Seizures, and related enforcement actions, by the Malaysian authorities send a clear signal of the country's commitment to tackling illegal trade. The international nature of these smuggling efforts, however, clearly calls for increased international co-operation to combat this trade, and is an opportunity to make full use of the CITES partnership and obligations. This is particularly needed to unravel links between operators in Malaysia, such as the two men arrested in connection with the seizures in Sabah, and other countries along the trade chain; the smugglers have used fictitious names and local addresses on the shipping documentation in an attempt to evade detection.



KANITHA KRISHNASAMY / TRAFFIC

**Pangolin scales seizure by the Royal Malaysian Customs in July 2017.**

Collaboration between airlines and logistics companies and law enforcement agencies such as Customs and Immigration is necessary as they hold key intelligence on the syndicates moving pangolin scales across continents and can greatly aid in any investigations. Ultimately, through collaborative efforts that lead both to seizures and to the arrest and successful prosecution of criminals, Malaysia can remove itself from being one of the transit countries of choice in South-east Asia for pangolins or other illicit wildlife coming from Africa to Asia.

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## REFERENCES

- Anon. (2014a). HK Customs seizes pangolin scales in container from South Africa. Press Release: 28 May: <http://www.info.gov.hk/gia/general/201405/28/P201405280905.htm>.
- Anon. (2014b). HK Customs foils largest suspected attempted smuggling of pangolin scales in recent years. Press Release: 16 June. <http://www.info.gov.hk/gia/general/201406/16/P201406160724.htm>.
- Anon. (2017). Sabah minister decries wildlife poachers as 'traitors'. *The Malay Mail* (Malaysia): 4 August. <http://www.themalaymailonline.com/malaysia/article/sabah-minister-decries-wildlife-poachers-as-traitors#rt08llohGBvsPZZE.97>.
- Arumugam, T. (2015). Endangered wildlife species on the plate. *New Straits Times*. <https://www.nst.com.my/news/2015/12/117382/endangered-wildlife-species-plate>.
- Avila, G. (2017). Sabah customs bust RM103 million pangolin scale smuggling attempt. *The News Straits Times* (Malaysia). 11 August. <https://www.nst.com.my/news/crime-courts/2017/08/266594/sabah-customs-bust-rm103-million-pangolin-scale-smuggling-attempt>.
- Bokpe, S. J. (2017). 3 arrested for exporting endangered pangolin scales. *The Graphic Online* (Ghana). 5 August. <http://www.graphic.com.gh/news/general-news/3-arrested-for-exporting-endangered-pangolin-scales.html>.
- Challender, D., Nguyen Van, T., Shepherd, C.R., Krishnasamy, K., Wang, A., Lee, B., Panjang, E., Fletcher, L., Heng, S., Seah Han Ming, J., Olsson, A., Nguyen The Truong, A., Nguyen Van, Q. and Chung, Y. (2014). *Manis javanica*. <http://dx.doi.org/10.2305/IUCN.UK.2014-2.RLTS.T12763A45222303.en>.
- Challender, D. and Hywood, L. (2012). African pangolins under increased pressure from poaching and intercontinental trade. *TRAFFIC Bulletin* 24(2):53–55.

- Chan, J. (2017). Customs seizes record 8000 kg pangolins scales worth RM100m. *The Malay Mail Online* (Malaysia). 11 August. <http://www.themalaymailonline.com/malaysia/article/customs-seizes-record-8000kg-pangolin-scales-worth-rm100m-in-sabah#7Egr1j8MWkTr9SF.97>.
- Cheng, W., Xing, S. and Bonebrake, T.C. (2016). Recent pangolin seizures in China reveal priority areas for intervention. *Conservation Letters*. January 2017, 1–8. doi: 10.1111/conl.12339.
- CITES (2016a). Consideration of Proposals for Amendment of Appendices I and II. CoP17 Prop. 11. Seventeenth meeting of the Conference of the Parties, Johannesburg (South Africa), 24 September–5 October 2016. Geneva, Switzerland.
- CITES (2016b). Consideration of Proposals for Amendment of Appendices I and II. CoP17 Prop. 12. Seventeenth meeting of the Conference of the Parties, Johannesburg (South Africa), 24 September–5 October 2016. Geneva, Switzerland.
- Gomez, L., Leupen, B.T.C. and Tian, K.H. (2016). The trade of African pangolins to Asia: a brief case study of pangolin shipments from Nigeria. *TRAFFIC Bulletin* 28(1):3–5.
- Heinrich, S., Wittmann, T.A., Prowse, T.A.A., Ross, J.V., Delean, S., Shepherd, C.R. and Cassey, P. (2016). Where did all the pangolins go? International CITES trade in pangolin species. *Global Ecology and Conservation* 8(2016):241–253.
- Heinrich, S., Wittmann, T.A., Ross, J.V., Shepherd, C.S. Challenger, D.W.S. and Cassey, P. (in prep). The Global Trafficking of Pangolins: A Comprehensive Analysis of Seizure Frequencies and Trafficking Routes.
- Krishnasamy, K. (2016). *Malaysia's invisible ivory channel: An assessment of ivory seizures involving Malaysia from January 2003–May 2014*. TRAFFIC, Southeast Asia Regional Office, Petaling Jaya, Selangor, Malaysia.
- Latiff, R. (2017). *Malaysia seizes \$3.1million worth rhino horns at airport*. Reuters. 10 April. <http://www.reuters.com/article/us-malaysia-trafficking-wildlife/malaysia-seizes-3-1-million-worth-of-rhino-horns-at-airport-idUSKBN17C013>.
- Milliken, T., Underwood, F.M., Burn, R.W. and Sangalakula, L. (2013). *Interpretation and implementation of the Convention Species trade and conservation Elephants: Monitoring of illegal trade in ivory and other elephant specimens*. CoP16 Doc. 53.2.2 (Rev. 1). Gland, Switzerland.
- Milliken, T. (2014). *Illegal Trade in Ivory and Rhino Horn: an Assessment Report to Improve Law Enforcement Under the Wildlife TRAPS Project*. USAID and TRAFFIC.
- Milliken, T., Underwood, F.M., Burn, R.W. and Sangalakula, L. (2016). *The Elephant Trade Information System (ETIS) and the Illicit Trade in Ivory: A report to the 17th meeting of the Conference of the Parties to CITES*. CoP17 Doc. 57.6 (Rev. 1). Gland, Switzerland.
- Moore, J. (2017). Thailand seizes record haul of pangolin scales intended for trafficking. *Newsweek* (US). 2 February: <http://www.newsweek.com/thailand-seizes-record-haul-pangolin-scales-intended-trafficking-551767>.
- Nijman, V. (2015). Pangolin seizures data reported in the Indonesian media. *TRAFFIC Bulletin* 25(2):44–46.
- Pantel, S. and Anak, N.A. (2010). *A preliminary assessment of pangolin trade in Sabah*. TRAFFIC Southeast Asia, Petaling Jaya, Selangor, Malaysia.
- TRAFFIC (2010). *Hundreds of Malagasy tortoises seized in Malaysia*. Press Release: 16 July. <http://www.traffic.org/home/2010/7/16/hundreds-of-malagasy-tortoises-seized-in-malaysia.html>.
- TRAFFIC (2015). *Spotlight on Da Nang as new conduit in global ivory trafficking*. Press Release: 24 September.
- TRAFFIC (2017a). *Malaysian Customs make large seizure of threatened Malagasy tortoise*. Press Release: 15 May. <http://www.traffic.org/home/2017/5/15/malaysian-customs-make-large-seizure-of-threatened-malagasy.html>.
- TRAFFIC (2017b). *18 rhino horns seized by Malaysian Customs*. Press release: 10 April. <http://www.traffic.org/home/2017/4/10/18-rhino-horns-seized-by-malaysian-customs.html>.
- TRAFFIC (2017c). *Malaysian enforcement blazes a sizzling trail with a spate of high profile wildlife seizures*. Press release: 11 September. <http://www.traffic.org/home/2017/9/11/malaysian-enforcement-blazes-a-sizzling-trail-with-a-spate-o.html>.
- Tuuga, A. (2009). *Pangolin trade in Sabah, Malaysia*. In: Pantel, S. and Chin, S.Y. (eds). *Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia*, 30 June–2 July 2008, Singapore Zoo, Singapore. TRAFFIC Southeast Asia, Petaling Jaya, Selangor, Malaysia.
- Vanar, M. (2017). Where did that 8000 kg of pangolin scales come from? *The Star* (Malaysia). 12 August. <http://www.thestar.com.my/news/nation/2017/08/12/where-did-that-8000kg-of-pangolin-scales-come-from/>.
- VOA News (2016). Cameroon seizes 670 kg of pangolin bound for Malaysia. *Voice of America* (Africa). December 21: <http://www.voanews.com/a/cameroon-seizes-670kg-of-pangolin-bound-for-malaysia/3645268.html>.
- Wu, S.B. and Ma, G.Z. (2007). The status and conservation of pangolins in China. *TRAFFIC East Asia Newsletter* 4:1–5.
- Wu, S.B., Liu, N.F., Zhang, Y.M. and Ma, G.Z. (2004). Assessment of threatened status of Chinese Pangolin (*Manis pentadactyla*). *Chin. J. App. Env. Biol.* 10:456–461.
- Xu, L., Guan, J., Lau, W. and Xiao, Y. (2016). An overview of pangolin trade in China. *TRAFFIC Briefing Paper*, TRAFFIC, Cambridge, UK.
- Yuen, M.K. (2013). Outlet in hot water over exotic menu. *The Star* (Malaysia): 22 August. <http://www.thestar.com.my/news/nation/2013/08/22/outlet-in-hot-water-over-exotic-menu-restaurant-serves-bears-foot-and-tapirs-nose/>.
- Zhang, L. and Yin, F. (2014). Wildlife consumption and conservation awareness in China: a long way to go. *Biodiversity Conservation* 23:2371–2381.
- Zhou, V. (2016). Tonnes of endangered pangolins' scales seized in Shanghai. *South China Morning Post* (China): 28 December: <http://www.scmp.com/news/china/society/article/2057626/tonnes-endangered-pangolins-scales-seized-shanghai>.

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Report by Rosa A. Indenbaum and Thuy Nguyen

Products such as teas, lotions, medicines, perfumes and even confectionery use wild medicinal and aromatic plant (MAP) ingredients from countries around the world. However, most people do not know or even consider how many of their day-to-day products contain wild plants, let alone how and from where those ingredients were sourced.

In many source countries, a harvester attempting to make a living from harvesting, supplying and trading wild-collected MAPs is at a disadvantage in comparison to people further along the supply chain. When working alone, the harvesters have less negotiating power for market access and a fair price, and may not necessarily be harvesting sustainably because they need the income within a short timeframe. Additionally, individuals are vulnerable to buyers who may terminate product orders or withhold payments placing in jeopardy the harvester's already low annual income. Meanwhile, harvesting sustainably can provide a steady and reliable income with potentially increased profits; moreover, the harvesters can select the type and volume of MAPs that they know they can sell.

Since 2011, TRAFFIC has been working in northern Viet Nam with the Forest Protection Department (FPD) of Bac Kan province, the provincial law enforcement and resource management agency responsible for forest protection, to promote the sustainable trade of MAPs. This effort has focused not only on the biological sustainability of the MAP resources harvested and traded, but also on seeking equitable business practices between pharmaceutical companies and local harvesters, following the principles of the FairWild Standard—a framework established to guide best practice in sustainable wild-harvesting and equitable trade in wild plants. The FairWild system aims to improve the economic and social position of wild harvesters, through supporting the formation of collectors' associations, ensuring fair pricing and payment of collectors, and

## MEMBERSHIP IN COMMUNITY WHY IS IT IMPORTANT?

encouraging the use of transparent cost calculations as the basis of price negotiations. In December 2016–January 2017, a consultant contracted by TRAFFIC evaluated the mid-term impacts of the three-year project, which were summarized in a Mid-Term Evaluation Report. The report demonstrated that this project has fostered a sense of empowerment in the harvesters through teamwork and the strengthening of their ownership over local resources.

As part of the project and driven by the interest of the communities, TRAFFIC facilitated the formation of two local collection co-operatives (formal, certified by the provincial governing body) and 14 local groups (informal, with no legal status) of MAPs harvesters and processors that aim to protect the economic interests of their members and generate positive social changes in the communities. By linking the co-operatives and groups to pharmaceutical companies, local harvesters have gone from sporadic harvesting to planned harvesting periods that align with the marketing and manufacturing plans of the companies.

Almost all the members of the co-operatives and groups are women from the Dao, Tay, Nung and H'Mong ethnic minority groups. During the course of the project, training workshops have been held on practical skills such as sustainable harvesting techniques, MAPs species identification, and book-keeping. The project has brought harvesting techniques in line with the FairWild Standard's sustainability principles, and connected local collectors with pharmaceutical companies in Hanoi who will buy their harvested products, with the aim of increasing and stabilizing the local income from MAPs.

As the project enters its last year, the positive social impacts and economic benefits generated by the co-operatives and groups are becoming even more evident. The community-led co-operatives and groups have empowered local harvesters in many different ways. For example, information collected from interviews with the harvesters showed that there is now greater solidarity amongst villagers and the members have embraced the value of MAPs in their communities, while their increased understanding of market opportunities enables them to be more confident in meetings and in negotiations with companies. Local collectors are also becoming proactively involved in the protection of the MAPs in their own communities, particularly in Nam Xuan Lac Species and Habitat Conservation Area and in Kim Hy Nature Reserve where the collectors are readily co-operating with rangers from the forest protection departments.



CUONG NGUYEN

◀ **Female collectors en route for training on sustainable harvesting of Jiaogulan *Gynostemma pentaphyllum* and other MAPs, in Khuoi Lung village, Ba Be district.**

## CO-OPERATIVES AND GROUPS:



HTTPS://CREATIVECOMMONS.ORG/LICENSES/BY-SA/3.0/

Location of Bac Kan province (in red), Viet Nam.

The project played a key role in the facilitation of knowledge exchange between the co-operative and group members and companies interested in purchasing MAPs. While the purpose of these knowledge exchanges has been to increase the negotiating skills of—and market access for—the co-operatives and groups, members have simultaneously been empowered by engaging with like-minded people, including harvesters from other provinces and buyers interested in high-quality products. DK Natura, a local pharmaceutical company, has signed long-term contracts with the Bao Chau and the Nam Xuan Lac co-operatives for the medicinal herb *Jiaogulan Gynostemma pentaphyllum*. These multi-year contracts have established a set price for the product and provide a steady income for the co-operative members.

▶ **Training being given on sustainable harvesting and MAPs management practices, Na Leng village, Na Ri district.**

One individual, Mr Huong, the leader of the Nam Xuan Lac group, said that he had never imagined himself to be self-employed from collecting and selling MAPs. After a visit to a pharmaceutical company in another province owned by a local man from the Dao minority, and observing the financial success from the trade in medicinal herbs there, Mr Huong, of the Tay minority, gained confidence in himself and the collectors in his village and is determined to seek the same results for his collector group in Nam Xuan Lac.

The long-lasting impact of this project is closely tied to conveying the importance of sustainability for the target MAPs harvesting communities by also implementing and improving sustainable harvesting skills. In Bac Kan, the co-operative and group members have a renewed sense of ownership over the MAPs in their communes as valuable assets and are consequently promoting the importance of sustainable harvesting, not only for conservation but also for the community itself. The latest review of the project found that the local collectors now believe that they can successfully trade MAPs using sustainable harvesting methods and this will be further monitored and evaluated during the course of the project. The empowerment of the low-income wild-harvesting households from an economic and social perspective is one of the most successful outcomes of the project. It demonstrates how improving sustainable practices and community livelihoods are mutually beneficial and highlights the importance of both the social and economic value derived from these activities.

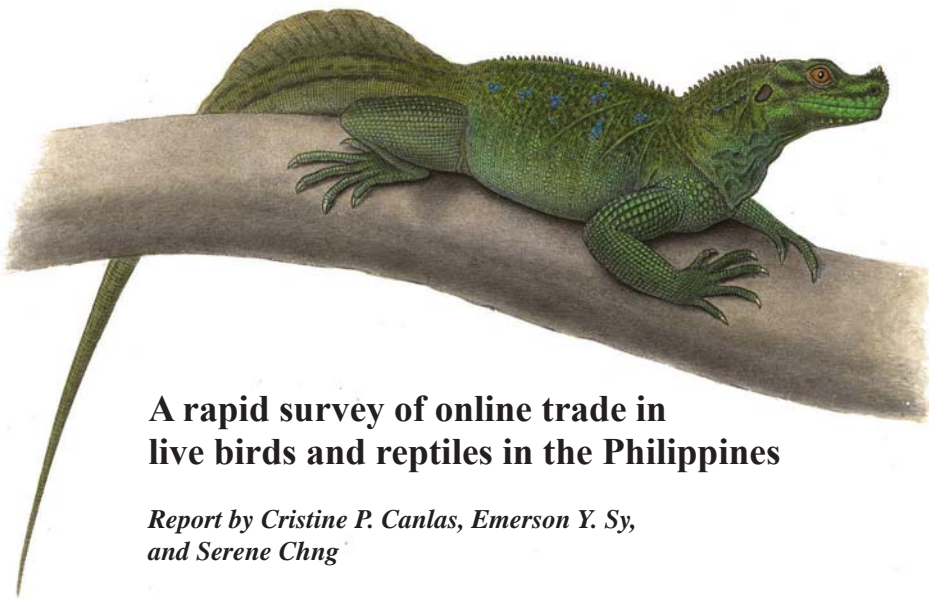
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CUONG NGUYEN



## A rapid survey of online trade in live birds and reptiles in the Philippines

Report by *Cristine P. Canlas, Emerson Y. Sy, and Serene Chng*

### INTRODUCTION

The Philippines is the second largest archipelago in the world comprising 7641 islands and is both a mega-biodiverse country for harbouring wildlife species found nowhere else in the world, and one of eight biodiversity hotspots having a disproportionate number of species threatened with extinction; further, it has some of the highest rates of endemism in the world (Myers *et al.*, 2000). The illegal wildlife trade is one of the main reasons behind significant declines of some wildlife populations in Asia, including the Philippines (Anon., 2001; Sodhi *et al.*, 2004; Nijman and Shepherd, 2007; Diesmos *et al.*, 2012; Rao *et al.*, 2014). The *Wildlife Act* of 2001 (*Republic Act No. 9147*) provides legal protection from trade to all native and non-native species in the Philippines, but in spite of the existing national regulatory safeguards, covert illegal wildlife trade is widespread (Sy, 2015a; Sy, in press).

Online commerce and networking platforms are emerging as the preferred alternatives to physical markets for trade in illegal wildlife; studies have been conducted to examine the prevalence of wildlife trade occurring in the popular social media site Facebook (Chng and Bouhuys, 2015; Sy, 2015b; Krishnasamy and Stoner, 2016; Nguyen and Willemsen, 2016; Sy, in press). Such a study has not yet been conducted for birds in the Philippines and this survey was therefore carried out to provide a snapshot of online bird and reptile trade in a given month in the Philippines.

### METHODS

A rapid online survey was undertaken between 6 and 28 February 2017 (17 days; approximately 4 hours/survey day) on 20 pre-selected Facebook groups specializing in the trade of live pets. Ten groups each for reptiles and birds were selected based on trading activities in the previous six months. The survey was carried out during week days (Monday to Friday) by going through each advertisement posted in the groups. Information, including that relating to species, quantity, and asking price, was noted. Species were identified to the lowest taxonomic level whenever possible. Taxonomy follows Gill and Donsker (2017) for birds and Uetz *et al.* (2017) for reptiles. The authors calculated the total potential value offered for birds and reptiles based on prices indicated by traders. Advertisements that did not specify prices were assigned the lowest known price for each taxon. Valuations in this report were based on a conversion rate of USD1=PHP50.1850 (Anon., 2017). It is not always possible during online surveys to verify that all offers are genuine.

### RESULTS

Researchers recorded a total of 700 advertisements involving 100 taxa (birds = 49; reptiles = 51) (Table 1–3) and 1623 live individuals posted in February 2017 by 494 unique Facebook traders' accounts (Table 1). Traders seemed to specialize in their specific faunal group as only one trader was documented to offer both birds and reptiles. All information collected that might indicate illegal activity was shared with relevant wildlife authorities and with Facebook for follow-up action.

	Bird	Reptile	Total
Advertisement	422	278	700
Taxon	49	51	100
Minimum number of individuals advertised	1166	457	1623
Number of unique traders	288	207	494*
Advertisements with price	269	198	467
Advertisements without price	153	80	233
Minimum potential value in PHP	4 734 570	2 759 699	7 494 269
Minimum potential value in USD	94 342	54 991	149 333

**Table 1. Live birds and reptiles offered for sale in February 2017 in 20 pre-selected Philippines Facebook groups.**

\*One trader offered both birds and reptiles.

## BIRDS

A total of 288 unique Facebook traders' accounts posted 422 advertisements representing 49 taxa and 1166 birds. Approximately 98% of the advertised birds were juveniles; many were fledglings, but some were nestlings. Their minimum potential value, if sold, was estimated to be PHP4734 570 (USD94 342). Parrots (Psittaciformes) were the most traded taxa, with 1042 individuals of 23 species recorded. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix I-listed Palm Cockatoo *Probosciger aterrimus*, a non-native species, was the most expensive bird documented in this study, with an asking price of PHP137 000 (USD2730).

### Non-native Birds

The trade in non-native birds dominated trade, representing 97% all birds offered for sale at a minimum of 1130 individuals. These originated from 34 species of the 49 bird taxa recorded. Consequently, the top ten most traded birds, representing 1002 individuals (86%), were all non-native species and commonly kept and bred in captivity to supply the pet trade. For all other non-native species advertised, the authors deduce that some are being bred in registered Philippine commercial breeding facilities or by unregistered private breeders, or wild-caught and smuggled in, especially where advertised birds were in poor condition. It is a common practice of registered commercial farms to buy illegally from unregistered breeders/smugglers and declare such wildlife individuals as part of the farms' legal production.

Five species recorded have been assessed as Threatened or Near Threatened by the IUCN Red List (Table 2). Two species, Grey Parrot *Psittacus erithacus* (42 individuals) and Palm Cockatoo (four individuals), are both listed in CITES Appendix I, which means that international commercial trade in wild specimens is prohibited. While Grey Parrots are bred extensively in captivity by aviculturalists internationally, including in the Philippines, the Palm Cockatoos in the market are most likely wild-caught and smuggled (Sy, 2010). Another 789 individuals of 16 species are listed in CITES Appendix II, which means their trade is regulated (Table 2).

### Native and Endemic Birds

Only 3% of the number of birds advertised for sale were native (15 species), but these are of potential conservation concern as seven species are endemic to the Philippines; two species assessed by IUCN as being of conservation concern are the Philippine Hawk-eagle *Nisaetus philippensis* (Endangered) and the Luzon Scops Owl *Otus longicornis* (Near Threatened). It is suspected that all native and endemic birds advertised are sourced from the wild, based on the fact that there are no commercial captive breeding operations for these species. Furthermore, the photographs posted online show birds that are in poor condition and many of these species can be easily trapped or collected from nests. Some traders are also reported to have the capacity to ship illegal wildlife nationwide and even smuggle native species out of the country (Agence France-Presse, 2016).

Also of particular interest are the birds of prey, comprising Strigiformes, Accipitriformes, and Falconiformes. Although only a small number were traded online (18 individuals of eight species), these were all native and some endemic, and included the endemic Philippine Hawk-eagle offered for PHP15 000 (USD299) by one trader. The authors have observed a recent surge in interest in the trade in raptor nestlings, used particularly for free-flying activities by private enthusiasts, and it is likely that an additional underground market exists offline.

## REPTILES

A total of 207 unique Facebook traders' accounts posted 278 advertisements representing 51 taxa, representing 457 individual reptiles (Table 1). This comprised 13 lizard species (189 individuals), 20 snake species (182), 17 chelonian species (84), and one crocodylian species (2) (Table 3). In terms of species composition, 34 were non-native (333 individuals; 73%), six were native (74; 16%), and 11 were endemic taxa (50; 11%). The minimum potential value of traded reptiles in the study period was PHP2 759 699 (USD54 991) (Table 1). The most expensive reptile offered for sale was the Asian Giant Tortoise *Manouria emys* (one individual) with an asking price of PHP300 000 (USD5979).

The top ten most traded reptile taxa represented 347 individuals or 76% of the total quantity (Table 3). Of these, seven taxa (268 individuals) were non-native, but commonly bred in commercial quantities, while three taxa (78) were native/endemic.

### Non-native Reptiles

One Critically Endangered and CITES Appendix I-listed species—the Radiated Tortoise *Astrochelys radiata*—was observed for sale. Although a few enthusiasts were granted an amnesty for wildlife obtained illegally during the initial implementation stage of the *Wildlife Act* in 2004–2005 (Sy, in press), the four juvenile Radiated Tortoises observed for sale were most likely recently smuggled into the Philippines since no importations of this species have been permitted since the Philippines became a Party to CITES in 1981 (Sy, 2015b). The species has also been observed to be traded online in other countries in the region such as Thailand, Malaysia, and Indonesia (Nijman and Shepherd, 2007; Krishnasamy and Stoner, 2016; Morgan, in review). Three species assessed by IUCN as Endangered were observed for sale, namely, Asian Giant Tortoise, Chinese Pond Turtle *Mauremys reevesii*, and Chinese Stripe-necked Turtle *M. sinensis*. While there is no legal import record for the Chinese Pond Turtle and Chinese Stripe-necked Turtle from 2000–2016 (CITES trade database; BMB, unpubl. data), both species are commonly available in the physical markets and are being smuggled regularly by the hundreds in legal shipments of ornamental fish (Sy, 2015a; Sy, unpubl. data).

### Native and Endemic Reptiles

As is the case with the bird species, most if not all of the native and endemic reptile species being offered for sale were likely sourced illegally from the wild. Some

Taxon	# Individuals	CITES / IUCN	Native (A), Endemic (B) or Non-native (C)
Fischer's Lovebird <i>Agapornis fischeri</i>	367	II / NT	C
Yellow-collared Lovebird <i>Agapornis personatus</i>	248	II / LC	C
Budgerigar <i>Melopsittacus undulatus</i>	74	NL / LC	C
Cockatiel <i>Nymphicus hollandicus</i>	72	NL / LC	C
Zebra Finch <i>Taeniopygia guttata</i>	47	NL / LC	C
Pacific Parrotlet <i>Forpus coelestis</i>	46	II / LC	C
Sun Parakeet <i>Aratinga solstitialis</i>	43	II / NA	C
Grey Parrot <i>Psittacus erithacus</i>	42	I / EN	C
Rose-ringed Parakeet <i>Psittacula krameri</i>	38	NL / LC	C
Rosy-faced Lovebird <i>Agapornis roseicollis</i>	25	NL / LC	C
Green-cheeked Parakeet <i>Pyrrhura molinae</i>	21	II / LC	C
Rock Dove <i>Columba livia</i>	14	NL / LC	C
Eclectus Parrot <i>Eclectus roratus vosmaeri</i>	14	II / NA	C
Java Sparrow <i>Lonchura oryzivora</i>	11	II / VU	C
White Cockatoo <i>Cacatua alba</i>	9	II / EN	C
Sulfur-crested Cockatoo <i>Cacatua galerita</i>	9	II / LC	C
Monk Parakeet <i>Myiopsitta monachus</i>	8	NL / NA	C
Pink-necked Green Pigeon <i>Treron vernans</i>	6	NL / LC	A
Crested Myna <i>Acridotheres cristatellus</i>	5	NL / LC	C
Blue-and-yellow Macaw <i>Ara ararauna</i>	4	II / LC	C
Golden Pheasant <i>Chrysolophus pictus</i>	4	NL / LC	C
Luzon Scops Owl <i>Otus longicornis</i>	4	II / NT	B
Palm Cockatoo <i>Probosciger aterrimus</i>	4	I / LC	C
Rose-fronted Parakeet <i>Pyrrhura roseifrons</i>	4	II / LC	C
Rainbow Lorikeet <i>Trichoglossus moluccanus</i>	4	II / LC	C
Eastern Grass Owl <i>Tyto longimembris amauronota</i>	4	II / NA	B
Black-headed Parrot <i>Pionites melanocephalus</i>	3	II / LC	C
Mandarin Duck <i>Aix galericulata</i>	2	NL / LC	C
Wood Duck <i>Aix sponsa</i>	2	NL / LC	C
Little Corella <i>Cacatua sanguinea</i>	2	II / LC	C
Nicobar Pigeon <i>Caloenas nicobarica</i>	2	NL / NA	A
Common Emerald Dove <i>Chalcophaps indica</i>	2	NL / LC	A
Black Lory <i>Chalcopsitta atra</i>	2	II / LC	C
Asian Koel <i>Eudynamis scolopaceus</i>	2	NL / LC	A
Peregrine Falcon <i>Falco peregrinus</i>	2	I / LC	A
Brahminy Kite <i>Haliastur indus</i>	2	II / LC	A
Silver Pheasant <i>Lophura nycthemera</i>	2	NL / LC	C
Chattering Lory <i>Lorius garrulus</i>	2	II / VU	C
Philippine Falconet <i>Microhierax erythrogenys</i>	2	II / LC	B
Coledo <i>Sarcops calvus</i>	2	NL / LC	B
Philippine Serpent Eagle <i>Spilornis holospilus</i>	2	NL / LC	B
Grey-faced Buzzard <i>Butastur indicus</i>	1	II / LC	A
Coucal <i>Centropus</i> sp.	1	NL / LC	A
Diamond Dove <i>Geopelia cuneata</i>	1	NL / LC	C
Palawan Hill Myna <i>Gracula religiosa palawanensis</i>	1	NL / NA	B
Star Finch <i>Neochmia ruficauda</i>	1	NL / LC	C
Philippine Hawk-eagle <i>Nisaetus philippensis</i>	1	II / EN	B
Black-naped Oriole <i>Oriolus chinensis</i>	1	NL / LC	A
Blue-naped Parrot <i>Tanygnathus lucionensis</i>	1	II / NT	A

**Table 2. Live birds offered for sale in 10 pre-selected Facebook groups.**

NL = Not Listed; NA = Not Assessed; DD = Data Deficient; LC = Least Concern; NT = Near Threatened; VU = Vulnerable; EN = Endangered; CR = Critically Endangered





Fig. 1.

**Seller offering an Eastern Grass Owl *Tyto longimembris amauronota* chick in exchange for a captive-bred female Reticulated Python *Malayopython reticulatus* morph.**

of the indicators of wild-caught specimens include poor condition, routine availability of individuals in domestic black markets, few facilities in the country that breed them for commercial purposes, and the low asking prices. The Philippine endemic species such as the Philippine Sailfin Lizard *Hydrosaurus pustulatus*, Philippine Keeled Water Skink *Tropidophorus grayi*, Marbled Water Monitor Lizard *Varanus marmoratus*, Variable Paradise Tree Snake *Chrysopelea paradisi variabilis*, Luzon Red-tailed Rat Snake *Coelognathus erythrurus manillensis*, and Luzon Bronzeback Snake *Dendrelaphis luzonensis* were each offered for sale at PHP1000 (USD20) or less. These endemic species are also of potential conservation concern; according to the IUCN Red List, the Philippines Sailfin Lizard is assessed as Vulnerable and the Philippine Forest Dragon species complex (currently recognized as *Gonocephalus sophiae*) as Data Deficient, although the updated Philippine National Red List that is currently being finalized lists the latter species in the category of Other Threatened Species owing to poaching and illegal trade (Biodiversity Management Bureau, in prep.).

## DISCUSSION AND CONCLUSION

The vast majority of birds and reptiles found in this rapid assessment are commonly bred in captivity. Among the 20 most traded taxa (for reptiles and birds), 18 were non-native species, widely bred in captivity throughout the country, and represented 1292 individuals (80%). This clearly illustrates the popularity of non-native species among enthusiasts as shown by previous studies (Sy, 2015a; Sy, 2015b; Sy, in press). However, under the Philippine wildlife law, it is illegal to possess and trade wildlife, captive-bred or wild-caught, without corresponding permits from the BMB. Two of the non-native CITES I-listed species observed during this study, Radiated Tortoise (four individuals) and Palm Cockatoo (four) are extremely unlikely to be captive-bred within the Philippines for domestic trade and may in fact represent illegally procured and/or smuggled wild-caught individuals. Although there are a few registered commercial farms with Palm Cockatoo parental stocks, reported captive-bred offspring are most likely destined for the more lucrative international bird market.

The demand for native and endemic wildlife in the domestic market is significantly less than for non-native species. In contrast, the demand in the international black market for Philippine endemic species is strong and lucrative for illegal traders. For instance, the endemic White-headed Water Monitor Lizard *Varanus nuchalis* and Cuming's Water Monitor Lizard *V. cumingi* can fetch between USD500–1000 per individual outside the country and a few enthusiasts are known to re-sell such animals internationally for high profit (TRAFFIC, unpubl. data).

Interestingly, there was almost no overlap between traders offering birds and reptiles. Hobbyists also appeared to specialize in a particular taxa (e.g. parrots or lizards), and may be unregistered breeders trying to sell offspring or resellers of smuggled wildlife.

Most of the traders appeared to be private individuals, and some of them offered to swap wildlife for other species (Fig. 1) or even other products. Social media has made it easy for such individuals to buy and sell wildlife conveniently and anonymously (Krishnasamy and Stoner, 2016; Nguyen and Willemsen, 2016; Sy, in

No. of arrests	No. of specimens seized	Species	Location	Date
4	58	Goffin's Cockatoo <i>Cacatua goffiniana</i>	Sarangani Province	7 May 2017
1	2	Philippine Serpent Eagle <i>Spilornis holospilus</i>	Metro Manila	25 June 2017
1	1	Gray's Monitor <i>Varanus olivaceus</i>	Cebu Province	14 July 2017
	1	Burmese Python <i>Python bivittatus</i>	"	"

**Box 1. Wildlife seizures in Metro Manila, Cebu Province and Sarangani Province, May to July 2017.**

Taxon	# Individuals	CITES / IUCN	Native (A), Endemic (B) or Non-native (C)
Leopard Gecko <i>Eublepharis macularius</i>	58	NL / LC	C
Burmese Python <i>Python bivittatus</i>	51	II / VU	C
Ball Python <i>Python regius</i>	47	II / LC	C
Bearded Dragon <i>Pogona vitticeps</i>	43	NL / NA	C
Reticulated Python <i>Malayopython reticulatus</i>	33	II / NA	A
Green Iguana <i>Iguana iguana</i>	32	II / NA	C
Southeast Asian Box Turtle <i>Cuora amboinensis</i>	31	II / VU	A
Veiled Chameleon <i>Chamaeleo calypttratus</i>	19	II / LC	C
Red-eared Slider <i>Trachemys scripta elegans</i>	19	NL / NA	C
Philippine Sailfin Lizard <i>Hydrosaurus pustulatus</i>	14	NL / VU	B
Marbled Water Monitor Lizard <i>Varanus marmoratus</i>	8	II / LC	B
Pacific Ground Boa <i>Candoia carinata</i>	7	II / NA	C
Philippine Yellow-spotted Pit Viper <i>Trimeresurus flavomaculatus</i>	7	NL / LC	B
Philippine Keeled Water Skink <i>Tropidophorus grayi</i>	7	NL / LC	B
Red-footed Tortoise <i>Chelonoidis carbonaria</i>	6	II / NA	C
Corn Snake <i>Pantherophis guttatus</i>	5	NL / NA	C
Radiated Tortoise <i>Astrochelys radiata</i>	4	I / CR	C
Indian Star Tortoise <i>Geochelone elegans</i>	4	II / VU	C
African Spurred Tortoise <i>Geochelone sulcata</i>	4	II / VU	C
Common Wolf Snake <i>Lycodon capucinus</i>	4	NL / LC	A
Red-tailed Boa <i>Boa constrictor</i>	3	II / NA	C
Variable Paradise Tree Snake <i>Chrysopelea paradisi variabilis</i>	3	NL / NA	B
Texas Rat Snake <i>Pantherophis obsoletus</i>	3	NL / LC	C
Green Red-tailed Rat Snake <i>Gonyosoma oxycephalum</i>	3	NL / LC	A
Luzon Smooth-scaled Mountain Rat Snake <i>Ptyas luzonensis</i>	3	NL / LC	B
Leopard Tortoise <i>Stigmochelys pardalis</i>	3	II / LC	C
Aldabra Tortoise <i>Aldabrachelys gigantea</i>	2	II / NA	C
Dog-toothed Cat Snake <i>Boiga cynodon</i>	2	NL / NA	A
Common Caiman <i>Caiman crocodilus</i>	2	II / LC	C
Pig-nosed Turtle <i>Carettochelys insculpta</i>	2	II / VU	C
Luzon Red-tailed Rat Snake <i>Coelognathus erythrurus manillensis</i>	2	NL / NA	B
Luzon Bronzeback Snake <i>Dendrelaphis luzonensis</i>	2	NL / NA	B
Japanese Rat Snake <i>Elaphe climacophora</i>	2	NL / NA	C
Philippine Forest Dragon <i>Gonocephalus sophiae</i>	2	NL / DD	B
Green Tree Python <i>Morelia viridis</i>	2	II / LC	C
Chinese Softshell Turtle <i>Pelodiscus sinensis</i>	2	NL / VU	C
Savannah Monitor Lizard <i>Varanus exanthematicus</i>	2	II / LC	C
Green Vine Snake <i>Ahaetulla prasina preocularis</i>	1	NL / NA	B
Common Snapping Turtle <i>Chelydra serpentina</i>	1	III / LC	C
Black Spiny-tailed Iguana <i>Ctenosaura similis</i>	1	NL / LC	C
Rainbow Boa <i>Epicrates cenchria</i>	1	II / NA	C
African Fat-tailed Gecko <i>Hemithconyx caudicinctus</i>	1	NL / LC	C
Asian Giant Tortoise <i>Manouria emys</i>	1	II / EN	C
Chinese Pond Turtle <i>Mauremys reevesii</i>	1	III / EN	C
Chinese Stripe-necked Turtle <i>Mauremys sinensis</i>	1	III / EN	C
Razor-backed Musk Turtle <i>Sternotherus carinatus</i>	1	NL / LC	C
Common Musk Turtle <i>Sternotherus odoratus</i>	1	NL / LC	C
Hermann's Tortoise <i>Testudo hermanni</i>	1	II / NT	C
Keel-scaled Pit Viper <i>Tropidolaemus subannulatus</i>	1	NL / LC	A
Argentine Red Tegu <i>Salvator rufescens</i>	1	II / NA	C
Cuming's Water Monitor Lizard <i>Varanus cumingi</i>	1	II / LC	B

**Table 3. Live reptiles offered for sale in 10 pre-selected Facebook groups.**

press). However, the BMB, in co-operation with various NGOs such as TRAFFIC, is resolved to address seriously the illegal wildlife trade issue. This is exemplified by recent arrests of at least six suspected illegal traders in Metro Manila, Cebu Province, and Sarangani Province and the seizure of a minimum of 62 animals between May and July 2017 (Box 1) (TRAFFIC, unpubl. data; Dumaboc and Padayhag, 2017).

It is essential that the wildlife supply channel via online platforms continues to be closely monitored and any suspected illegal activities reported to authorities for law enforcement action. Social media can be a powerful tool for social change and can be used more often in advocacy against illegal wildlife trade, in order to raise awareness amongst consumers to buy pets only from legal and sustainable sources. Tackling the illegal online wildlife trade requires concerted efforts among law enforcement agencies, social media platforms, and conservation NGOs. Towards this end, TRAFFIC's continuing engagement with the BMB in the Philippines and Facebook is a positive step in supporting this effort and helping to ensure that illegal activities on the platform are adequately monitored and tackled; a number of arrests and seizures over recent months is an encouraging demonstration of this closer collaboration.

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## REFERENCES

- Agence France-Presse (2016). NAIA cop held for smuggling rare animals. *Philippine Daily Inquirer*, 31 January 2016. Available at: <http://newsinfo.inquirer.net/760319/naia-cop-held-for-smuggling-rare-animals>.
- Anon. (2001). Philippine Cockatoo *Cacatua haematuropygia*. In: Collar, N.J., Andreev, A.V., Chan, S., Crosby, M.J., Subramanya, S., and Tobias, J.A. (eds). *Threatened birds of Asia: the BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- Anon. (2017). [www.oanda.com](http://www.oanda.com); viewed 28 February 2017.
- Chng, S.L. and Bouhuys, J. (2015). Indian Star Tortoises: Shop sales fall as internet trade increases. *TRAFFIC Bulletin* 27(2):73–78.
- Diesmos, A.C., Buskirk, J.R., Schoppe, S., Diesmos, M.L.L., Sy, E.Y. and Brown, R.M. (2012). *Siebenrockiella leytenensis* (Taylor 1920)—Palawan forest turtle, Philippine forest turtle. In: Rhodin, A.G.J., Pritchard, P.C.H., van Dijk P.P., Saumure, R.A., Buhlmann, K.A., Iverson, J.B. and Mittermeier, R.A. (eds). *Conservation Biology of Freshwater Turtles and Tortoises: a compilation project of the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group*. *Chelonian Research Monographs* 5:066.1–066.9.
- Dumaboc, F.M.D. and Padayhag, J.L. (2017). DENR-7 arrests 2 men for online sales of reptiles. *Cebu Daily News*, 15 July. <http://cebudailynews.inquirer.net/139579/denr-7-arrests-2-men-online-sales-reptiles>.
- Gill, F. and Donsker, D. (eds). (2017). *IOC World Bird List*, version 7.2. Viewed 27 July 2017. <http://www.worldbirdnames.org>.
- Krishnasamy, K. and Stoner, S. (2016). *Trading Faces: A Rapid Assessment on the Use of Facebook to Trade Wildlife in Peninsular Malaysia*. TRAFFIC Southeast Asia, Petaling Jaya, Selangor, Malaysia.
- Morgan, J. (in review). An assessment of tortoise and freshwater turtle trade in Jakarta, Indonesia, reveals an increase in non-native and CITES listed species. TRAFFIC, Kelana Jaya, Selangor, Malaysia.
- Myers, N., Mittermeier, R.A., Mittermeier, C.G., da Fonseca, G.A.B., and Kent, J. (2000). Biodiversity hotspots for conservation priorities. *Nature* 403:853–858.
- Nguyen, M. and Willemsen, M. (2016). A rapid assessment of e-commerce wildlife trade in Viet Nam. *TRAFFIC Bulletin* 28(2):53–55.
- Nijman, V. and Shepherd, C.R. (2007). Trade in non-native, CITES-listed, wildlife on Asia, as exemplified by the trade in freshwater turtles and tortoises (Cheloniidae) in Thailand. *Contributions to Zoology* 76(3):207–211.
- Rao, M., Duckworth, J.W., Roberts, R., and Shepherd, C.R. (2014). Averting the imminent extinction of south-east Asian vertebrate species: Asian Species Action Partnership (ASAP). *TRAFFIC Bulletin* 26(1):15–17.
- Sodhi, N.S., Koh, L.P., Brook, B.W., and Ng, P.K.L. (2004). Southeast Asian biodiversity: an impending disaster. *Trends in Ecology and Evolution* 19(12):654–660.
- Sy, E.Y. (ed.). (2010). Indonesian wildlife seized in Mindanao, Philippines. *Pets Unlimited* 6:3–4.
- Sy, E.Y. (2015a). *Turtles and tortoises in the Philippine pet trade*. Red Rhino Publishing, Manila, Philippines. 105 pp.
- Sy, E.Y. (2015b). Checklist of exotic species in the Philippine pet trade, II. Reptiles. *Journal of Nature Studies* 14(1):66–93.
- Sy, E.Y. (in press). *Trading Faces: Utilisation of Facebook to Trade Live Reptiles in the Philippines*. TRAFFIC, Kelana Jaya, Selangor, Malaysia.
- Uetz, P., Freed, P., and Hosek, J. (eds). 2017. *The Reptile Database*. Viewed 27 July 2017. <http://www.reptile-database.org>.

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## The Chi Initiative *Report by Madelon Willemssen*

**A**iming to reduce the number of rhinos being killed for their horn, TRAFFIC and partners are trying to reduce consumer demand for horn in Viet Nam through the application of a five-step process for behaviour change. This evidence-based process includes consumer research into the motivations and practices around consumption and engages behaviour change theories and practices to develop, deliver and evaluate the impact of targeted messages directed at rhino horn consumers.

Specific behaviours in Viet Nam over the past five years have principally related to rhino horn consumption to demonstrate social status, as a hangover cure, and the offering of horn as a gift. Formative research in 2012 found that 4% of a sample of 600 respondents from Hanoi and Ho Chi Minh City (HCMC) reported previously buying, using or offering rhino horn as a gift (TRAFFIC, 2013).

As part of the five-step process, a “consumer archetype”, later dubbed “Mr L”, was generated; this synthesized the key characteristics, psycho-demographics and socio-economic signifiers for the main consumer group in order to help development of specific social marketing messaging. Mr L is 35–55 years old, married with children and earns around USD1500 a month or more. Seven profile statements were developed to conceptualize the beliefs and attitudes driving rhino horn consumption by Mr L:

- Mr L believes that rhino horn is an effective agent for detoxification or hangover cure;
- Mr L believes that rhino horn can bring a person improved socio-economic status;
- Mr L believes that rhino horn is a valuable gift to gain favours and respect and can strengthen his business relationships;
- Mr L is not worried about fake rhino horn, or how to find real rhino horn;
- Mr L identifies rhino horn as having more value because it is illegal and dangerous to obtain;
- Mr L believes that rhino horn is a valuable gift to gain favours and the respect of others;
- Mr L believes rhino horn works because it is so valuable and expensive.

With this understanding, the Chi initiative was developed and officially launched in Hanoi on World Rhino Day (22 September), in 2014. The “Chi” brand and its delivery were specifically designed with Mr L in mind, building on the word’s meaning and broader contextual connotation that “strength comes from within”. This grounded the messaging firmly within the significance of “Chi” in Viet Nam and other cultures in Asia.

Three additional consumer surveys in 2014, 2016, and 2017 focused on the evaluation of behaviours and motivations of Mr L and the results of these surveys can be found in the Chi briefing paper (TRAFFIC, 2017).

Qualitative indicators provide evidence that the Chi initiative had a positive impact on the Mr L target audience. For example, there was an increased level of exposure to Chi and its messages in the target audience (from 27% in 2016, to 57% in 2017), while in 2016 64% of respondents were identified as promoters, unwilling to recommend rhino horn consumption to their peers and



social networks. Furthermore, the Chi initiative resonated with its target audience: Chi Partners—individuals actively involved in the Chi initiative—were uniformly and consistently reporting to be less likely to use rhino horn.

From this consumer research, it can be concluded that Chi is reaching, has resonance with, and engages Mr L on the behaviour change journey towards the desired zero-tolerance for rhino horn consumption.

Through the evaluation of the impact of Chi, significant regional differences have emerged between the Mr Ls in Hanoi and HCMC. The data suggest that there could be a surge in rhino horn use for sexual enhancement in HCMC, a behaviour not specifically targeted by the Chi initiative, which focuses mainly on the display of wealth and status. Differences in motivations between frequent and occasional users were also found, the latter often driven by curiosity and the wish to offer rhino horn to superiors as a gift, whilst the former are motivated by strong beliefs in the wellbeing effects of rhino horn. The Chi initiative will continue, once funding has been secured, and efforts will be made to address these changing motivations between Hanoi and HCMC, with specific messages directed at the frequent user group and to undermine the use of rhino horn for sexual enhancement.

It is important to continue to address the illicit rhino horn trade chain from all angles, including demand reduction programmes and effective law enforcement. This is in line with the “Twin Track Approach” of measures to impose a societal control and restrict choice, whilst issuing messaging to shape motivation (e.g. TRAFFIC, 2016). It is critical that behaviour change messages are targeted directly at prolific consumer groups and through the right channels of civil society organizations, peer networks and government partners, so that they can be evaluated and managed. Furthermore, key to improving the effectiveness of law enforcement is to increase the risk to wildlife criminals (poachers, traffickers, traders and consumers) and to provide an effective deterrent—i.e. of being apprehended and prosecuted, to restrict market supply, and at the same time support the shift in social norms of individuals.

## REFERENCES

- TRAFFIC (2013). Rhino Horn Consumers: Who Are They? TRAFFIC Greater Mekong Programme, Viet Nam. <http://bit.ly/2yOv1wF>.
- TRAFFIC (2016). Powers of persuasion? Conservation communications, behavioural change and reducing demand for illegal wildlife products. *TRAFFIC Bulletin* 28(2):65–73.
- TRAFFIC (2017). *Chi Briefing Paper: World Rhino Day 2017*: <http://bit.ly/2ypXzxK>.

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# THE MARKET FOR ELEPHANT IVORY IN CAMBODIA

Trang Nguyen and Jackson L. Frechette



**T**his study aimed to evaluate the potentially important and understudied market for ivory in Cambodia. Market surveys were conducted in June 2015 and January 2016 to assess the number of ivory items for sale, the price of items, and the demographics of the customer base in three Cambodian cities (Phnom Penh, Siem Reap, Sihanoukville). Each city was systematically surveyed to identify ivory vendors. In 2015, 10 retail outlets in Phnom Penh and five retail outlets in Siem Reap were identified as selling elephant ivory, offering a total of 502 and 282 ivory items, respectively. Surveys in January 2016 showed that the number of shops offering ivory had increased to 16 (670 items) in Phnom Penh and eight shops (446 items) in Siem Reap. No elephant ivory was found during either survey in Sihanoukville. Vendors reported that the main consumers of ivory were foreign, particularly Chinese nationals. This study shows that there is a persistent market for ivory in Cambodia, which may be driven largely by foreign buyers from China.

## INTRODUCTION

The trade in ivory is a major threat to elephant populations in both Africa and Asia (Choudhury *et al.*, 2008; Blanc *et al.*, 2011; Gao and Clark, 2014; Christopher *et al.*, 2016). It is estimated that more than 100 000 African Elephants were killed between 2010 and 2012 for their ivory (Wittemyer *et al.*, 2014), and more recent estimates indicate about 20 000 elephants are killed annually (CITES, 2016). The African Elephant *Loxodonta africana* and Asian Elephant *Elephas maximus* are listed in Appendix I of the Convention on International

Trade in Endangered Species of Wild Fauna and Flora (CITES); such a listing bans international commercial trade. However, domestic trade of ivory still continues in many countries (Martin and Stiles, 2008). Mainland China, Hong Kong and Thailand have been identified as major ivory consumer markets (Milliken *et al.*, 2013; Underwood *et al.*, 2013; Wittemyer *et al.*, 2011), while Viet Nam, Lao PDR and Cambodia are considered gateways for ivory moving to China (Stiles, 2008; Nijman and Shepherd, 2012a).

## BACKGROUND

In recent years, there has been an increase in seizures and reports of trafficking of African ivory through Cambodia, with more than three tonnes in one seizure alone in 2014—the largest ever recorded in the country (Sovuthy and Blomberg, 2014; Gray *et al.*, 2017). Cambodia was first identified in the Elephant Trade Information System (ETIS) analysis to CITES as a Party “important to watch” with regard to monitoring the illegal trade in ivory (CITES, 2014). In 2016, an updated analysis from ETIS identified Cambodia as a “country of secondary concern” (Milliken *et al.*, 2016), a ranking of greater concern. The patterns in ivory consumption have been studied intensively in other Asian countries (Martin and Vigne, 2011; Nijman and Shepherd, 2012a,b; Nijman and Shepherd, 2014), however, very little is known about the status of ivory markets in Cambodia. Although ivory items are sold to foreign tourists, Cambodians also have an appetite for ivory. The Khmers believe that owning an ivory Buddha amulet or other ivory item brings good luck, prosperity and good health (Martin and Martin, 2013). Cambodia’s economic growth has held up

well despite domestic uncertainty and instability in neighbouring countries (World Bank, 2014). Previous research has shown that wealth is a strong driver of demand for wildlife products in Asia (Gault *et al.*, 2008; Drury, 2009; Gabriel *et al.*, 2012) and Cambodia could therefore become a major consumer of ivory in the near future.

The purpose of this study was to evaluate the Cambodian ivory market through a series of surveys to identify the presence and quantity of ivory available for sale in three major Cambodian cities and thus hope to fill a critical knowledge gap on the scale of the Cambodian domestic ivory market.

## LEGISLATION

The trade in ivory of Asian Elephants has been prohibited in Cambodia since 1994, and the country ratified CITES in 1997. Endangered species, including the Asian Elephant, are protected under Cambodian domestic legislation: possession, stocking, transporting, trading, export and import of this Class I species is prohibited. Illegal trade of Class I species can result in imprisonment of an offender for between five and 10 years, with the term doubled for multiple violations. However, Cambodian legislation does not cover wildlife originating from outside the country; this means that domestic trade in African ivory is not yet prohibited under Cambodian law (CITES, 2014). A current wide-ranging review of Cambodia's environmental legislation, the Natural Resource and Environmental Code, is currently being led by the Ministry of Environment. It is hoped that this will criminalize the sale and trade of all IUCN threatened species and those listed in CITES Appendix I, as well as Appendix II-listed species (and non-native species) that are not accompanied by the requisite permits.

## METHODS

Market surveys were conducted in Phnom Penh, Siem Reap and Sihanoukville. In each city, surveys took place on two occasions between 20 June and 7 July 2015 (the low tourist season in Cambodia) and 4 and 21 January 2016 (the high tourist season).

Every street in the city centres was systematically surveyed, and all outlets where elephant ivory may have been offered for sale, such as shops selling jewellery and wood carvings, souvenir shops, luxury hotels, casinos and markets, were visited. A native Khmer speaker accompanied the Vietnamese principal investigator on all surveys. Vendors were interviewed to ascertain where they obtained the ivory, the nationality of the main buyers, whether or not they sold ivory on the internet, and if the vendors knew where any ivory carving workshops were located.

Data on the number and price of elephant ivory items, as well as details of the shop owners, the number of employees and their country of origin



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Ivory carving of Buddha's head for sale at a shop in Phnom Penh, January 2016.

were recorded, as was information on the presence and type of elephant ivory substitutes (for example, animal bone, ivory from other species, plastic and resin). Elephant ivory was easily identifiable based on the texture, colour and the distinct Schreger lines and angles.

The retail prices stated in this report are the asking prices. Both US dollars (USD) and Cambodian Riel are widely used in Cambodia, however, ivory prices were often stated in US dollars and Chinese Yuan.

Photographs were taken whenever possible; most vendors did not object in open places, such as markets, however this proved to be very difficult in shops. The authors were only able to locate one ivory carving workshop in Phnom Penh. The prices for ivory were requested at every shop, although most ivory items on display bore price tags. Only items on display were recorded.



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Ivory carver in Phnom Penh, July 2015.

Item	Phnom Penh (2015–016)		Siem Reap (2015–2016)	
	No. of items	Average price (USD)	No. of items	Average price (USD)
Bangle	109	669	163	653
Beads	96	437.5	60	530
Buddha figurines	524	322	106	358
Chinese figurines	102	282	221	572
Chopsticks	13	538	6	493
Earrings	3	80	-	-
Hankos	27	350	16	408
Necklaces	12	613	35	438
Pens	6	500	6	337
Pendants	95	575	57	224
Rings	161	170	58	124
Raw tusk	6	1834	-	-
Uncarved ivory	5	140	-	-
Tusk tips	13	121.5	-	-

Table 1. Quantity and asking price (USD) of observed ivory items in Phnom Penh and Siem Reap between June 2015 and January 2016. - = no data were recorded during the survey

## RESULTS

### Trade in ivory

A total of 110 shops were surveyed in Phnom Penh, 51 shops in Siem Reap and 29 shops in Sihanoukville. Most of the surveyed shops sold items made from elephant ivory substitutes, mainly plastic, resin and bone. In 2015, only 10 retail outlets in Phnom Penh and five retail outlets in Siem Reap were identified as selling real elephant ivory, offering a total of 502 and 282 carved items respectively. Within six months, the number of shops offering ivory in Phnom Penh had increased by 70% (n=17) and the number of items by 33.5% (n=670). Siem Reap also showed a 60% increase in the number of shops (n=8) and a 58% increase in the number of items (n=446) (Table 1). No retail outlets in Sihanoukville were found selling elephant ivory during either survey.

During the second survey, the staff in 11 of the shops in Phnom Penh and all shops selling ivory in Siem Reap identified Chinese nationals as their main customer base. Three ivory shops in Phnom Penh identified Cambodians as their main customers for ivory products, and two did not answer the question. Of the shops selling elephant ivory in Phnom Penh and Siem Reap, almost all had shop sign-boards in Chinese Mandarin and employed Mandarin-speaking staff. Often, large shops in Phnom Penh and Siem Reap had staff that spoke Mandarin, Cantonese, Vietnamese, Thai, Japanese, Korean and English to assist international customers.

In total, the survey also showed that 41% of the ivory outlets (n=7) in Phnom Penh and 63% of the ivory outlets (n=5) in Siem Reap were Chinese-owned (by either Chinese nationals or Chinese Khmer). Approximately

35% of elephant ivory items observed were Buddha amulets (n=660), 20.5% were other jewellery pieces (bangles, bracelets, rings and necklaces) (n=391), and 19.2% were Chinese figurines (Chinese gods, Chinese lions and dragons) (n=365). Other commonly sold items were chopsticks, pens and animal figurines. Forty-three ivory name seals were also recorded in these shops. During the survey, the investigators also encountered a number of ivory substitute items that were carved into the shape of male genitalia; the retailers stated that these were mainly purchased by Japanese tourists. Six raw and unpolished tusks recorded in Chinese-owned shops in Phnom Penh were said to derive from Cambodian elephants. The authors also observed one large whole tusk worked in a Chinese carving style (hollowed tusk with small, elegant figures); this tusk was said to be for display purposes only and was not for sale. No ivory from other species was found during this survey.

The number of items did not appear to be distributed evenly between Phnom Penh and Siem Reap. Results from independent samples using the Mann-Whitney U test showed that more items, such as ivory beads (U=81.500,  $p<0.05$ , Chinese figurines (U=64.000,  $p<0.05$ ) and ivory bangles (U=93.000,  $p<0.05$ ) were found for sale in Siem Reap over Phnom Penh in both surveys. The price of these items also appeared to be higher in Siem Reap than in Phnom Penh (beads: U=81.500,  $p<0.05$ ; Chinese figurines: U=59.500,  $p<0.05$ ; bangles: U=95.000,  $p<0.05$ ).

The number and price of items were also different between the two sample periods. There were more Buddha statues during the second survey (January–February 2016) than what was observed in June–July 2015 (U=98.500,  $p<0.05$ ), and prices were also higher during this time (U=99.500,  $p=0.01$ ).



Ivory jewellery for sale in a shop in Siem Reap which the owner claimed derived from African Elephants.

### Origin and monetary value

Most vendors were forthcoming with information about their products and customers. However, they were reluctant to provide information on elephant ivory craftsmen. Nine different shop keepers/owners stated that their ivory came from Cambodia, five of which were Khmer-owned shops. The investigator was told by a Khmer shop owner that Asian ivory is stronger and better quality than African ivory. Another shop owner indicated that wealthy Khmer citizens prefer to pay for a hunter to hunt an elephant in the forest to acquire its tusks than to buy carved ivory items from shops. The carving of the ivory appeared to be of high quality, with items in Chinese-owned shops superior to those available in the Khmer-owned shops. A Khmer vendor indicated that there are only two good ivory craftsmen in Cambodia and that the Vietnamese are better at carving ivory; for this reason, he would send raw ivory across the border to Viet Nam to be carved and bring the items back to Cambodia to sell. All the shopkeepers in Chinese-owned shops appeared to have very limited knowledge of the origin of the products they sell, stating that their Chinese bosses would go abroad once every few months and bring carved ivory back for sale.

During the first survey there was one Chinese-owned jewellery shop located on the main tourist street (Pub Street) in Siem Reap that had 54 ivory items for sale, as well as products from other threatened and protected species: for example, three dried bear gall bladders and a small bag of pangolin scales were observed. This shop also had dried herbs for traditional Chinese medicine (TCM) on display, seemingly for Chinese tourists as all signs and labels were written in Mandarin. The owner of this shop was also a Chinese national and only able to communicate in Chinese or using very limited English. At the time of the investigation, a member of a group of

10 Chinese tourists visiting the shop purchased one of the dried bear gallbladders using Chinese Yuan. This shop was not found during the second survey, having either moved or closed down. In addition, 88% of shops with ivory (22/25) in 2016 also offered a range of other wildlife products, such as claws, teeth, horns, pangolin scales and bear gall bladders.

The authors compared the number and price of items in the Chinese-owned shops and Khmer-owned shops. The former had more necklaces ( $U=114.000$ ,  $p<0.05$ ) and beads ( $U=91.000$ ,  $p<0.05$ ) and these items were also more expensive than those in Khmer-owned shops (necklace:  $U=114.000$ ,  $p<0.05$ ; beads:  $U=102.500$ ,  $p<0.05$ ). There was no significant difference between the number of Chinese-owned shops in Phnom Penh and Siem Reap ( $X^2=2.16$ ,  $p=0.14$ ) in the two sample periods ( $X^2=0.07$ ,  $p=0.93$ ).

Based on the number of ivory items for sale, there was an estimated USD128 275 of ivory for sale in June–July 2015, and USD432 374 available in January 2016. Two uncarved tusks were observed for sale in one outlet with an asking price of USD3500 each, or USD6000 for the pair. Prices for carved ivory items appeared to be more expensive in Chinese-owned shops than Khmer-owned, and also more expensive in Siem Reap than in Phnom Penh (Table 1), probably because Siem Reap attracts a greater number of tourists. Fake elephant ivory made of bone, resin, or plastic was also differently priced based on location and shop ownership. Fake elephant ivory items made of bone, resin, or plastic on sale in Siem Reap were also more expensive than those in Phnom Penh, and fake ivory items found in shops in open markets were less expensive than those in jewellery shops. For instance, the asking price for a 2 cm-wide bangle made of resin was USD70 in Siem Reap and USD50 in Phnom Penh, while a similarly sized ivory bangle was USD1020 in Siem Reap and USD980 in Phnom Penh.



## DISCUSSION

The surveys show that ivory products are openly available for sale in two major cities in Cambodia; further, it is possible that demand is growing given the increase in the number of shops selling ivory over a six-month period, although demand could be seasonal based on tourist visits. Ivory on sale in the majority of shops appeared to be targeted at Chinese nationals—either tourists or immigrants. Therefore, there is a real risk that an increase in the number of Chinese tourists (Ngamsangchaikit, 2015) could drive a major increase in the purchase of ivory in Cambodia.

### *The domestic ivory trade in Cambodia*

The scale of the illegal ivory trade in Cambodia might be small, but the presence of a market shows the existence of a network of individuals linked to the global wildlife trade. Throughout the region there has been an increase in the ivory trade in recent years (Lao PDR: Nijman and Shepherd, 2012; Myanmar: Nijman and Shepherd, 2014; and China: Gao and Clark, 2014). These data from Cambodia point to the existence of an end-use ivory market demand in the country (Milliken *et al.*, 2013). The findings are supported by other regional studies which have shown that the market for carved ivory items is mainly driven by demand from Chinese nationals (Guangzhou, China: Martin and Vigne, 2011; Vientiane, Lao PDR: Nijman and Shepherd, 2012a,b; Mong La, Myanmar: Nijman and Shepherd, 2014).

In 2002, there were 55 retail outlets offering 1683 ivory items in Phnom Penh alone (Martin and Stiles, 2002). The number of ivory shops declined steadily to 48 retail outlets in Phnom Penh, with 981 items in 2013 and three outlets in Siem Reap with 36 items (Martin and Martin, 2013). Both results do not include the retail outlets that keep much of their ivory stock out of sight. The survey findings show that although the number of shops offering ivory remains relatively small, more ivory items were recorded per shop in Phnom Penh (on average 52.4 items in 2015 and 60 items in 2016 compared to 19.7 items in 2013), indicating that shops might be operating at a larger scale than before. In addition, five vendors with 282 ivory items were identified in Siem Reap in 2015 (on average 47 items per shop), and eight vendors with 446 items (55.7 items per shop) compared to three vendors with 36 items (12 items per shop) identified in 2013. Ivory prices recorded during this survey were similar to those from previous studies in Mong La, Myanmar (Nijman and Shepherd, 2014), southern China (Martin and Vigne, 2011), and Viet Nam (Stiles, 2009). It should be noted that new retail outlets were identified during the survey period, while others closed down. It was also observed by the authors that a large number of shops selling considerable quantities of ivory opened in both Phnom Penh and Siem Reap after the survey period. In addition, some Khmer-owned souvenir shops that did not offer ivory items in

the first survey period, had started selling ivory in 2016. These findings might indicate that Cambodia has a very fluid ivory market, which could be seasonal.

Most retailers stated that their ivory came from Cambodian elephants, however there are only 71 captive elephants in the country (J. Highwood, pers. comm. to T. Nguyen, April, 2016) and there has been little elephant poaching detected in Cambodia over the last decade (Gray *et al.*, 2016), whilst camera-trapping has also shown few wild elephants possess large tusks. The number of items recorded in this survey indicates that the amount of ivory for sale in the market far exceeds what could be provided from domesticated or wild elephants poached in Cambodia. In addition, the diameter of some large-sized bangles on display at several shops could only have come from large pieces of ivory taken from full tusks and not from the cut tips of domesticated elephants. Five vendors admitted that their ivory was sourced from Africa. In recent years, there has been an increase in seizures and reports of African ivory being smuggled through and to Cambodia: three tonnes of ivory in 2014 (Sovuthy and Blomberg, 2014; Gray *et al.*, 2017); three seizures in 2016 included 600 kg in August (Agence France-Presse, 2016); one tonne in November (VnExpress, 2016) and 1.5 t in December (Soumy, 2016). Given the large amounts, and anecdotal evidence, it is likely that ivory for sale in Cambodia mostly comes from Africa.

### *The consumers and their perspective on ivory*

The social value of ivory, both in monetary terms and as a status symbol, is rooted in a time when only a privileged few owned ivory (Gao and Clark, 2014). Therefore, in addition to its cultural and aesthetic value, owning carved ivory may give owners a sense of prestige (Gao and Clark, 2014). According to religious and traditional beliefs, ivory is also considered a symbol of good luck, good health, and intelligence (Martin and Martin, 2013; Gao and Clark, 2014). Ivory beads, Buddhist bracelets, pendants of Buddha figurines and statues were found in all of the surveyed shops and were said to be purchased by both Cambodian and Chinese-speaking customers. Results from this survey show that the price of ivory products (such as necklaces and beads) is higher in Chinese-owned shops than those owned by Khmer Chinese nationals. This might indicate that either Chinese-speaking tourists demand higher quality carved ivory than the local Khmer, or are more willing to pay a higher price for luxury items.

China has become a major source of both entrepreneurial and labour immigration to Cambodia (Pal, 2013). There is no reliable figure for the population of Chinese expatriates and migrant workers in Cambodia, however it has been estimated that their numbers could range from between 70 000 and 160 000, with approximately 3000 registered businesses and around 120 factories run by Chinese nationals (Pal, 2013). Chinese citizens are the second-largest tourist group in Cambodia, and the number of Chinese-speaking tourists

has increased by around 20% per year (Ngamsangchaikit, 2015). Cambodia won an award for being the best cultural and heritage tourist destination at the World Travel Fair in Shanghai (Ngamsangchaikit, 2015). In the first three months of 2015, 187 126 Chinese-speaking tourists visited Cambodia, a figure predicted to rise to one million annually by 2020 (Ministry of Tourism, 2015). A Chinese online travel website published an online news article entitled “Cambodia to become next shopping paradise for Chinese tourists” which reported on plans to build the world’s largest duty-free shopping centre funded by Chinese investment, which started in Siem Reap in 2016 (World Travel Online, 2015; Anon., 2016).

Chinese nationals are known for spending large sums of money abroad, especially on expensive and luxury items or on items that are cheaper than in China (KPMG, 2007), and often shop for gifts for their entire family and friends (Gao and Clark, 2014). This gift-giving culture is considered necessary for maintaining interpersonal relationships, especially during holidays such as Chinese New Year (Zhou and Guang, 2007; Drury, 2009; Jiang *et al.*, 2016). Such items are perceived to confer on the owner a high social standing as well as acting as a social code indicating access to rare, exclusive and desirable items (Kapferer, 2013). In addition, results from this research show that the price of ivory products during the second survey period of January 2016, shortly before Lunar New Year, was higher than those in the first survey period of June 2015. This could be due to high demand to purchase ivory as gifts during the Chinese Lunar New Year. Similar patterns have been found in the illegal trade of wildlife meat in China (TRAFFIC, 2010) and Viet Nam (Drury, 2009; Venkataraman, 2007). As the majority of vendors offering ivory in Phnom Penh and Siem Reap provide Chinese Mandarin-speaking staff and/or were owned by Chinese nationals, it is clear that the main consumers of ivory items in Cambodia are foreign buyers from China.

Shops owners also stated that Japanese tourists often visited their shops to buy hankos (Japanese rounded name seals), ivory beads and accessories. The demand for ivory in Japan has significantly decreased, thanks to conservation and behaviour change and demand reduction efforts since the 1980s, however ivory is one of the most frequently traded wildlife products online in this country (Matsumoto, 2015). Hanko is the most popular ivory item for sale online, followed by accessories such as necklaces and musical instruments. Whole tusks and ivory tips were also found on online websites (Matsumoto, 2015). In 2014, Cambodia welcomed over 200 000 Japanese tourists to the country (Ministry of Tourism, 2014). Although the number of hankos found during this survey was small (43 items), they appeared in almost every outlet visited, together with ivory substitute items targeting Japanese consumers, which might indicate that there is a small demand for ivory products from Japanese tourists.



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**Ivory substitutes (bone and resin) for sale in an open market in Phnom Penh, 2015.**



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**Offcut of ivory on display in Siem Reap, January 2016.**

Law enforcement regarding illegal wildlife trade appears to be lacking in the surveyed cities. Although there have been several reports of the prosecution of ivory smugglers in Cambodia in recent years (Kaliyann, 2014; Sovuthy and Blomberg, 2014; Gray *et al.*, 2017), there are very limited data from Cambodia in the Elephant Trade Information System (ETIS) database. China is recognized as the main consumer country for ivory globally (Milliken *et al.*, 2013; 2016). Previous studies have shown that China’s demand for ivory is no longer geographically restricted to mainland China as the demand fuels the illegal trade of ivory in neighbouring countries (Stiles, 2008; Nijman and Shepherd, 2012a; Milliken *et al.*, 2013). Results from this research suggest that demand from Chinese nationals for elephant ivory in South-east Asian countries such as Cambodia might increase rapidly if China does indeed close its own domestic ivory markets and strengthen law enforcement in relation to the illegal ivory trade as their government is promising to do, although the risk of carrying ivory back to mainland China will be much higher than before.

## CONCLUSIONS

The survey results show that, although Cambodians have an appetite for ivory, the ivory markets in Cambodia are mainly fuelled by foreign demand, particularly Chinese nationals, and there may be a small demand for ivory products from Japanese tourists.

The market is still relatively small compared to other regions in South-east Asia; however both the number of shops and quantity of items increased very quickly within the six months of the survey period. Consumer groups in Cambodia are willing to pay high prices for ivory items, and some may even be unaware of the poaching of elephants as well as the illegal trade of ivory (WildAid, 2014). To highlight the issue, among measures introduced by China to curb the illegal trade in ivory is the transmission of mobile phone messages warning tourists travelling from China to resist purchasing ivory and transporting it back to China (Zhang, 2013).

Based on the volume of the trade, the size of ivory items, and the recently very low levels of elephant poaching in Cambodia, it is likely that much of the ivory originates from elsewhere, probably Africa. Therefore, the logical next step is the use of DNA analysis to identify the origin of the ivory on sale (e.g. Wasser *et al.*, 2004; Gupta *et al.*, 2006; Singh *et al.*, 2006). This information will be very useful to help encourage the Cambodian government to enact stricter laws concerning the international and national trade in ivory. It is vital for Cambodia to tackle policy loopholes and tighten control of ivory trade in markets and at borders as well as improve public awareness of the impact of consumption of elephant ivory. However, campaigns should be more specifically targeted and based on consumers' perspectives and motivations. Education outreach and campaigns should involve current non-participants who may have an important role to play in this issue. For example, Cambodian and Chinese tourism ministries and tourism agencies could work together to raise tourists' awareness of their impact on the local wildlife, as well as to global biodiversity.

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## REFERENCES

Agence France-Presse (2016). Cambodia seizes 600 kg of ivory. <http://www.channelnewsasia.com/news/asiapacific/cambodia-seizes-600kg-of/3017894.html>. Viewed 22 February 2017.

Blanc, J., Hedges, S., Milliken, T., and Skinner, D. (2011). Status of elephant populations, levels of illegal killing and

the trade in ivory: a report to the standing committee of CITES, SC61 Doc. 44.2 Annex 1. In: 61st meeting of the CITES standing committee, Geneva, Switzerland.

China Daily (2014). Chinese man sentenced in US for smuggling rhino horns. [http://www.china.org.cn/environment/2014-05/28/content\\_32511851.htm](http://www.china.org.cn/environment/2014-05/28/content_32511851.htm). Viewed 3 September 2014.

Chinese Tourist Agency (2014). How to attract Chinese tourists in Cambodia? <http://chinesetouristagency.com/attract-chinese-tourists-cambodia/>. Viewed 10 July 2015.

CITES (2014). Ivory action plan for Cambodia. <https://cites.org/sites/default/files/common/prog/niaps/Cambodia-NIAP-2014.pdf>. Viewed 10 July 2015.

CITES (2016). Addendum to the report on Monitoring Illegal Killing of Elephants (MIKE), CoP17 Doc. 57.5 Addendum. CITES Secretariat, Geneva, Switzerland.

Choudhury, A., Lahiri Choudhury, D.K., Desai, A., Duckworth, J.W., Easa, P.S., Johnsingh, A.J.T., Fernando, P., Hedges, S., Gunawardena, M., Kurt, F., Karanth, U., Lister, A., Menon, V., Riddle, H., Rübél, A., Wikramanayake, E. (2008). *Elephas maximus*. IUCN Red List of Threatened Species. [www.iucnredlist.org](http://www.iucnredlist.org). Viewed 4 February 2016.

Conway-Smith, E. (2012). Chinese workers in Zimbabwe are eating endangered tortoises, pythons and leopards. *Business Insider Australia*. <http://www.businessinsider.com.au/chinese-workers-in-zimbabwe-are-eating-endangered-tortoises-pythons-and-leopards-2012-4>. Viewed 10 April 2015.

Drury, R. (2009). Identifying and understanding consumers of wild animal products in Hanoi, Vietnam: implications for conservation management. PhD thesis. University College of London, London.

EIA (Environmental Investigation Agency) (2012). Blood ivory: exposing the myth of a regulated market. London. UK. <https://eia-international.org/wp-content/uploads/EIA-Blood-Ivory.pdf>.

EIA (Environmental Investigation Agency) (2014). *In Cold Blood: Combating Organised Wildlife Crime*. London. UK. <https://eia-international.org/wp-content/uploads/EIA-In-Cold-Blood-FINAL.pdf>.

Fa, J.E., Peres, C.A., and Meeuwig, J. (2002). Bushmeat exploitation in tropical forests: an intercontinental comparison. *Conservation Biology* 16(1):232–237.

Gabriel, G.G., Hua, N., and Wang, J. (2012). *Making a killing: a 2011 survey of the ivory markets in China*. International Fund for Animal Welfare (IFAW), Yarmouth Port, MA.

Gao, Y., and Clark, S. (2014). Elephant ivory trade in China: trends and drivers. *Biological Conservation* 180:23–30.

Gault, A., Meinard, Y., and Courchamp, F. (2008). Consumers' taste of rarity drives sturgeons to extinction. *Conservation Letters* 1:199–207.

Gray, T., Milliken, T., Khem, V. and Gauntlett, S. (2017). Cambodia's increasing role in the African ivory and rhinoceros horn trade. *TRAFFIC Bulletin* 29(2):45–46.

Gray, T.N.E., Hort, S., Lefter, E., Grosu, R., Kong, K., Keo, O., and Gauntlett, S. (2016). A decade of zero elephant poaching in the Cardamom Rainforest Landscape, Cambodia. *Gajah* 45:41–44.

Jing Daily (2016). *T Galleria by DFS Launches in Siem Reap as Cambodia Becomes Chinese Tourist Shopping Hotspot*: <https://jingdaily.com/t-galleria-dfs-launches-siem-reap-cambodia-becomes-chinese-tourist-shopping-hotspot/>.

- Kaliyann, T. (2014). Ivory haul seized in Siem Reap. *The Phnom Penh Post*. 18 February. <http://www.phnompenhpost.com/national/ivory-haul-seized-siem-reap>. Viewed 10 July 2015.
- Kapferer, J.N. (2013). *Reinventing the Brand*. Kogan Page Publishers. London.
- KPMG (2007). Luxury brands in China. KPMG International, Hong Kong. [http://www.claridenglobal.com/knowledge\\_at\\_clariden/CM\\_Luxury\\_brand.pdf](http://www.claridenglobal.com/knowledge_at_clariden/CM_Luxury_brand.pdf).
- Martin, E., and Stiles, D. (2008). *The Ivory Markets in the USA*. Save the Elephants & Care for the Wild.
- Martin, E.B., and Vigne, L. (2011). *The Ivory Dynasty: a Report on the Soaring Demand for Elephant and Mammoth Ivory in Southern China*. Elephant Family, the Aspinall Foundation and Columbus Zoo and Aquarium, London.
- Martin, E.B., and Martin, C. (2013). The decline in Cambodia's ivory trade. *TRAFFIC Bulletin* 25(2):43–45.
- Milliken, T., Burn, R.W., Underwood, F.M., Sangalaku, L. (2013). Elephants: Monitoring of illegal trade in ivory and other elephant specimens. CoP16 Doc. 53.2.2 (Rev. 1). CITES, Gland.
- Milliken, T., Underwood, F.M., Burn, R.W. and Sangalaku, L. (2016). The Elephant Trade Information System (ETIS) and the Illicit Trade in Ivory: a report to the 17th meeting of the Conference of the Parties. CoP17 Doc. 57.6 (Rev. 1), CITES Secretariat, Geneva, Switzerland. 30 pp.
- Milner-Gulland, E.J., and Bennett, E.L. (2003). Wild meat: the bigger picture. *Trends Ecol. Evol.* 18(7):351–357.
- Ngamsangchaikit, W. (2015). Cambodia greens for Chinese tourists. <http://www.ttrweekly.com/site/2015/05/cambodia-greens-for-chinese-tourists/>. Viewed 10 July 2015.
- Nijman, V., and Shepherd, C.R. (2012a). The role of Lao PDR in the ivory trade. *TRAFFIC Bulletin* 24:35–40.
- Nijman, V., and Shepherd, C.R. (2012b). China's role in ivory and elephant parts trade from Lao PDR. *Oryx* 46:172–173.
- Nijman, V., and Shepherd, C.R. (2014). Emergence of Mong La on the Myanmar–China border as a global hub for the international trade in ivory and elephant parts. *Biological Conservation* 179:17–22.
- Park, Y. (2012). *Living in Between: the Chinese in South Africa. Migration Policy*. <http://www.migrationpolicy.org/article/living-between-chinese-south-africa>. Viewed 2 September 2014.
- Sharif, V. (2014). *Analysis of demand side reduction initiatives*. Commissioned by Stop Ivory for the EPI and The Royal Foundation. London. UK.
- Soumy, P. (2016). Seized logs held more than a ton of ivory. <https://www.cambodiadaily.com/news/seized-logs-held-ton-ivory-122319/>. Viewed 22 January 2017.
- Sovuthy, K., and Blomberg, M. (2014). Massive ivory haul seized in Sihanoukville. *The Cambodia Daily*. <https://www.cambodiadaily.com/archives/massive-ivory-haul-seized-in-sihanoukville-58451/>. Viewed 10 August 2015.
- Stiles, D. (2008). *An Assessment of the Illegal Ivory Trade in Vietnam*. TRAFFIC Southeast Asia, Petaling Jaya.
- Stiles, D. (2009). *The Elephant and Ivory Trade in Thailand*. TRAFFIC Southeast Asia, Petaling Jaya.
- Thouless, C.R., Dublin, H.T., Blanc, J.J., Skinner, D.P., Daniel T.E., Taylor, R.D., Maisels, F., Frederick H.L. and Bouche, P. (2016). *African Elephant Status Report 2016: An update from the African Elephant Database*. Occasional Paper of the IUCN Species Survival Commission No. 60, IUCN/SSC Africa Elephant Specialist Group, IUCN, Gland, Switzerland. vi + 309 pp.
- TRAFFIC (2010). *Understanding the motivations: the first step toward influencing China's unsustainable wildlife consumption*. TRAFFIC. <http://www.traffic.org/home/2010/1/28/understanding-chinese-consumer-motivation-the-key-to-control.html>.
- Underwood, F.M., Burn, R.W., and Milliken, T. (2013). Dissecting the illegal ivory trade: an analysis of ivory seizures data. *PLoS ONE* 8, e76539.
- Vie, J.-C., Hilton-Taylor, C., and Stuart, S.N. (eds) (2009). *Wildlife in a Changing World—an Analysis of the 2008 IUCN Red List of Threatened Species* (International Union for Conservation of Nature, Gland, Switzerland).
- VnExpress. (2016). Vietnam seizes ton of African ivory en-route to Cambodia. <http://e.vnexpress.net/news/news/vietnam-seizes-ton-of-african-ivory-en-route-to-cambodia-3506086.html>. Viewed 22 January 2017.
- Wasser, S.K., Shedlock, A.M., Comstock, K., Ostrander, E.A., Mutayoba, B., and Stephens, M. (2004). Assigning African elephant DNA to geographic region of origin: Applications to the ivory trade. *PNAS* 101 (41):14847–14852.
- WildAid (2014). Ivory demand in China 2012–2014. San Francisco, CA. <https://www.wildaid.org/sites/default/files/resources/WEBReportIvoryDemandinChina2014.pdf>.
- Wittermyer, G., Daballen, D., and Douglas-Hamilton, I. (2011). Poaching policy: rising ivory prices threaten elephants. *Nature* 467:282–283.
- Wittermyer, G., Northrup, J.M., Blanc, J., Douglas-Hamilton, I., Omondi, P., and Burnham, K.P. (2014). Illegal killing for ivory drives global decline in African elephants. *PNAS* 111 (36):13117–13121.
- Wong, S-L. (2015). China to document its tourists behaving badly. Reuters. <http://www.reuters.com/article/2015/04/07/china-tourism-idINKBN0MY0M120150407>. Viewed 10 April 2015.
- World Bank (2014). Cambodia—World Bank Expects Slower Growth in Developing East Asia Pacific in 2014. <http://www.worldbank.org/en/news/press-release/2014/10/06/cambodia-world-bank-expects-slower-growth-in-developing-east-asia-pacific-in-2014>. Viewed 9 March 2016.
- World Travel Online (2015). Cambodia to become the next shopping paradise for Chinese. <http://news.travel168.net/20150625/37074.html>. Viewed 10 July 2015.
- Zhang, Shanning (2013). Increase Aid and Technical Sharing to Create a New Situation in Conserving African Elephants. <http://roll.sohu.com/20131206/n391370525.shtml> (in Chinese). *China Green Times*. 6 December.

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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 mid-October 2017. 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.

## ELEPHANTS

**The African Elephant *Loxodonta africana* is listed in CITES Appendix I (except the populations of Botswana, Namibia, South Africa and Zimbabwe, which are included in Appendix II); the Asian Elephant *Elephas maximus* is listed in Appendix I.**

**BENIN:** On 24 August 2017, at Natitingou court, Kora Basile and Doko David were sentenced to gaol for 48 months and 40 months, respectively, for attempting to sell 14 (24 kg) elephant tusks on 11 August. The two were also jointly fined CFA400 000 (USD715) and ordered to pay CFA3m (USD5370) in damages to the State of Benin.

*Fraternite:* <http://bit.ly/2z1ioTa> (in French), 25 August 2017

**CHINA:** On 12 July 2017, authorities in Beijing seized 3185 ivory products (48 kg) during a raid on Guanxin market, Chaoyang District. Ten people were arrested. This is reportedly the largest ivory seizure in Beijing since the announcement of China's ivory trade ban, which is scheduled to take place at the end of the year.

*Xinhuanet:* <http://bit.ly/2vuErvL>, 12 July 2017; TRAFFIC

**DEM. REP. OF CONGO:** On 14 August 2017, at the High Court of Goma, North Kivu, Muhindo Paluku and Jerome Kaseraka were sentenced to three years and two years in gaol, respectively, for the illegal trade in elephant ivory (and Hippopotamus *Hippopotamus amphibius* (CITES II) teeth and two Leopard *Panthera pardus* (CITES I) skins). Paluku must also pay a fine of CDF1.5m (USD961) and Kaseraka CDF1m (USD700) for complicity. The two were arrested in Goma in June 2016.

*Enviro News:* <http://bit.ly/2yHtR7v>, 16 August 2017

**REP. OF CONGO:** On 19 May 2017, Daring Dissaka, an ivory poacher well-known to the authorities and with links to international ivory dealers, was sentenced to five years in gaol—the maximum penalty for a wildlife violation in the country—and fined USD5000. A warrant had been issued for Dissaka's arrest; he has already served periods in gaol for wildlife offences.

*WCS Newsroom:* <http://bit.ly/2h1bQcG>

**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.



HONG KONG CUSTOMS

**HONG KONG SAR:** On 4 July 2017, officials at Kwai Chung Customhouse Cargo Examination Compound seized 7.2 t of ivory tusks from a container arriving from Malaysia, declared to contain frozen fish. This is the largest confiscation of its kind in Hong Kong in 30 years. Three people have been arrested.

*The Government of the Hong Kong Special Administrative Region media release:* <http://bit.ly/2hYBfCR>, 6 July 2017; *Hong Kong Free Press:* <http://bit.ly/2zJ5UMV>, 6 July 2017

**KENYA:** On 27 June 2017, six men were arrested in possession of 216 kg of ivory in a house in Utawala, Nairobi. They were reportedly bound for Hong Kong. Among the suspects was a businessman who allegedly works with Guinean nationals based in Uganda and with Chinese nationals abroad; the ivory he was found with has been sourced to D.R. Congo.

*Standard Digital:* <http://bit.ly/2zJ5UMV>, 12 July 2017

**MALAWI:** On 10 May 2017, at Lilongwe Magistrates' Court, two South Koreans were fined MK2.2m (USD4000) in default of a two-

**△ Customs officers in Hong Kong seized 7.2 t of ivory from a container arriving from Malaysia in July 2017, the largest confiscation of its kind in Hong Kong in 30 years.**

year gaol sentence with hard labour for the illegal possession and attempted export of ivory. The duo had been arrested the previous day at Kamuzu International Airport in possession of five pieces (1.5 kg) of carved ivory.

In early October 2017, two brothers reportedly among East Africa's most wanted wildlife criminals, were arrested on charges of attempting to smuggle 781 elephant tusks. The duo, who were the subjects of Interpol Red Notices issued at the request of Tanzania, are suspected of attempting to export the tusks from Tanzania to Malawi in 2013 without the requisite permits. The tusks were concealed in a shipment of bags of cement.

*The Maravi Post:* <http://bit.ly/2la19KE>, 11 May 2017; *Environment News Service:* <http://bit.ly/2hYkSH2>, 7 October 2017

**MALAYSIA:** (see other/multi-seizures)

**SENEGAL:** (see other/multi-seizures)

**SINGAPORE:** On 2 August 2017, a Vietnamese man was fined SGD10 000 (USD7360) for smuggling ivory products into Singapore. The suspect and his family were stopped on arrival at Changi Airport on 14 July; two ivory bird cage accessories and four ivory bracelets were found in his luggage. The items are understood to have been obtained in Viet Nam.

*VnExpress:* <http://bit.ly/2yLBCLM>, 3 August 2017

**TANZANIA:** On 25 August 2017, at Kisutu Resident Magistrates' Court, Dar es Salaam, six people, including a local government official, were charged with the unlawful possession of 28 ivory tusks (377 kg) which were seized by the authorities on 17 August. The tusks were not fresh. The case was adjourned to a later date and the accused were ordered to remain in custody.

*All Africa:* <http://bit.ly/2yLMuch>, 19 August 2017; *Daily News:* <http://bit.ly/219GuVj>, 26 August 2017

**THAILAND:** On 11 October 2017, authorities at Suvarnabhumi International Airport seized eight rhinoceros horns from the luggage of two Chinese nationals who were in transit from Zambia to Cambodia.

*The Nation:* <http://bit.ly/2zwGd1n>, 12 October 2017

**UGANDA:** see other/multi-seizures

**VIET NAM:** On 8 July 2017, a lorry that was stopped by police for traffic violations in Quang Xuong District, in Thanh Hoa province, was found to be transporting nearly 2.7 t of ivory items, reported to have come from Africa, hidden among boxes of fruit. The driver, who claimed to be unaware of his cargo, said he had been hired to transport the shipment from southern Dong Nai province to Hanoi. This case is the biggest of its kind to be uncovered in the province.

On 6 September 2017, authorities in Cat Lai port seized 1.35 t of ivory that had been concealed in barrels declared to contain bitumen and smuggled from Benin, bound for Cambodia.

On 8 September 2017, authorities in Hanoi prosecuted three people, including a Customs officer, after the anti-smuggling unit of the Hanoi Customs department discovered that 240 kg of ivory seized by the unit had been replaced with fake materials (also stolen (and sold) were six kilogrammes of rhinoceros horn). The principal suspect had been employed to manage and monitor the warehouse where the seized ivory was being stored; together with a friend—who made fake ivory from wood or plastic to replace the stolen items—they stole the ivory which was sold to a Chinese national. Police found an 80-cm elephant tusk, three ivory statues and various ivory bracelets at the house of one of the suspects.

On 17 September 2017, police in Bac Lieu province seized 1.4 t of African Elephant ivory that had been smuggled by fishing boat from Malaysia and loaded onto a lorry for delivery to customers in the north of the country.

*VietnamPlus:* <http://bit.ly/2y00yj6>, 10 July 2017; *Phys.org:* <http://bit.ly/2t1msv7>, 9 July 2017; *L. Sangalaku, ETIS Database Manager*, in litt to *TRAFFIC*, 12 October 2017; *Bangkok Post:* <http://bit.ly/2gNPEoW>, 7 September 2017; *Xinhuanet:* <http://bit.ly/2gwaalHh>, 6 September 2017; *VOV.vn:* <http://bit.ly/2gDXXUG> (in Vietnamese), 8 September 2017; *DTI News:* <http://bit.ly/2i09Ppk>, 10 September 2017; *VnExpress:* <http://bit.ly/2hZEU3U>, 20 September 2017

**ZIMBABWE:** Two people arrested on 4 July 2017 at Cross Dete, Matabeleland North, for the illegal possession of three pieces of ivory (and an amount of cyanide) that they were offering for sale have each been gaoled for nine years. David Ndlovu and Nkathazo Penga confessed to killing five elephants with oranges laced with cyanide.

On 4 October 2017, it was reported that Willers Matonhodze of Mpilo Line had been gaoled for 10 years after police and Zimparks rangers, acting on information, found one elephant tusk (three kilogrammes) in a sack in his house without a requisite accompanying permit.

*Team Zimbabwe:* <http://bit.ly/2xZMcDY>, 22 July 2017; *Chronicle:* <http://bit.ly/2itooFU>, 4 October 2017

## FLORA

**CAMBODIA:** On 30 May 2017, Battambang's Ratanak Mondol District Military Police arrested two men after confiscating 92 logs (two tonnes) of rosewood *Dalbergia* sp. (CITES I/II) hidden in a petrol tanker that had travelled from Sala Krao district, Pailin province.

*http://bit.ly/2yjmbSc*, 1 June 2017

**HONG KONG SAR:** On 5 May 2017, Customs officials at Kwai Chung Customhouse Cargo Examination Compound seized 1.4 t of suspected Red Sandalwood *Pterocarpus santalinus* (CITES II) from a container arriving from Bangladesh.

On 19 June 2017, police in Sai Kung East Country Park, New Territories, intercepted a shipment of boxes being loaded onto a speedboat that were found to contain 300 kg of fur items, 48 kg of suspected sandalwood *Santalum* sp., 45 kg of bird nests (and electronic components). The suspects escaped by boat.

*Hong Kong Customs and Excise Department media release:* <http://bit.ly/2hYNb8f>, 5 May 2017; *South China Morning Post:* <http://bit.ly/2itXRj0>, 20 June 2017

**INDIA:** On 23 July 2017, at the Indira Gandhi International Airport, Customs officials arrested a Chinese national bound for Kunming, China, after more than 86 kg of Red Sandalwood (or Red Sanders, as it is referred to in India) *Pterocarpus santalinus* (CITES II) was found in his luggage.

On 24 July 2017, a lorry driver was arrested en route to a village in Ramanathapuram district, Tamil Nadu, after 1.5 t of Red Sanders *Pterocarpus santalinus* (CITES II) logs concealed under bags of onions were seized from his vehicle, which had been bound for Sri Lanka. During his interrogation, police learned that it was a regular feature for some members of the Red Sanders smuggling network to operate between Andhra Pradesh and Tamil Nadu via Karnataka, and that the coastal district of Ramanathapuram reportedly remained the ideal destination for the onward shipment of Red Sanders to Sri Lanka.

On 13 September 2017, officials in Shillong seized 110 logs (2.4 t) of Red Sanders *Pterocarpus santalinus* (CITES II) near Silchar-Mizoram national highway. Reports indicate that the consignment had been transported from south India and was destined for Myanmar.

On 23 September 2017, 9.5 t of Red Sanders *Pterocarpus santalinus* (CITES II) was seized from a lorry near Eliyapathi toll gate, Madurai, bound for Malaysia.

*FirstPost:* <http://bit.ly/2h0ij7t>, 26 July 2017; *The Hindu:* <http://bit.ly/2vDIG8>, 26 July 2017; *Outlook:* <http://bit.ly/2gE0luC>, 13 September 2017; *The Hindu:* <http://bit.ly/2yHwPsF>, 23 September 2017

**THAILAND:** On 27 August 2017, one man was arrested after being found illegally transporting 80 blocks (one tonne) of Siamese Rosewood *Dalbergia cochinchinensis* (CITES II) in a sedan from Buri Ram, for delivery to a Cambodian investor in the Rong Klua border market of Sa Kaeo's Aranyaprathet district. The suspect said that he had undertaken two similar deliveries prior to his arrest.

*The Nation:* <http://bit.ly/2yEiCeV>, 28 August 2017

**USA:** On 18 September 2017, Young Living Essential Oils, L.C. of Utah pleaded guilty to charges regarding the company's involvement in the illegal trade in oil of Brazilian Rosewood *Aniba roseodora* (CITES II) and of Spikenard *Nardostachys jatamansi* (CITES II), in violation of the *Lacey Act* and the *Endangered Species Act*. Pursuant to the terms of the plea agreement, the company was sentenced to a fine of USD500 000, USD135 000 in restitution, a community service payment of USD125 000 for the conservation of protected species of plants used in essential oils, and five years' probation with special conditions, including the implementation of a corporate compliance plan, audits, and the publication of statements regarding its convictions.

Between June 2010 and October 2014, several company employees and contractors harvested and transported 86 t of rosewood in Peru, distilled the oil and imported some of it into the USA through Ecuador. Peruvian law prohibits the unauthorized harvest and transport of timber, including rosewood, and the company had not obtained any CITES export permits from Peru. Further, between November 2014 and January 2016, the company purchased over 1100 kg of rosewood oil from a supplier/importer in the USA without conducting sufficient due diligence to verify lawful sourcing of that oil.



◀ An estimated 3244 t of abalone *Haliotis midae* was poached in South Africa in 2016, which equates to over nine million animals and is approximately 33 times the Total Allowable Catch of the legal fishery. Seizures of abalone often involve confiscations of other contraband—commonly cash, drugs or more recently, other illegal wildlife products, highlighting the involvement of organized crime in the illegal trade. In 2016, at least three seizures of abalone involved other high-value wildlife products such as elephant ivory, rhino horn and shark jaws.

In addition, the company disclosed that it had exported Spikenard oil harvested in Nepal to the UK without a CITES permit; the oil had previously been imported from a company in the UK that had obtained a CITES export permit; Young Living Essential Oils, L.C., found the product to be unsatisfactory and shipped it back to the UK, applying for a CITES permit after the fact.

US Department of Justice media release:  
<http://bit.ly/2laimSI>, 18 September 2017

## MARINE

**BELGIUM:** On 8 June 2017, three Chinese nationals were each sentenced to 15 months in gaol (half of which is suspended) after being caught at Zaventem airport, Brussels, with 2063 seahorses *Hippocampus* (CITES II) in their baggage. The animals are used in traditional Chinese medicine. The three were on a flight from Sierra Leone to Beijing via Zaventem in April.

Flanders Today: <http://bit.ly/2zvBcGd>, 12 June 2017

**CANADA:** On 25 August 2017, at the Ontario Court of Justice, Aquatic Kingdom Inc. was fined CAD25 000 (USD20 000) for violations relating to the illegal importation of CITES-listed corals Anthozoa. The fine will be directed to the Environmental Damages Fund.

The case relates to the inspection in November 2015 of a shipment of live tropical fish being imported by the company that was found to contain coral without the requisite accompanying CITES permit.

Cision: <http://bit.ly/2yCbTFH>, 1 September 2017

**CHINA:** On 10 September 2017, authorities in Jiangmen, Guangdong, infiltrated a criminal syndicate and seized some 50 t of shark fins, sea cucumbers, and abalones [species not reported]. The sharks had been killed with the use of chemicals. Thirty five suspects were arrested in Jiangmen, Guangzhou, Maoming and Yunnan.

The network had been transporting the goods by sea to Viet Nam through the Sino-Vietnamese border crossing, into Yunnan and by train and other transport to Guangzhou and Maoming, Guangdong province, for further distribution.

On.cc: <http://bit.ly/2l96joJ> [in Chinese],  
13 September 2017

**ECUADOR:** In August 2017, the captain of a Chinese-flagged vessel operating in the Galapagos and found to be illegally carrying 300 t of frozen sharks—reportedly the single largest haul of sharks ever seized in the Galapagos—was sentenced to four years in gaol. Three assistants were sentenced to gaol for three years and 16 crew to one year, with total fines imposed amounting to USD5.9 million.

On 13 August, their boat was boarded by authorities near the island of San Cristóbal, in an area of the Galapagos National Park where no fishing is allowed. These waters have one of the greatest abundances of sharks known in the world which has reportedly made the area a target of fishermen looking to supply Asian markets with shark fin and meat.

It is surmised that the vessel was a “mothership” or reefer, which collects fish from smaller fishing boats, allowing them to stay out at sea longer. The ship’s log stated that there were about 300 t of fish on board. From photographs, Scalloped Hammerheads *Sphyrna lewini* (CITES II) and Silky Sharks *Carcharhinus falciformis* (CITES II, effective 4 October 2017), as well as tuna, were identified in the report.

Independent: <http://ind.pn/2wiaBOa>, 30 August 2017; National Geographic: <http://bit.ly/2vGZ-KLQ>, 15 August 2017

**HONG KONG SAR:** On 18 September 2017, Customs officers at Tsing Yi Cargo Examination Compound seized some 350 kg of dried fins of suspected hammerhead sharks *Sphyrna* spp. (three species listed in CITES Appendix II), and Oceanic Whitetip Sharks *Carcharhinus longimanus* (CITES II) from a container arriving from the United Arab Emirates.

Customs & Excise Department, The Government of the Hong Kong Special Administrative Region: <http://bit.ly/2y0kqOZ>, 18 September 2017

**NETHERLANDS:** On 17 April 2017, at Schiphol Airport, Amsterdam, authorities seized 36 water-filled plastic bags containing 72 kg of live (glass) European Eels *Anguilla anguilla* (CITES II) concealed in six suitcases.

The shipment was destined for mainland China. Two Chinese nationals—who did not have the necessary permits—were arrested.

NLTimes: <http://bit.ly/2z1OXjE>, 19 April 2017

**SOUTH AFRICA:** All South African abalone (perlemoen) seizures below refer to *Haliotis midae*.

On 17 May 2017, a suspect was arrested in Philippi East as he loaded some 5.2 t of abalones (260 bags) from a vehicle into freezers at the back of a funeral parlour.

On 28 May 2017, police responding to a gas explosion at a property in a Cape Flats suburb of Mowbray, at which residents suffered severe burns, came across an abalone depot. They seized at least 28 bags (200 abalones/bag), with more stored elsewhere on the premises.

On 10 July 2017, police in Cape Town seized 6878 wet abalones and 24 922 dried abalones (weight not reported) from an illegal processing facility in Brackenfell; two men were arrested. Shortly afterwards, a further five tonnes of frozen abalones contained in 213 bags were seized from a refrigerated lorry; four people were arrested.

On 3 August 2017, authorities at Table View, Western Cape, arrested one man for the illegal possession of abalone and for operating a fish processing plant without a valid permit; 23 357 dried abalones and 3915 wet abalones were confiscated, together with processing equipment.

During a search operation at another residence in Table View the same day, a man was arrested in possession of 10 919 dried abalones and 4340 wet abalones. The suspect was to be charged with the illegal possession of abalones and for operating a fish processing plant without a valid permit.

On 8 August 2017, at Danger Point, Gansbaai, in the Western Cape, some 3100 abalones were seized in one of the biggest abalone raids along the Overberg coast; more than 100 people were reportedly harvesting abalones in an area next to an abalone farm; three people were later arrested in the Buffeljags area.

On 15 August 2017, authorities arrested two people in the process of transporting 483 kg of dried abalones in Philippi, Cape Town.

On 19 August 2017, police seized 840 kg of abalones from a vehicle travelling on N2 Highway, Somerset West. The driver fled.

On 29 August 2017, authorities in Hawston in the Western Cape seized 500 kg of abalones being offloaded from a vehicle.

On 5 September 2017, the Western Cape High Court convicted a group of men for illegally exporting abalones to Hong Kong, labelled as frozen pilchards. The case dates back to 2006, and involved seizures of around 82 700 abalones from a cold storage unit in the Port of Cape Town and around 24 600 dried abalones at a farm in Rawsonville.

On 12 September 2017, police officials in Paarl arrested one man after five freezers at a vegetable shop were found to contain 175 bags containing 17 237 frozen and fresh abalones.

On 28 September 2017 it was reported that an undisclosed, but reportedly “massive” amount of abalones had been stolen in Gansbaai, Western Cape, after nine armed men stormed a building. After loading the molluscs onto their vehicles, the suspects then apparently kidnapped three security guards who they later released in the Strandfontein area.

On 29 September 2017, the authorities acting on information searched two vehicles at a shopping centre in Eersterivier and seized 1573 abalones.

During early October 2017, Western Cape police confiscated three separate shipments of abalone in, respectively, Napier, Chatsworth and Parow North—one case involved some 500 kg.

*South African Police Service media statements:* <http://bit.ly/2gBhBk6>, 18 May 2017; <http://bit.ly/2I9elhk>, 4 August 2017; <http://bit.ly/2yDjyic>, 4 August 2017; <http://bit.ly/2yCzYfv>, 29 August 2017; <http://bit.ly/2yDr7KA>, 12 September 2017; <http://bit.ly/2yLYFWr>, 29 September 2017; <http://bit.ly/2yZuNfo>, 29 May 2017; *Times Live:* <http://bit.ly/2yCXWXZ>, 11 July 2017; <http://bit.ly/2yHrTUC>, 15 August 2017; *News 24:* <http://bit.ly/2h1hHPe9>, 9 August 2017; <http://bit.ly/2gw0n45>, 5 September 2017; *Eye Witness News:* <http://bit.ly/2yOeEfH>, 21 August 2017; <http://bit.ly/2z2y1da>, 28 September 2017; *SABC:* <http://bit.ly/2gDmN7p>, 14 October 2017

**USA:** On 29 June 2017, ISF Trading Co., a Portland seafood company, was fined more than USD550 000 for violating the *Lacey Act*, which prohibits trading in wildlife that has been caught, owned, transported or sold illegally. The company was also ordered to forfeit nearly USD300 000 and placed on one year’s probation.

ISF had purchased sea urchins Echinoidea from a supplier in Canada who under Canadian

law was not permitted to export the seafood. ISF then brought the urchins into the USA using labels from another Canadian supplier who at certain periods was allowed to export the urchins. ISF, reportedly one of the largest sea urchin exporters to Japan from the USA, was charged with illegally importing about 22 000 kg of sea urchins between 31 December 2010 and 1 February 2011.

On 20 September 2017, Gregory Logan of New Brunswick, Canada, and a retired Royal Canadian Mounted Police officer, was sentenced to five years and two months in gaol after pleading guilty to 10 money laundering charges related to a scheme to smuggle Narwhal *Monodon monoceros* (CITES II) tusks. He had been accused of smuggling more than 250 tusks into the USA from Canada between 2000 and 2010 in a scheme to sell tusks to collectors.

*Portland Press Herald,* <http://bit.ly/2hZWhl8>, 29 June 2017 *Daily Mail:* <http://daily.mai/2yK1glr>, 22 September 2017

## PANGOLINS

**All eight species of pangolins have been transferred from CITES Appendix II to Appendix I, effective 2 January 2017**

**CÔTE D’IVOIRE:** On 25 July 2017, authorities seized a record haul of three tonnes of pangolin *Manis* spp. scales and apprehended eight men from Côte d’Ivoire, Burkina Faso and Guinea, all reportedly part of a “large mafia-like network”, as they prepared to sell their merchandise. The scales, contained in more than 60 bags, reportedly represent about 4000 pangolins which had been captured in Côte d’Ivoire, Burkina Faso and Liberia. The seized scales were to be destroyed.

*Phys.org:* <http://bit.ly/2h6PpoG>, 27 July 2017

**HONG KONG SAR:** On 29 May 2017, Customs officers at Kwai Chung container terminal uncovered 7.2 t of pangolin *Manis* spp. scales from a shipping container arriving by ship from Nigeria and labelled as “charcoal”. This is reported to be the largest seizure of its kind in Hong Kong in recent history.

*South China Morning Post:* <http://bit.ly/2rk1lqC>, 30 May 2017

**INDIA:** (see other/multi-seizures)

**INDONESIA:** On 13 June 2017, authorities arrested two people following a raid at Belawan port, Medan, in Sumatra, and uncovered more than 225 Sunda Pangolins *Manis javanica*; only 110 specimens were alive. Two dozen of the dead pangolins had already been skinned. The shipment was destined for Malaysia.

*Wtop:* <http://bit.ly/2xixijg>, 14 June 2017

**MALAYSIA:** (see also other/multi-seizures) In early May 2017, Customs officers at Kuala Lumpur International Airport seized two shipments containing a total of 712 kg scales of pangolins *Manis* spp. (estimated to derive from

circa 1400 adult pangolins) arriving from Accra, Ghana (408 kg), and Kinshasa, D.R. Congo (304 kg), and labelled “general products” and “dry herbs”. Both shipments transited Dubai and bore fake company information.

On 9 June 2017, Customs officers at Kuala Lumpur International Airport foiled an attempt to smuggle 288 kg of pangolin *Manis* spp. scales from Ghana to Malaysia labelled as “oyster shells”, bound for a false address in Ampang, Selangor.

On 15 June 2017, another shipment from Ghana labelled “oyster shells” was found to contain almost 400 kg of pangolin *Manis* spp. scales—three people arrested in late July claimed that the scales had been supplied by a Chinese national who had arranged for the stock to be sent to Ghana via an accomplice in Nigeria; the export from Ghana to Malaysia had allegedly been facilitated by one of those arrested.

On 29 July 2017, at Sepanggar container port, Sabah, Customs officials seized eight tonnes of pangolin scales from 226 sacks—reportedly the largest-ever seizure of pangolin scales in Sabah. The scales were to be subject to DNA testing to determine their origin. The owner of the company shipping the goods was arrested on 11 August.

On 30 July 2017, authorities at Kuala Lumpur International airport seized 301 kg of pangolin *Manis* spp. scales arriving from D.R. Congo, in boxes declared as “fish maw”; the airway bill bore a fake destination.

*The Star online:* <http://bit.ly/2xgVRgs>, 9 May 2017; *New Straits Times:* <http://bit.ly/2zKOiR6>, 8 May 2017; *The Malay online:* <http://bit.ly/2xhHicG>, 13 June 2017; *FMT News:* <http://bit.ly/2hGxx4v>, 7 August 2017; *The Star:* <http://bit.ly/2zx3ujL>, 12 August 2017

**THAILAND:** On 8 August 2017, police officers arrested a man from Narathiwat province as he attempted to transport 93 pangolins *Manis* spp. to Pathum Thani for onward shipment to China.

On 28 August 2017, some 88 live pangolins *Manis* spp. were rescued from a car involved in an accident in Kanchanadit district, Surat Thani. The animals were believed to be destined for use in traditional medicines, and for the restaurant trade in China. The driver of the vehicle fled and is being sought. The pangolins are to be cared for at a wildlife station in Phangnga before being released in the wild.

On 30 August 2017, officers at Prachuap Khiri Khan’s Pran Buri Customs checkpoint searched two lorries and found 136 live pangolins *Manis* spp. and 450 kg of pangolin scales that were being smuggled from Malaysia to China.

*Asia Times:* <http://bit.ly/2xb2ukP>, 22 August 2017; *Bangkok Post:* <http://bit.ly/2wMEvf6>, 28 August



2017; *The Nation*: <http://bit.ly/2hZ5w51>, 31 August 2017

**UGANDA:** On 13 September 2017, it was reported that eight suspects had been arrested and six tonnes of pangolin *Manis* spp. scales seized during a multi-nation operation.

*New Vision*: [www.newvision.co.ug/new\\_vision/news/1461528/uwa-apprehends-pangolin-scales](http://www.newvision.co.ug/new_vision/news/1461528/uwa-apprehends-pangolin-scales), 13 September 2017

**VIET NAM:** On 5 April 2017, police in Hoa Binh, Yen Thuy District, seized 118 (556 kg) Sunda Pangolins *Manis javanica* from a car following a chase that ended with the police shooting the car's tyres to make it stop. Five pangolins were dead; the remaining specimens were to be sent to a national park for rehabilitation.

*VnExpress*: <http://bit.ly/2oKHjVr>, 6 April 2017; *Tien-phong*: <http://bit.ly/2gEjVXE> (in Vietnamese), 6 April 2017

## REPTILES

**INDIA:** On 30 May 2017, 210 *hatha jodi* were seized from a house in Bhubaneswar, in the State of Odisha. *Hatha jodi* are the male reproductive organs of monitor lizards, in this case identified as belonging to the Bengal Monitor *Varanus bengalensis* and Yellow Monitor *V. flavescens* (both CITES I), which had been offered for sale online. Reportedly, buyers are largely under the mistaken belief that the organs are plant roots that have magical qualities.

It is reported that six seizures have taken place in Gujarat, Madhya Pradesh, Uttar Pradesh and Odisha this year, in which 331 monitor lizard *Varanus* spp. reproductive organs have been recovered. Most recently, on 4 September, 34 pairs of *hatha jodi* were seized in Odisha.

Since it is hard to capture only the males, it is reported that poachers trap or chase monitor lizards into nets, tie their legs, and place them in sacks; the males are only separated later. While

the lizard is still alive, the area around the hemipenis is burnt so that the organ protrudes further, after which it is removed with a knife and dried in the sun. The lizard's meat is eaten, its skin is used to make drums, and the fat is sold or boiled to extract oil, which is also sold.

On 21 August 2017, authorities infiltrated a gang involved in smuggling Indian Star Tortoises *Geochelone elegans* (CITES II), and seized more than 2500 specimens from a house in Avadi. Three people had illegally procured the specimens from various parts of the country and had smuggled some 10 000 Star Tortoises to the southern coast of Tamil Nadu, in particular to Rameswaram, in the district of Ramanathapuram, for export to Sri Lanka and other countries [note district also apparently favoured for export of Red Sanders to Sri Lanka (see Flora)]. The mastermind behind the operation was being sought.

*The Indian Express*: <http://bit.ly/2hYJgYS>, 14 September 2017; *The New Indian Express*: <http://bit.ly/2xhNXU9>, 31 May 2017; *The New Indian Express*: <http://bit.ly/2zw0eoP>, 23 August 2017

**INDONESIA:** On 15 May 2017, an attempt to smuggle 253 reptiles was foiled at Soekarno-Hatta Airport when officials suspicious of two suitcases in transit and passing through an X-ray scan found that they contained: 33 Blood Pythons *Python brongersmai* (CITES II), three Green Tree Pythons *Morelia viridis* (CITES II), four Borneo lizards (reportedly likely to be Earless Monitor Lizards *Lanthanotus borneensis* (CITES II)), 42 Panama lizards (likely Blue-tongued skinks *Tiliqua* spp.), 65 Crocodile Skinks *Tribolonotus gracilis*, 69 monitor lizards *Varanus* spp. (CITES I/II), one Pig-nosed Turtle *Carettochelys insculpta* (CITES II), six Asian Leaf Turtles *Cyclanops dentata* (CITES II), Green Tree Pythons *Morelia viridis* (CITES II) and 19 small brown snakes. The owner of the suitcases, a Japanese national, had begun his journey at Kualanamu Airport, Medan, and was bound for Haneda Airport, Tokyo, Japan.

On 16 June 2017, Tanjung Priok Port police acting on information seized from the luggage of an individual hundreds of reptiles from a ship arriving from Papua, including 20 Green Tree Pythons *Morelia viridis* (CITES II), 96 Pacific Ground Boas *Candoia carinata* (CITES II), five Amethystine Pythons *Morelia amethystina* (CITES II), four D'Albert's Water Pythons *Leiopython albertisii* (CITES II), 89 New Guinea Viper Boas *Candoia aspera* (CITES II), 11 Burton's Legless Lizards *Lialis burtonis*, 9 pit vipers *Crotalinae*, 2 Peach-throated Monitors *Varanus jobiensis* (CITES II), nine Panama lizards/Blue-tongued skinks *Tiliqua* spp., 33 Crocodile Skinks *Tribolonotus gracilis*, and one Green Lizard (possibly *Dasia olivacea*). The animals, placed in plastic containers, wrapped in white bags and placed in cardboard boxes, were destined for sale in Jakarta.

*OKEZONE*: <http://bit.ly/2y0rPx2> (in Bahasa Indonesia), 16 May 2017; <http://bit.ly/2y0jg5I> (in Bahasa Indonesia), 21 June 2016; *Detik News*: <http://bit.ly/2y1RBJL> (in Bahasa Indonesia), 20 June 2016

**LIBYA:** On 28 April 2017, some 1870 Kleinmann's Tortoises *Testudo kleinmanni* (CITES I) were seized by the Coast Guard in the Sidi Khalifa area of Benghazi [not reported whether the specimens were alive or not]. The smugglers are alleged to be members of an international trafficking syndicate that harvests tortoises from the coastal areas of eastern Libya, which are reportedly smuggled out of the country via both land and sea routes to lucrative pet markets in Egypt. The species is also reported to be targeted by traditional hunters for its body parts for use in traditional medicines.

*Libya Herald*: <http://bit.ly/2laSkii>, 28 April 2017; *LinkedIn*: <http://bit.ly/2irGMpP>, 28 April 2017

**MADAGASCAR:** On 26 June 2017, 350 Radiated Tortoises *Astrochelys radiata* and two Ploughshare Tortoises *Astrochelys yniphora* (both CITES I) were seized from three suitcases at Antananarivo-Ivato International Airport. A Malagasy national bound for Hanoi-Viet Nam, via Nairobi, was arrested.

*RFI Afrique*: <http://bit.ly/2y05Pte>, 28 June 2017

### Five Ploughshare Tortoises and 325 Radiated Tortoises smuggled from Madagascar were seized at Kuala Lumpur International Airport in May 2017.



ELIZABETH JOHN / TRAFFIC

**MALAYSIA:** In May 2017, Indian national Fakruddin Ali Ahmed Habeeb was sentenced to 39 months in gaol after he was arrested in a hotel room in Kuala Lumpur in possession of 20 Black Pond Turtles *Geoclemys hamiltonii* (CITES I) contained in three suitcases; also seized were specimens of Red Crowned Roof Turtle *Batagur kachuga* (CITES II), Dhongoka Roofed Turtle *Batagur dhongoka* (CITES II), and Indian Tent Turtle *Pangshura tentoria* (CITES II). Peninsular Malaysia Department of Wildlife and National Parks (PERHILITAN) is working to repatriate the reptiles.

On 14 May 2017, Customs officials at Kuala Lumpur International Airport foiled an attempt to smuggle 325 Radiated Tortoises *Astrochelys radiata* and five Ploughshare Tortoises *A. yniphora* (both CITES I) on a flight from Antananarivo airport, Madagascar. The live

specimens were contained in crates labelled as “stones”; the address of the recipient was found to be false.

On 26 August 2017, officials in Sungai Siput, Perak, seized 200 wildlife items from a car being driven by a Vietnamese national, including 188 Sun Bear *Helarctos malayanus* (CITES I) claws, 21 Sun Bear (CITES I) teeth, 17 Tiger *Panthera tigris* (CITES I) claws, eight Tiger teeth, one Sambar Deer *Rusa unicorn* horn, and parts of other unidentified wildlife.

*Hindustan Times*: <http://bit.ly/2ppLiYy>, 11 May 2017; *TRAFFIC*: <http://bit.ly/2zKqyMU>, 23 May 2017; *Gulf News*: <http://bit.ly/2ylJj4E>, 16 May 2017; *TRAFFIC*: <http://bit.ly/2y0pLW8>, 11 September 2017

**PHILIPPINES:** On 6 July 2017, authorities intercepted a boat carrying 70 dead Hawksbill Turtles *Eretmochelys imbricata* (CITES I) off the coast of Dumaratan town in northern Palawan. The vessel was reportedly bound for Balabac, an island town in southern Palawan. The animals had been collected from Barangay Mayteged, Taytay, in northern mainland Palawan.

*Rappler*: <http://bit.ly/2tyxHNv>, 7 July 2017

## RHINOCEROS

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

**MALAYSIA:** On 7 April 2017, authorities at Kuala Lumpur International Airport seized 18 rhinoceros horns (51 kg) packed in wooden crates. The items had been shipped from Mozambique via Qatar using false documents and declared as “obra de arte” [works of art].

*Reuters*: <http://reut.rs/2it5bLU>, 10 April 2017

**SOUTH AFRICA: Rhinoceros horn seizures at O.R. Tambo Airport, Johannesburg:** On 17 May 2017, Customs officers seized a foil parcel containing eight pieces (7 kg) of rhinoceros horn concealed among packets of confectionery destined for Hong Kong via Qatar. The consignment was declared as “tea bags”.

On 22 May 2017, officials intercepted a parcel containing nine rhinoceros horns (13 kg) destined for Hong Kong.

On 11 June 2017, 10 rhinoceros horns (25 kg) were found in two bags bound for Turkey; their final destination was believed to be Hong Kong. The couriers, two Chinese nationals who had already boarded the flight, were removed from the aircraft and arrested.

On 14 June 2017, Customs officials seized 28.7 kg of rhinoceros horn from the luggage of a Vietnamese national. The five horns had been coated in hard wax and wrapped in newspaper. The suspect was arrested.

On 25 July 2017, a Chinese national, Shuangshuang Xue, arriving from Lusaka, Zambia, bound for Hong Kong, was arrested after 14 (20 kg) pieces of rhinoceros horn were found in her luggage. On 12 October 2017, at Kempton Park Regional Court, she was sentenced to four years in gaol. Following genetic profiling it was discovered that the horns derived from the White Rhinoceros *Ceratotherium simum*, and from five different animals (four males and one female). None of the 14 pieces could be linked to any poaching incidents or registered stockpile.

On 8 September 2017, a man bound for Hong Kong was arrested after five rhinoceros horns (12 kg) wrapped in foil were found in his luggage.

*SARS media releases*: <http://bit.ly/219UnmU>, 19 May; <http://bit.ly/2ylMbNu>, 23 May 2017; [www.saps.gov.za/newsroom/selnewsdetails.php?nid=12603](http://www.saps.gov.za/newsroom/selnewsdetails.php?nid=12603), 11 September 2017; *ENCA*: <http://bit.ly/2gyHzRv>, 13 June 2017; *News 24*: <http://bit.ly/2i073rA>, 14 June 2017; *News 24*: <http://bit.ly/2xZGMo2>, 15 June 2017; <http://bit.ly/2yHCqjC>, 26 July 2017; *ENCA*: <http://bit.ly/2zw5ecV>, 26 July 2017; *Department of Environmental Affairs media release*: <http://bit.ly/2lctL4K>, 18 October 2017; *IOL*: <http://bit.ly/2v1xTbs>, 27 July 2017

On 5 June 2017, police in Hoedspruit, Limpopo, arrested three members of a suspected cross-border rhinoceros poaching syndicate linked to two cases of rhinoceros poaching in the Hoedspruit area. It is reported that the suspects were found in possession of a firearm which connected them to more than 60 cases of rhinoceros poaching countrywide, two in Hoedspruit.

On 19 August 2017, a farm manager was arrested at Sandringham Game Reserve, Hoedspruit, Limpopo, after authorities discovered 10 rhinoceros horns (and two ivory tusks and a huge arsenal of weapons and ammunition). The suspect, a member of the Professional Hunters Association of South Africa, was remanded in custody.

In September 2017, over the course of a week, 18 suspects were arrested in Skukuza, Hluhluwe, Barberton, KwaMsane, Nongoma and Gluckstadt, for offences relating to rhinoceros poaching and possession of rhinoceros horns.

Most suspects have appeared in court, with five receiving a collective 30-year gaol term. On 7 September 2017, at Skukuza Regional Court, Mapoyisa Mahluli was sentenced to an effective 20 years in gaol after he was found guilty of rhinoceros poaching. He was arrested in March 2016 in the Satara section of Kruger National Park (KNP) after rangers, alerted to gunshots, discovered a Southern White Rhinoceros *Ceratotherium simum simum* that had been shot dead and the horns sawn off; the suspects were picked up by their tracks. During a shootout, Mahluli was arrested while his accomplice escaped. Arms, ammunition, an axe and a fresh set of rhinoceros horns were recovered from the scene.

Mahluli's sentence includes two years in gaol for trespassing in KNP, 10 years for the illegal hunting of a rhinoceros, eight years for the possession of a firearm with intent to commit a crime, and three years for possession of an unlicensed firearm.

*Algoa.fm*: <http://bit.ly/2yMkRQk>, 7 June 2017; *News 24*: <http://bit.ly/2uSkWBb>, 19 August 2017; *Herald Live*: <http://bit.ly/2gDal7z>, 22 September 2017; *South African Police Service media statement*: <http://bit.ly/2yJhZU9>, 11 September 2017

**VIET NAM:** see other/multi-seizures

**ZAMBIA:** On 13 July 2017, authorities arrested three Chinese nationals and two locals found carrying 25 pieces (32 kg) of rhinoceros horn at the Chanida border post with Mozambique. The origin of the horns could not be immediately confirmed.

*ENCA*: <http://bit.ly/2zw5ecV>, 30 July 2017

## OTHER / MULTI-SEIZURES

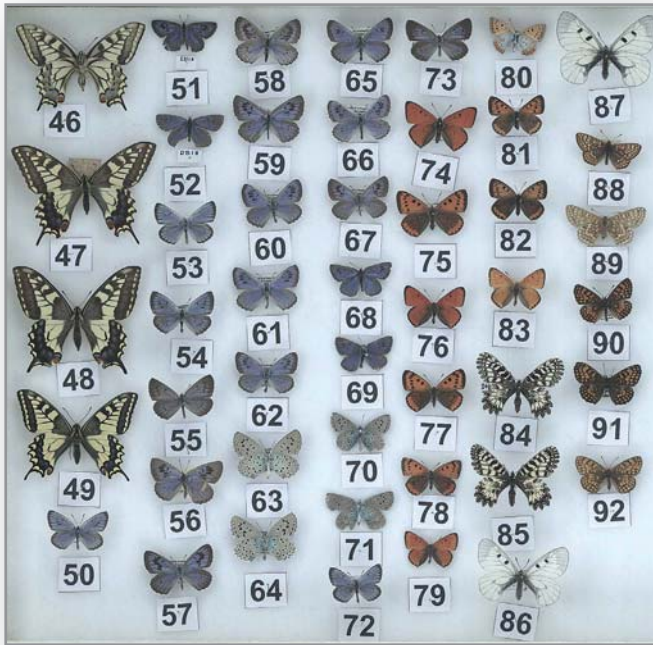
**CHINA:** On 31 July 2017, police in Guangzhou, Guangdong province, announced that they had seized over 10 000 wild animals, along with almost one tonne of animal products since they began cracking down on the illegal online animal trade in April. Police investigated reports that animals were being traded through WeChat social media site; subsequently Weibo, WeChat and QQ, and a number of live streaming sites were reportedly being closely monitored by authorities. A total of 5380 messages relating to the illegal sale and distribution of animals was uncovered and traced back to perpetrators in the province. In one incident alone, authorities seized over 1000 animals from a vehicle at a market in the capital.

*That's mags*: <http://bit.ly/2zlw5RU>, 27 July 2017

**INDIA:** On 21 August 2017, in what is believed to be one of the largest seizures of its kind in the country, authorities seized 32 985 mongoose hair painting brushes from the wholesale market in Kolkata's Burrabazar area. Four shopkeepers were arrested.

Mongoose *Herpestidae* are protected species under the *Wildlife Protection Act, 1972*. It is reported that several hundred animals would have been killed to make these brushes. The arrests revealed an inter-State network of the illegal wildlife trade of mongoose hair, with a village in West Bengal's South 24 Parganas, 50 km from Kolkata, serving as the centre for the manufacture of the brushes.

On 9 October 2017, officials in Gujarat arrested a suspect wanted in connection with Lion *Panthera leo* (CITES II) poaching cases dating back to 2007. During that year, 10 Lions were poached from Babariya range in Amreli and Junagadh. Some 32 suspects arrested at the time were sentenced to three years in gaol but two people, including the latest suspect arrested, absconded. He is accused of selling Lion bones and teeth as Tiger *Panthera tigris* (CITES I) parts.



◀ One of 13 trays of mounted butterflies seized from a collector in the UK.

Acting on information, a warrant was issued for officers of the Avon and Somerset police to search Cullen's home. Accompanied by personnel from the National Wildlife Crime Unit (NWCU) and the Natural History Museum, London, 13 trays of mounted butterflies were seized and Cullen was arrested in relation to offences under the *Wildlife and Countryside Act 1981* and *The Conservation of Habitats and Species Regulations 2010*. The seized butterflies were examined by experts at the Natural History Museum, where 89 specimens that are protected by UK and European legislation were identified.

In October 2017, at a court in Madhya Pradesh, four people were sentenced to four years in gaol and each fined INR10 000 (USD150). One of the suspects, well-known to the authorities for previous offences, confessed to smuggling the body parts of some 125 Tigers *Panthera tigris* (CITES I), the skins of 1200 Leopards *P. pardus* (CITES I) and other wildlife, including pangolins *Manis* spp., both within India and to international markets, via Nepal and Tibet.

**INDONESIA:** Authorities recently shut down a wildlife trafficking network that was using social media to sell animals, and seized nine Slow Lorises *Nycticebus* spp. One loris perished. It was apparent that they had been captured recently and their teeth, which are often removed after trapping, were intact; it was therefore anticipated that the surviving specimens would be returned to the wild.

*The Hindu:* <http://bit.ly/2vi0Yw4>, 23 August 2017; *Times of India:* <http://bit.ly/2y0HsVm>, 10 October 2017; *Hindustan Times:* <http://bit.ly/2gdYZTH>, 16 October 2017; *Care2:* <http://bit.ly/2y0AhwB>, 2 October 2017

**MALAYSIA:** On 29 August 2017, Customs officials at Sepang container port terminal, Sabah, seized 1148 ivory tusks (CITES I) (three tonnes) and five tonnes of pangolin *Manis* spp. (CITES I) scales concealed in sacks of ground nuts; the shipment was believed to have originated in Nigeria, bound for China.

*Malay Mailonline:* <http://bit.ly/2h1ZeSl>, 8 September 2017; *The Star online:* <http://bit.ly/2ylj8ef>, 8 September 2017

**SENEGAL:** On 22 August 2017, two men were given gaol sentences of three months and one month, respectively, and fined almost USD10 000 in damages for the illegal trade in ivory (and other wildlife products), and in respect of reportedly the largest ivory haul

ever seized in the country. An appeal has been lodged to secure a more severe punishment.

The sentencing follows the seizure of 780 ivory figurines and 20 kg of raw ivory, the teeth of Lion *Panthera leo* (CITES I), Hippopotamus *Hippopotamus amphibius* (CITES II) and warthogs; most items are thought to have been purchased in Nigeria and smuggled into the country.

*Daily Mail:* <http://dailymail.co.uk/22j06kY>, 24 August 2017; *DakarActu:* <http://bit.ly/2yCyNgf>, 23 August 2017

**UGANDA:** On 22 August 2017 it was announced that police had arrested seven people in Rukungiri district over three days and seized 74 kg of Hippopotamus *Hippopotamus amphibius* (CITES II) teeth and 33 kg of ivory (CITES I). The ivory was believed to have been imported from neighbouring Tanzania or D.R. Congo.

*Xinhuanet:* <http://bit.ly/2y0LVYa>, 23 August 2017

**UK:** On 7 April 2017, at Bristol Magistrates' Court, Phillip Cullen of Bristol was given a six-month sentence, suspended for two years, after being found guilty of capturing, killing and possession of two Large Blue *Phengaris arion* butterflies, the largest and rarest butterfly in the UK. He had previously pleaded guilty to possessing, contrary to regulations, 36 dead specimens of the Large Blue, Large Copper *Lycaena dispar*, Southern Festoon *Zerynthia polyxena* and Clouded Apollo *Parnassius mnemosyne*, and of possessing 49 dead specimens of Black Veined Moth *Siona lineata*, Fiery Clearwing *Pyropteron chrysidiformis*, Marsh Fritillary *Euphydryas aurinia*, Heath Fritillary *Melitaea athalia*, High Brown Fritillary *Argynnis adippe* and Swallowtail *Papilio machaon*.

He was also ordered to carry out 250 hours of unpaid work, given a five-year criminal behaviour order banning him from three nature reserves managed for the Large Blue, plus costs of GBP380 (USD500).

On 29 September 2017, at Inner London Crown Court, Peter Bailey of Lambeth was found guilty of keeping and offering for sale without the requisite documentation a variety of animal skulls and other derivatives. He was sentenced to a total of 26 months' imprisonment, suspended for 18 months, and ordered to complete 120 hours of unpaid work and pay court costs of GBP4000 (USD5278).

Among the skulls seized were those of the following CITES-I listed species: Chimpanzee *Pan troglodytes*, Drill *Mandrillus* sp., Leopard *Panthera pardus*, African Dwarf Crocodile *Osteolaemus tetraspis*, Himalayan Black Bear *Ursus thibetanus*, as well as derivatives of elephant and whale, amongst other wildlife.

The items were examined by the authorities who concluded that many of the primate specimens originated from West or Central Africa and were taken from the wild recently. Bailey admitted that he had imported specimens from Africa. Two baboon *Cercopithecidae* sp. (CITES II) skulls were sold to a UK buyer after they were advertised via an online marketplace as "taxidermy monkey skull, baboon, curio, collectable skull."

*UK National Wildlife Crime Unit:* <http://bit.ly/2yLUWsi>; *UK Metropolitan Police:* <http://bit.ly/2yHLALS>, 29 September 2017

**VIET NAM:** On 27 April 2017, police arrested three alleged members of a wildlife trafficking ring who were in possession of 33 kg of rhinoceros horn (CITES I) at Hanoi Railway Station. A subsequent raid on the house of the suspected kingpin uncovered a further three kilogrammes of rhinoceros horn, plus two frozen Tiger *Panthera tigris* (CITES I) cubs, four Lion *Panthera leo* (CITES I) pelts and raw ivory (CITES I).

The suspects claimed to have purchased the items from South Africa, before moving them by air to Malaysia, Thailand and Cambodia from where they were brought by ship and train to Viet Nam, allegedly to avoid detection.

*VnExpress:* <http://bit.ly/2z2azNd>, 29 April 2017; *Save the Rhino:* <http://bit.ly/2yNMbOp>, May 2017; *Education for Nature:* <http://bit.ly/2zjYtVO>, 4 May 2017

# GOLDEN ROCK REVISITED: WILDLIFE FOR SALE AT KYAIKTIYO, MYANMAR

*Report by Vincent Nijman and Rosa A. Indenbaum*

**M**yanmar is widely recognized as an important country for biodiversity conservation. With the democratization process now under way and many of the former sanctions lifted, Myanmar is showing rapid economic growth and has strengthened its trading relations with neighbouring countries, especially China. This process offers opportunities and challenges and, of these, curbing the illegal wildlife trade and regulating the legal trade is paramount. Protected wildlife remains openly offered for sale in many towns and cities (Davies, 2005; Shepherd and Nijman, 2008), and several of these centres of wildlife trade have been brought into the spotlight by conservationists and the media alike (e.g. Oswell, 2010; Felbab-Brown, 2011; Nijman and Shepherd, 2015). One of them is Mount Kyaiktiyo, also known as Golden Rock, in Mon State. Situated 160 km (a 3.5 hr drive) from Yangon, it is Myanmar's third-most important sacred Buddhist site. The Golden Rock is a 7 m tall boulder with an equally tall pagoda on top—both covered in gold leaf—that balances on a ledge of the 1100 m tall Mount Kyaiktiyo. Visitors can make the journey to the summit by lorry, or on foot by walking the last 1.5 km.



While Kyaiktiyo is frequently and correctly mentioned as a centre for wildlife trade (Arnold, 2015; Aye Sapay Phyu, 2015; Shepherd and Nijman, 2008; Scharf, 2013), only once has a full inventory of all wildlife for sale been published. In April 2000, Shepherd (2001) visited Kyaiktiyo for two days, identified the species on offer and quantified the different body parts for sale. Nijman and Shepherd (2017) presented a focused account of ethnopharmacological uses of the wildlife for sale at Kyaiktiyo but excluded all species that were not explicitly traded as traditional medicine. Martin (1997) tabulated the number of parts of six species for sale at Kyaiktiyo based on a visit made by a third party in January 1996, but possibly only high-profile species were recorded, and apparently in one shop only. In 2015 and 2017, the first author of this report had the opportunity to conduct repeat surveys.

## WILDLIFE SURVEYS

Kyaiktiyo was visited on two occasions: 30 June 2015 and 21 January 2017. The first author surveyed the central area and roads leading to the Golden Rock pagoda as well as many of the stairways and alleyways leading to the central area. The trade was open and there was no need to resort to undercover techniques. In both years, discussions were held with traders who were generally willing to provide information on the goods being offered for sale. In 2017, because of the very large number of visitors present, fewer discussions were held compared to 2015. Taking photographs was generally not appreciated by traders and photographs were therefore taken infrequently so as not to attract attention. The focus was on animals, and not on plants or fungi.

Animals are sold and displayed in various forms in Kyaiktiyo, including whole carcasses, body parts that can be identified to genus or species level (e.g. skins, legs, heads, antlers, skulls) and ones that cannot (post-cranial bones, partial carcasses, fresh or cooked meat, body parts soaked in dark oil), worked parts (e.g. sawn antlers), and animal fat and oils (some of mixed origin and often mixed with fragrant wood chips). Each has its own identification problems, and the focus here is on those items that could be identified to the species or genus level, or to other higher groups (primates, carnivores, snakes). Most (17/25) shops prominently displayed a large bowl with rendered animal parts, layers of animal fat, herbs and fragrant wood chips; this infusion forms the basis of the traditional medicinal oil that is subsequently bottled. Animal parts placed on the top of these bowls were mostly identifiable but submerged or covered specimens were not, resulting in an underestimation of the amount of wildlife present. Shops only offering wildlife derivatives (i.e. mostly bottles of oil or fat) but not displaying any animal body parts are not included in this analysis.

### Species and body parts on display

The 2015 survey coincided with a low period in the pilgrimage calendar, resulting in few visitors and many

restaurants and shops, including those selling wildlife, were closed. The 2017 survey by contrast was carried out during the peak pilgrimage season, which runs from November to March. No species was observed in 2015 that was not also observed in 2017 and the quantitative assessment below is based on the 2017 survey only. The qualitative assessment based on observations and discussions with vendors relates to information obtained during both surveys.

Twenty-five outlets, out of an estimated several hundred, were openly selling and displaying wildlife, i.e. 23 shops were selling body parts and traditional medicine and two restaurants were selling fresh and prepared wild meat and serving wild meat dishes. Four outlets were situated on the top of the mountain along the roads leading to the Golden Rock itself but the majority, including the two restaurants, were on the various steep stairways leading up to the Golden Rock.

Most species were offered for use as traditional medicines, with some parts also offered as trophies or for ornamental use (e.g. skins, tails, teeth). Very few species were sold for ornamental purposes only. Each vendor produced their own traditional medicine, comprising a mixture of rendered animal parts and fragrant wood (mostly *Eucalyptus*). While it was not possible to determine the age of any of the body parts, the closure of most shops in the summer months suggests that many parts used for medicinal purposes have a turnover of less than a year (a small proportion may be retained for the next pilgrimage season or may be trafficked further afield). Furthermore, given the generally low prices that individual pieces of wildlife command, it does not make sense economically to retain a large stock, again suggesting a fast turnover.

A minimum of 26 species was recorded, including 18 that are legally protected in Myanmar and 11 that are globally threatened according to IUCN criteria (Tables 1 and 2). Judging by the number of body parts on offer, the most common species in trade were squirrels (mostly *Tamiops* spp.), serow *Capricornis* spp., Asiatic Black Bear *Ursus thibetanus* and macaques *Macaca* spp. Many of the globally threatened species Shepherd recorded in 2000 (Shepherd, 2001) were observed in 2017, often in similar quantities (Table 2). The number of body parts on offer from large cats, bears and serows was especially worrying (cf Leupen *et al.*, 2017). Body parts of protected species were as openly displayed as those of non-protected species and the skins of Leopards *Panthera pardus* prominently displayed in shops, or the numerous serow heads placed on top of rendering pots, show vendors have little fear in displaying their goods.

## LEGISLATION

Myanmar has been a Party to CITES since 1997 and joined the ASEAN-Wildlife Enforcement Network in 2005, thus indicating a clear commitment to biodiversity conservation and sustainable use of wildlife. Protection of wildlife in Myanmar is largely covered by the

# SHORT REPORT

Species	National Protection	IUCN Category	Parts	No. seen	Comments
Pangolin <i>Manis</i> spp.	Completely protected	CR	scales	12	
Macaque <i>Macaca</i> spp.	Normally Protected		skull	36	
Langur <i>Trachypithecus</i> spp.	Normally Protected	NT/VU/EN	skull	20	
			tail	5	species ID uncertain
Gibbon <i>Hoolock</i> spp.	Completely protected	VU/EN	skull	1	
Primate			skull	14	fragments
Asiatic Black Bear <i>Ursus thibetanus</i>	Normally Protected	VU	skull	10	
			paws	5	
			canines	50	some may have been Sun Bear <i>Helarctos malayanus</i>
			nails	20	
			skin piece	1	
Small Indian Civet <i>Viverricula indica</i>	Normally Protected		skin	1	
Civet			carcass	2	possibly Common Palm Civet <i>Paradoxurus hermaphroditus</i>
Spotted Linsang <i>Prionodon pardicolor</i>	Completely protected		skin	1	
Mongoose <i>Herpestes</i> spp.			skins	2	
			stuffed	1	
			tails	10	including as key chain holders
Clouded Leopard <i>Neofelis nebulosa</i>	Completely protected	VU	skull	3	
			skin piece	1	
Leopard <i>Panthera pardus</i>	Completely protected	VU	skin	2	both appeared fresh
			skull	3	
Tiger <i>P. tigris</i>	Completely protected	EN	skin	1	
Leopard/Tiger <i>Panthera</i> spp.	Completely protected	VU/EN	canines	8	
Large cat	Completely protected		skull	3	in fragments
Small cat			carcass	1	possibly Leopard Cat <i>Prionailurus bengalensis</i>
			skull	10	
Asian Elephant <i>Elephas maximus</i>	Completely protected	EN	skin pieces	21	
			soles of feet	5	all in different shops
			tail	1	
			hair rings	25	
			molars	28	11 whole, 17 partial
			ivory	4	1 tip, 3 small pieces
Wild pig <i>Sus scrofa</i>			skull	4	
			teeth	20	
Sambar Deer <i>Cervus unicolor</i>	Normally Protected	VU	skull+antlers	5	
			antler set	2	
			carcass	1	partial
			legs	3	Fresh, for meat
			feet	5	soaked in oil
Muntjak <i>Muntiacus</i> spp.	Seasonally protected		skull+antlers	5	plates: partial skull and antlers
			skull	6	
			antlers	15	
			leg?	1	ID uncertain
Serow <i>Capricornis</i> spp.	Completely protected	NT	head	8	
			skull+horns	18	
			horns	30	
			legs	5	
Tree shrew <i>Tupaia</i> spp.			skin	2	
			tail	5	
Squirrel <i>Tamias</i> spp.			skin	20	
			tail	65	including as key chain holders
Asiatic brush-tailed Porcupine <i>Atherurus macrourus</i>			carcass	1	
Malayan Porcupine <i>Hystrix brachyuran</i>			skinned head	1	
			quill bundles	30	
Eagle <i>Clanga</i> spp.	Normally Protected		carcass	1	
Kalij Pheasant <i>Lophura leucomelanos</i>	Completely protected		feathers	30	two bundles in two shops
Burmese Python <i>Python bivittatus</i>	Normally Protected		skin/skin pieces	4/6	
Reticulated Python					
<i>Malayopython reticulatus</i>	Normally Protected		skin/skin pieces	4/4	
Python <i>Python</i> spp.	Normally Protected		carcass	6	
Giant Centipede			whole	20	possibly <i>Ethmostigmus rubripes</i>

**Table 1. Species and body parts recorded in Kyauktiyo market, Myanmar, January 2017.** IUCN status is that for 2016. NT=Near Threatened, VU=Vulnerable, EN=Endangered, CR=Critically Endangered. For protection status categories, see page 83.

*Protection of Wildlife and Conservation of Natural Areas Law* of 1994 (No. 6/94). It is generally recognized that this law is relatively weak and at the time of going to press, revisions and amendments to this law are awaiting parliamentary approval. In the current version, it is illegal to kill, possess, or trade in protected species, but an exemption is made for the possession, use, sale, transport or transfer of a “drug” prepared from a part of a protected wildlife species. This loophole means that under this law it may not be illegal for the vendors at Kyaiktiyo to sell wildlife products that have been prepared or processed from protected wildlife into “drugs” (i.e. medicinal oils), although possession and sale of the raw or unprocessed wildlife parts needed to produce these drugs is illegal.

The *Protection of Wildlife and Conservation of Natural Areas Law* states that the Director General shall determine which species of wild animals will be placed in the following protection categories: completely, normally or seasonally protected. These species are protected from harm, possession, use, sale, transport or transfer—except in the form of a “drug”. Currently, the law stipulates that anyone who is convicted of harming (killing, hunting, wounding), possessing, selling, transporting or transferring any “normally or seasonally protected” wild animal without permission is subject to a maximum prison term of five years and/or a fine of up to MMK30 000 (USD22). Meanwhile, anyone convicted of the same acts on a “completely protected” animal, as well as the act of exportation without permission, is subject to a maximum prison term of seven years and/or a fine of up to MMK50 000 (USD37). Although the monetary punishment is weak, particularly given that the value of certain types of wildlife can be very high (e.g. wild bear bile in Myanmar averages USD298/100 g; Nijman *et al.*, 2017), the possible length of imprisonment should act as a deterrent, if enforced. However, the authors document here the ongoing sale of protected wildlife at this location since at least 1996, indicating a systematic lack of enforcement.



**Red Junglefowl, Sambar Deer and (northern) Red Muntjac for sale at a foodstall located on top of Mount Kyaiktiyo, Myanmar, December 2015.**

Although the loophole in the *Protection of Wildlife and Conservation of Natural Areas Law* means that the sale of “drugs” made from protected wildlife is permitted, under the *Traditional Drug Law* (No. 7/96), it is illegal to manufacture or sell unregistered traditional drugs. However, it is legal to manufacture *registered* traditional drugs—but only if the manufacturer obtains a licence. Thus, shops at Kyaiktiyo manufacturing and/or selling traditional drugs made from protected wildlife would only be doing so legally under both laws if they are a) registered as a manufacturer; b) manufacturing only registered drugs and c) selling only registered drugs. No manufacturing licences were observed by the author during either visit to Golden Rock at the 17 shops offering traditional oils. The acts of manufacturing and selling unregistered traditional drugs and manufacturing a registered traditional drug without a licence are all subject to a prison term of up to three years and/or a fine of up to MMK30 000 (USD22). Much like the *Protection of Wildlife and Conservation of Natural Areas Law*, the *Traditional Drug Law* carries a weak monetary punishment, but a reasonable imprisonment term. Both laws suffer from a lack of enforcement.

## CONCLUSIONS

The number of globally threatened species that have been recorded at Kyaiktiyo is substantial. Combining data collected in 2017, 2015, 2006, 2000 and 1996 (Table 2), at least 12 threatened species have been recorded, representing a minimum of 224 individuals. Almost half of these were serows and eight were Asiatic Black Bears. For these two species especially, trade at Kyaiktiyo may represent a serious threat. Additionally, the number of nationally protected species recorded here is alarming. The most recent survey undertaken by the first author found products for sale from species completely protected under Myanmar law, including elephants, Leopards, pangolins and Sambar Deer *Cervus unicorn*.

The forested hills surrounding Golden Rock are included in the 156 km<sup>2</sup> Kyaiktiyo Wildlife Sanctuary, gazetted in 2001. Poaching is a serious threat and the five staff employed to patrol the area are not sufficient to safeguard the integrity of the sanctuary (Beffasi and Galanti, 2011). Shepherd (2001) reported that many of the species for sale at Kyaiktiyo were hunted in the surrounding forests, i.e. in the sanctuary. Thus, the sale of wildlife at Golden Rock may be having a detrimental impact on populations in the area.

Myanmar has the legislative instruments to shut down most, if not all, of the shops at Kyaiktiyo selling wildlife. The *Protection of Wildlife and Conservation of Natural Areas Law* and the *Traditional Medicine Drug Law* alone are enough to target buyers and sellers of raw wildlife products and unregistered traditional drugs. The Department of Traditional Medicine is tasked with supervising the manufacture of traditional medicines and should visit Golden Rock to see whether the shops have manufacturing licences. The Ministry of Health should

Species	1996	2000	2006	2015	2017	Total
Pangolin <i>Manis</i> spp.		3	0	0	1	4
Langur <i>Trachypithecus</i> spp.	1?	0	0	0	20	20
Gibbon <i>Hoolock</i> spp.		0	1	0	1	2
Asiatic Black Bear <i>Ursus thibetanus</i>	2?	8	6	2	13	29
Sun Bear <i>Helarctos malayanus</i>		0	1	0	0	1
Clouded Leopard <i>Neofelis nebulosa</i>		5	2	0	3	10
Leopard <i>Panthera pardus</i>		5	0	1	5	11
Tiger <i>Panthera tigris</i>	3	13	1	0	2?	17
Asian Elephant <i>Elephas maximus</i>		2	1	1	2	6
Sambar Deer <i>Cervus unicolor</i>		0	0	3	7	10
Serow <i>Capricornis</i> spp.		44	18	9	41	112
Irrawady Dolphin <i>Orcaella brevirostris</i>		2	0	0	0	2

**Table 2. Minimum number of individuals (whole animals or estimates from the number of body parts that were on offer) of globally threatened species observed in Kyaiktiyo market, Myanmar, in various years.** Data sources: January 1996 (Martin, 1997), April 2000 (Shepherd, 2001), February 2006 (C.R. Shepherd, in litt. 2017), June 2015 and January 2017 (present study).

determine whether the traditional drugs for sale at Golden Rock are indeed registered. The Pagoda Authority has the responsibility for registering and monitoring all economic activity conducted on pagoda property—including the pathways leading up to the Golden Rock on which many of these shops are located—and as such should alert the relevant authorities of potential illegal manufacturing and sale of wildlife when observed. Lastly, as it has previously been reported that many of the species for sale at Kyaiktiyo were hunted from the surrounding forests, i.e. the Kyaiktiyo Wildlife Sanctuary, greater efforts should be made to deter poaching. Protected wildlife continues to be offered for sale at Golden Rock and it is time for Myanmar to use existing tools to regulate this trade.

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## REFERENCES

- Arnold, K. (2015) Golden Rock: sacred site, shady business. *Frontier Myanmar* 27 June 2016.
- Aye Sapay Phyu (2015). Al Kyaiktiyo, wildlife trade on open display. *Myanmar Times* 16 January 2015.
- Beffasi, L. and Galanti, V. (eds) (2011). *Myanmar Protected Areas: Context, Current Status and Challenges*. BANCA and Instituto Oikos, Yangon and Milan.
- Davies, B., (2005). *Black Market: Inside the Endangered Species Trade in Asia*. Earth Aware Editions, San Rafael.
- Felbab-Brown, V. (2011). *The Disappearing Act—The Illicit trade in Wildlife in Asia*. Brookings Institution, Washington.

- Leupen, B.T.C., Gomez, L. and Shepherd, C.R. (2017). Recent observations of the illegal trade in serows in Lao PDR. *TRAFFIC Bulletin* 29:37–40.
- Martin, E.B. (1997). Wildlife products for sale in Myanmar. *TRAFFIC Bulletin* 17:33–44.
- Nijman, V., and Shepherd, C.R. (2014). Emergence of Mong La on the Myanmar–China border as a global hub for the international trade in ivory and elephant parts. *Biological Conservation* 179:17–22.
- Nijman, V., and Shepherd, C.R. (2015). Trade in tigers and other wild cats in Mong La and Tachilek, Myanmar—a tale of two border towns. *Biological Conservation* 182:1–7.
- Nijman, V., and Shepherd, C.R. (2017). Ethnozoological assessment of animals used by Mon traditional medicine vendors at Kyaiktiyo, Myanmar. *Journal of Ethnopharmacology* 206:101–106.
- Nijman, V., Oo, H., and Shwe, N.M. (2017). Assessing the illegal bear trade in Myanmar through conversations with poachers: Topology, perceptions, and trade links to China. *Human Dimensions of Wildlife* 22:172–182.
- Oswell, A.H. (2010). *The Big Cat Trade in Myanmar and Thailand*. TRAFFIC Southeast Asia, Petaling Jaya.
- Schearf, D. (2013). Burma struggles to crack down on wildlife consumption. *Voice of America* 28 February 2013.
- Shepherd, C.R. (2001). Observations on wildlife trade at Golden Rock, Myanmar. *TRAFFIC Bulletin* 19:7–10.
- Shepherd, C.R. and Nijman, V. (2008). The trade in bear parts from Myanmar: an illustration of the ineffectiveness of enforcement of international wildlife trade regulations. *Biodiversity and Conservation* 17:35–42.

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