The trade of African pangolins to Asia:

a brief case study of pangolin shipments from Nigeria

Occurring exclusively in Africa and Asia, pangolins are among the most heavily illegally traded mammals in the world. Popular for their meat and for the purported medicinal qualities of their scales (Challender and Hywood, 2012; Boakye *et al.*, 2015; Shepherd *et al.*, 2016), they are a much sought-after commodity, both locally and internationally, despite the protective measures that are in place in most countries in which they occur. With China and Viet Nam the key consumers of pangolin derivatives, international trade has historically confined itself to the Asian continent. However, recent seizures data suggest that the trafficking of African pangolin species to meet Asian demand is on the rise. Their mounting occurrence on the international market is alarming and has been attributed to a drastic decline in the four Asian species and increasing economic ties between East Asia and African countries (Challender and Hywood, 2012; Challender, 2015; Nijman *et al.*, 2015; Shepherd *et al.*, 2016). While it has long been suspected that inter-continental pangolin trade occurs, and the possibility of such a trade was raised in Bräutigam *et al.* (1994), there has been little study of its scope and scale. Challender and Hywood (2012) first shed light on the potential threats such trade may pose to African pangolins based on an analysis of seizures data of the four species between 2000 and 2012. Since then, the number of incidents has not increased in a noteworthy way (in fact the number of seizures may seem low to the casual observer). However, this observation may be misleading, for the quantities of seized goods have risen tremendously. Between 2000 and 2012, the weight of scales seized in a single incident ranged from one kilogramme to ca. 200 kg (Challender and Hywood, 2012). These numbers now commonly range from 250 kg to 2000 kg. This short note aims to provide a concise overview of these worrying findings in respect of Nigeria, and to highlight the importance of further research into the shifting trends in the international pangolin trade.

Case Study: Nigeria to Asia

The recent spate of inter-continental pangolin trade originating from Nigeria warranted closer scrutiny of the country's potential role as an important African export hub. Seizures data of pangolin shipments originating in Nigeria were collected and analysed for the period 2011 to 2015. These data were obtained from media reports and the TRAFFIC database. Nine

Fig. 1. Trade routes of pangolin shipments from Nigeria to Asia, and volumes, 2012.

Fig. 2. Trade routes of pangolin shipments from Nigeria to Asia, and volumes, 2014.

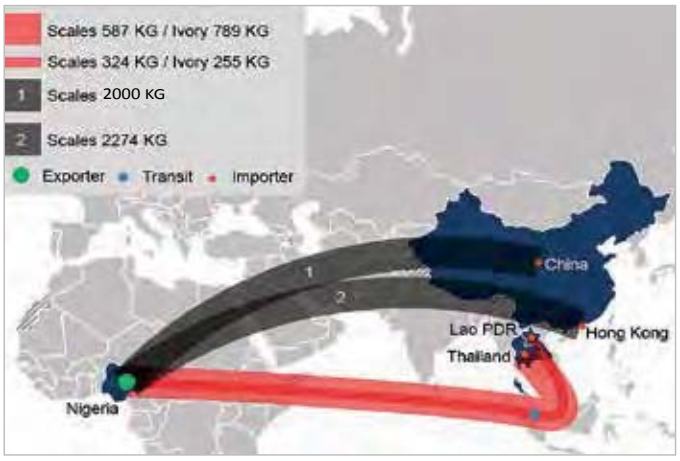

Fig. 3. Trade routes of pangolin shipments from Nigeria to Asia, and volumes, 2015.

records of seizures of pangolin shipments originating in Nigeria were found (Table 1).

Two seizures took place in 2012, one of which was exceptionally large (involving 3000 kg of pangolin meat, 1230 kg of scales and 225 kg of ivory) (Fig. 1). Another large seizure of 250 kg of scales took place in 2014 (Fig. 2). However, the majority of seizures occurred in 2015, with six incidents totalling no less than 5185 kg of scales (Fig. 3), suggesting that the pangolin trade from Nigeria is substantive. No seizure records were found for 2011 and 2013 (although it should be noted that in Challender and Hywood (2012) there is one record of a 2011 seizure in China involving scales and meat from Nigeria). In all incidents, pangolin scales were the main item seized, with the exception of the aforementioned 2012 seizure in which a large amount of pangolin meat was also seized. Interestingly, this seizure included ivory. In two other cases, pangolin derivatives were shipped along with large quantities of elephant ivory. These incidents took place in December 2012 in Singapore and Thailand, where Lao PDR-bound pangolin shipments were found to include a total of 563 elephant tusks. No pre-2012 records of mixed shipments coming from Africa were found in the database (post-2012 data include reports of mixed shipments from other African countries as well, most notably in 2015 a large Ugandan seizure of 2000 kg of scales and 700 kg of ivory destined for Europe took place), implying such shipments have either not previously occurred, or have gone undetected.

The seizures that took place during the study period occurred in China (five recorded incidents), France (one recorded incident, although it must be noted that many more African pangolin shipments, originating in different countries, have been seized in France over the years), Hong Kong (one recorded incident), Thailand (one recorded incident) and Singapore (one recorded incident), with China, Hong Kong and Lao PDR being the designated destinations. In all but one case (a 2015 Shanghai seizure involving 25 kg of scales), the quantity of seized pangolin derivatives was very large, ranging from between 250 kg and 4230 kg. In most cases, the pangolin parts were shipped by air, either in passengers' luggage or freight. The one exception was a shipment by sea that was seized in Hong Kong in March 2015 involving 2000 kg of scales.

The recorded incidents are worrying. While it is still uncertain whether Nigeria functions as a source or a transit country in the inter-continental pangolin trade, it is clear that Asian demand has become a serious threat to the survival of African pangolin species, and that Nigeria is a significant part of the illegal trade chain.

Recommendations

All four African pangolin species (Black-bellied Pangolin *Phataginus tetradactyla*, White-bellied Pangolin *P. tricuspis*, Giant Pangolin *Smutsia gigantea* and Temminck's Ground Pangolin *S. temminckii*) are currently classified as Vulnerable on the *IUCN Red List of Threatened Species* (Pietersen *et al*., 2014; Waterman *et al*., 2014a; Waterman *et al*., 2014b; Waterman *et al*., 2014c). International trade in pangolins is likely to be having a detrimental effect on population levels, although such pressure remains unquantified due to the paucity of research carried out on pangolins, and the lack of published information. Further investigation into the source, scale and extent of trade flows of African pangolins to Asia is desperately needed if we are to clamp down on this illicit trade, inform future policy decisions, and identify priority actions to aid in their conservation. Further research is also needed on the apparently novel occurrence of mixed shipments of pangolin and ivory. This brief case study also highlights the need to establish more effective protection measures for African pangolin species. All species of pangolin are listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), such that all international trade is regulated through the issuance of export permits. While a zero export quota has been established for the four Asian pangolin species, their African counterparts are subject to no such quota. This is particularly worrying in light of the uncertainty concerning current population sizes of all four African species (Souwu and Ayodele, 2009; Pietersen *et al.*, 2014; Boakye *et al.*, 2015). Moreover, it is highly debateable whether the establishment of a zero quota should be considered an effective conservation tool in the first place, seeing how it has not been able to put a halt to the trade in the Asian species (Challender *et al*., 2015). Transferral of all eight pangolin species from CITES Appendix II to CITES Appendix I should therefore be seriously considered.

Date	Location	Destination	Items seized	Quantity (kg)	Source
15 May 2012	China	China	Scales/meat*	1230/3000	Anon, 2012a
7 December 2012	China	China	Scales	50	Anon, 2012b
2 July 2014	France	Lao PDR	Scales	250	Anon, 2014
16 January 2015	China	China	Scales	2000	Anon, 2015a
17 March 2015	Hong Kong	Hong Kong	Scales	2000	Anon, 2015b
27 March 2015	China	China	Scales	249	Anon, 2015c
7 April 2015	China	China	Scales	25	Anon, 2015c
10 December 2015	Thailand	Lao PDR	Scales*	587	Anon, 2015d
12 December 2015	Singapore	Lao PDR	Scales*	324	Heng, 2015

Table 1. Seizure records of pangolin shipments originating from Nigeria, 2011–2015.
**seized shipments that also contained elephant ivory*

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A group of White-bellied Pangolins *Phataginus tricuspis* (adult male and female encircling a juvenile pangolin), Nigeria.