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2

TRAFFIC

B U L L E T I N

REPORT OF 18TH CITES MEETING

**EU LIZARD IMPORTS FROM
AUSTRALIA, CUBA AND MEXICO**

**CITES AND VOLUNTARY
CERTIFICATION FOR WILD PLANTS**



OCTOBER 2019

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

TRAFFIC

the wildlife trade monitoring network

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



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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.

TRAFFICTRAFFIC

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; moreover, this use provides vital income to millions of people.

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.

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.

TRAFFIC's reports and advice provide a technical basis for the establishment of effective conservation policies and programmes to ensure that trade in wildlife is maintained within sustainable levels and conducted according to national and international laws and agreements. The journal of TRAFFIC, *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), it is a key tool for disseminating knowledge of wildlife trade and an important source of information for those in a position to effect change and improve awareness.



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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).

The *TRAFFIC Bulletin* is a publication of TRAFFIC, a leading non-governmental organisation working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

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

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Is CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) a tool to support the management of sustainable and legal wildlife trade? If you are a follower of conservation news the answer to this question may not be obvious given how the headlines are largely dominated by stories of illegal trade in a few charismatic fauna species. However, of the over 35,000 species covered by the Convention, over 96% are listed in Appendix II, which is meant to regulate their sustainable and legal trade.

EDITORIAL

So what is sustainable wildlife trade and why is it hard to achieve (or is it?), and what role should CITES have in facilitating sustainable and legal international wildlife trade? And beyond CITES, how can we ensure that wildlife trade features as both conservation opportunity and threat in the Global Biodiversity Framework post-2020, currently under development?

Wildlife trade encompasses a wide range of species and products: timber for construction, species for display, ornamentation, and as pets, skins used in the fashion industry, plant ingredients in cosmetics and health products, plant and animal products in medicine and food, and so much more.

A recent assessment by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) identified overexploitation as the key driver of species loss. While a logical response is to stop exploitation and use of wildlife, the opposite, somewhat counterintuitively, remains true: sustainable and equitable use and trade in species brings about benefits both to conservation and livelihoods. The evidence for this has been well illustrated, e.g. through case studies on various taxa under the CITES and Livelihoods theme of work. So why is this approach to addressing pressing conservation and development issues not more widely practiced? The conditions of what makes “good” wildlife trade work are complex, often with obstacles that are seemingly hard to overcome.

Consumers, businesses, and governments are often ignorant of the scale of and threats posed by illegal and unsustainable wildlife trade, or the benefits deriving from sustainable and legal trade: the trade in wild species is often “hidden” in products and along supply chains. Despite being a contributor to economic development—from rural economies, through to export-import taxation and levies—wildlife trade threats and benefits are absent in narratives such as “natural capital”, “circular economy”, or “sustainable consumption and production”. The knowledge base, e.g. on the value of wildlife trade in supply chains and economies, needs to be developed and integrated into the relevant frameworks.

Wildlife consumer behaviour change approaches are often directed at reducing demand for endangered wildlife products and are oriented towards a particular “wildlife consumer”. While this is indeed an essential intervention, a complementary approach is needed to encourage sustainable consumption to help change consumer choice towards purchasing, using and consuming verifiably sustainable and legally traded species and products.

Wildlife supply chains and the interactions of the stakeholders involved are often complex, and the answer to “what is sustainable wildlife trade” is wide-ranging and nuanced. In an age of communication saturation, messages must be simple and target the right audience to be effective.

Differences of perspective between those stressing animal welfare/rights issues and those advocating sustainable use as a conservation tool may block constructive solutions that involve use and trade in wildlife, and are often misrepresented, with some of the more successful examples of trade benefits to species and communities often overlooked. Current policy discussions, including in the context of CITES, are often skewed towards more charismatic species, with scant attention paid to plants and other species. Such “blindness” hinders efforts to find solutions to addressing wildlife trade legality and sustainability. More case studies across different taxa, geographies, and governance systems are needed.

Much of the trade in wildlife is unregulated, and even where it is regulations may have been developed with no consideration of the impact on stakeholders; moreover, they may be poorly implemented or the trade unsustainable. Addressing this requires solutions that respond to underlying challenges such as corruption and lack of good governance. The evidence of how responsible wildlife trade practices assist, and in some cases drive the reduction of illegal wildlife trade, needs to be demonstrated more widely.

CITES, the key policy mechanism to enable sustainable international trade in wildlife, is often misunderstood by those affected by it, and rather than enabling trade, it is often perceived as a hindrance (see pp. 79–88 for an overview of work on the trade in CITES-listed medicinal and aromatic plants). This may have negative conservation and livelihood impacts, as trade chains shift to non-CITES listed species. On the other hand, government agencies often lack capacity to conduct sustainability studies to make non-detriment findings (NDFs) or to enforce the Convention adequately.

The 18th meeting of the Conference of the Parties to CITES, in August 2019, presented many reasons to be positive and offered constructive solutions to help the Convention work better for the wide range of species it covers (see pp. 48–58 for an overview of this meeting). They ranged from agreeing on the definition of “traceability”, exploring whether non-regulatory efforts (e.g. via implementation of voluntary standards and certification schemes such as FairWild) can assist the implementation of CITES regulations, providing practical assistance to government agencies to conduct NDFs, and much more. These developments are supportive of addressing some of the obstacles described above. At a global policy level, there are opportunities—such as under the post-2020 Global Biodiversity Framework negotiations—for greater commitment to address the threats of unsustainable, illegal trade, reduce overexploitation, and to support systems and tools that maximise the benefits that derive from legal and sustainable wildlife trade.

TRAFFIC is looking to build partnerships with organisations mandated to work both on wildlife trade and conservation issues to ensure positive conservation outcomes from sustainable trade; this, in turn, will help to secure healthy and enduring resources on which we all depend.

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Trade in Wildlife Information eXchange (TWIX), a tool designed to support collaboration between enforcement and management authorities to combat illegal wildlife trade, was first established by TRAFFIC and government partners in Europe in 2005 (EU-TWIX) and has since been replicated for a number of nations in the Central Africa region as comprised by COMIFAC (Central Africa Forest Commission) (AFRICA-TWIX) and, during 2019, the Southern African Development Community (SADC) countries (SADC-TWIX). The following provides a summary of progress in these different areas to date:

EU-TWIX network still going strong 14 years after its launch

EU-TWIX is a joint initiative of the Belgian Federal Police, Customs, the Belgian Management Authority of CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora), and TRAFFIC. The platform aims to facilitate information-sharing and international co-operation of European Union (EU) wildlife law enforcement and management officials dealing with CITES issues. At the time of the launch in 2005, it consisted of a mailing list and website containing a database of seizures and was available to 150 users from 19 countries restricted to the EU.

Over the last 14 years, the network has grown steadily, even beyond the EU, currently benefiting wildlife officials from 39 European countries¹. In January 2018, the number of users reached the “1,000 threshold” and currently stands at close to 1,200 (see Fig. 1).

Besides the mailing list and database, new features have been created on the EU-TWIX website (www.eu-twix.org): for example, over 250 identification guides and training materials are available to officials and it is possible to access the seizures data stored in the database thanks to a new feature that allows users to create charts for data visualisation.

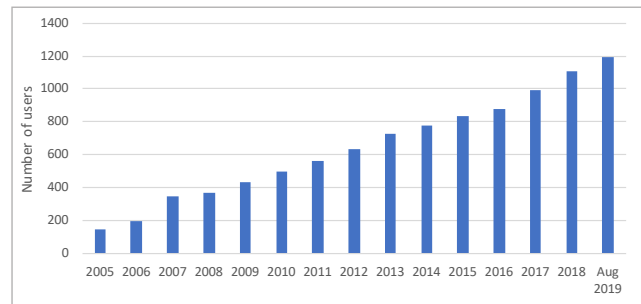


Fig. 1. Increase in the no. of EU-TWIX users over time.

TWIX: CONNECTING ENFORCEMENT

AFRICA-TWIX: an important tool for implementation of the Central Africa wildlife law enforcement action plan

AFRICA-TWIX is an internet tool developed to facilitate information exchange and international co-operation between law enforcement officials and CITES Management Authorities working within the Central Africa region as comprised by COMIFAC², with the aim to combat wildlife crime. This particular platform was officially launched in Central Africa in 2016 and based on the EU-TWIX structure. It was also designed to take into account the need for implementation of the Central Africa wildlife law enforcement action plan (*Plan d'Action sous Régional des Pays de l'Espace COMIFAC pour le Renforcement de l'Application des Législations Nationales sur la Faune Sauvage*, known as PAPECALF) which constitutes a tool for collaboration between law enforcement agencies at the national and transnational levels in efforts to combat illegal wildlife trade.

At the launch of this initiative, only Cameroon, Congo, Democratic Republic of the Congo and Gabon were part of the AFRICA-TWIX platform. They were

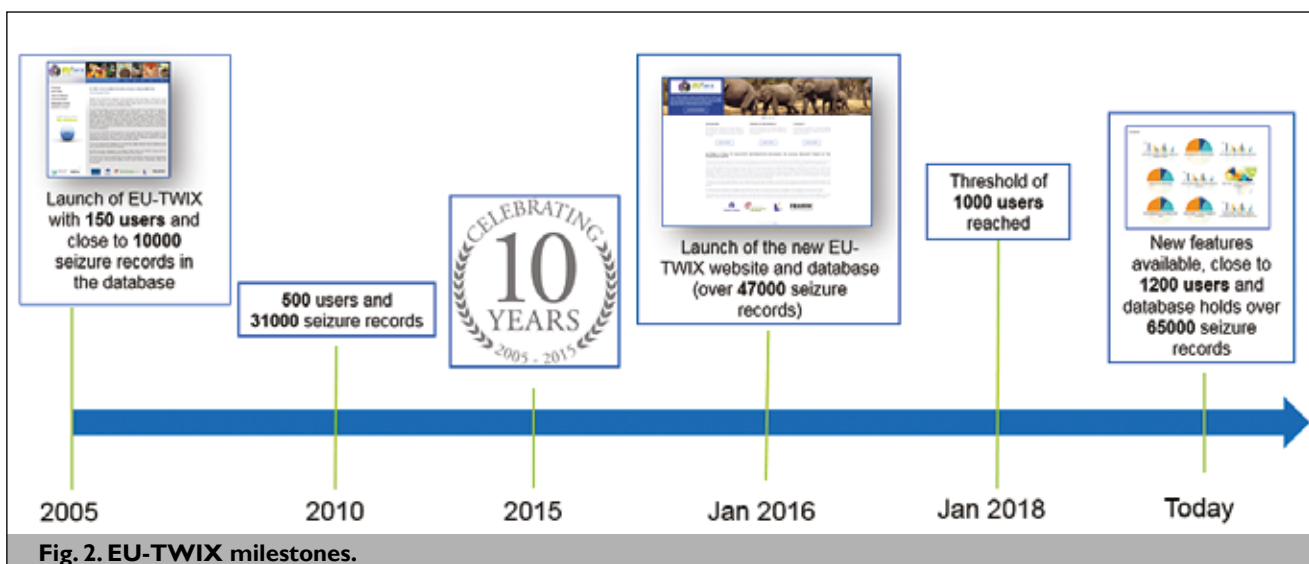


Fig. 2. EU-TWIX milestones.

joined by the Central African Republic in 2018 and by Chad (June 2019), connecting six (of 10) COMIFAC countries, and involving more than 135 law enforcement officials. In addition, in October 2019, Rwanda declared its official commitment to AFRICA-TWIX. It is worth noting that, since its launch, the platform has already triggered seven international investigations, at the same time improving the collaboration objective between law enforcement agencies that was a stated requirement in the aforementioned wildlife law enforcement action plan. One of the outstanding examples where the tool contributed to enhancing collaboration between the

Seizure in Campo'o Ma'an, Cameroon, of ivory marked as coming from Gabon, bound for Nigeria (2016). The case is an example of collaboration between law enforcement agencies using AFRICA-TWIX as a tool to help combat wildlife crime in Central Africa.



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AGENCIES ACROSS EUROPE AND AFRICA

CITES Management Authorities and law enforcement agencies in combating wildlife crime in Central Africa was the seizure in 2016 of 44 ivory tusks by Cameroonian law enforcement officials. This seizure took place in a boat flying the Nigerian flag that was travelling from Gabon to Nigeria via Cameroon's territorial waters.

Photos of the seizure posted on the AFRICA-TWIX mailing list showed a Ghanaian lady holding a parcel of ivory that had allegedly been stolen from government stocks in Gabon a few weeks prior to the seizure. The photos prompted the Gabonese authorities to contact law enforcement officials and prosecutors in Cameroon and to share intelligence that enabled them to carry out further investigations to dismantle the trafficking operation, a process which remains ongoing.

SADC-TWIX system operational

In order to maintain the momentum built during the three phases of scoping missions conducted during the course of 2018, and based on the high level of expectation and need for the TWIX system to become operational, a regional workshop to launch the SADC-TWIX system formally was convened on 9/10 April 2019 in Johannesburg, South Africa. The main objectives were to provide an overview of TWIX, to agree on its structure for the SADC³ region, and to build the capacity of officials on TWIX implementation.

The workshop brought together law enforcement agencies from 14 SADC Member States including Angola, Botswana, eSwatini, Lesotho, Democratic Republic of the Congo, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania, Zambia

and Zimbabwe. Through a Workshop Declaration, approved in plenary, it was agreed that the name of the system would be "SADC-TWIX", and the access rights of non-governmental organisations and related conditions would be decided by an Advisory Group adopted between 6–12 months after the system came into operation.

The SADC-TWIX system became operational on 21 May 2019 and currently close to 450 law enforcement officials from 11 SADC Member States are registered as TWIX users, including officials from Customs, police, CITES Management Authorities, forestry services, the judiciary, national security services, finance intelligence, and fisheries agencies.

Reports by Magdalena Norwicz, Denis Mahonghol, Cynthia Ratsimbazafy, and Markus Bürgener, TRAFFIC

EU-TWIX has been implemented with the support of the European Commission (DG Environment and DG Home Affairs) and the governments of Austria, Belgium, Croatia, Czech Republic, Estonia, Finland, France, Germany, Italy, Latvia, the Netherlands, Norway, Poland, Slovakia, Spain, Switzerland, and the UK. AFRICA-TWIX is supported by the Partnership against Poaching and Illegal Wildlife Trade (in Africa and Asia), implemented by GIZ on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the German Federal Ministry for Environment, Nature Conservation and Nuclear Safety (BMU), and WWF France. Past partners include the United States Fish and Wildlife Service (USFWS) and the Belgian CITES Management Authority. SADC-TWIX is implemented with the support of the Partnership against Poaching and Illegal Wildlife Trade (Ivory and Rhino-Horn) in Africa and Asia, implemented by GIZ on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), and WWF France.

¹Current members include representatives from all EU Member States, plus Albania, Bosnia and Herzegovina, Georgia, Iceland, Montenegro, North Macedonia, Norway, Serbia, Switzerland, Turkey, and the Ukraine.

²Established in 1999, the Central Africa Forest Commission (COMIFAC) is an intergovernmental organisation comprising 10 Member States: Burundi, Cameroon, Chad, Central African Republic, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Rwanda, and São Tomé and Príncipe. Member States recognise the protection of the Congo basin ecosystems as an integral component of the development process and are committed to work together to promote the sustainable use of the Congo basin forest ecosystems.³The Southern African Development Community (SADC) is a Regional Economic Community comprising 16 Member States: Angola, Botswana, Comoros, Democratic Republic of the Congo, eSwatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, and Zimbabwe. Established in 1992, SADC is committed to Regional Integration and poverty eradication within Southern Africa through economic development and ensuring peace and security. Source: <https://www.sadc.int/about-sadc/>



CITES CoP18: Facing the challenges of the post-2020 global biodiversity framework

Report by Sabri Zain, Thomasina Oldfield, James Compton and Steven Broad

In May this year, a landmark new report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) provided overwhelming evidence that nature is declining globally at rates unprecedented in human history, eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide. The IPBES Global Assessment Report on Biodiversity and Ecosystems Services found that around one million animal and plant species are now threatened with extinction and that the rate of species extinctions is accelerating. The report demonstrated that the second biggest driver of negative impacts on nature, after changes in land use, is the direct exploitation of animal and plant species in terrestrial and freshwater systems, including harvesting, hunting, fishing and logging; in the marine realm, direct exploitation had the largest impact.

It was this grim picture that confronted delegates attending the 18th meeting of the Conference of the Parties to CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES

CoP18) this year, highlighting the vital importance that this Convention and other multilateral environmental agreements must play in catalysing the transformative changes needed: failure to act will risk critical shortfalls in meeting global goals for conserving and sustainably using nature.

This year's CITES CoP also had to build on the largely successful outcomes of the previous 17th meeting of the Conference of the Parties (CoP17) in Johannesburg in 2016. CoP17 saw stronger trade regulation measures adopted through amendments to the CITES Appendices for many species—from pangolins to marine species and even including a whole genus of trees. Key CITES Resolutions were strengthened and new Resolutions and Decisions adopted that broke new ground for several important issues such as traceability, captive breeding, corruption, demand reduction and cybercrime. The ambition set by CoP17 and the range of new issues and species of concern on the agenda for CITES CoP18 certainly ensured that the next CoP would have a packed and busy agenda.

▲ American Crocodile *Crocodylus acutus*

Adding to these challenges facing delegates was the fact that the meeting, originally scheduled to take place in May, had to be postponed after the tragic bombings in Colombo, Sri Lanka, in April 2019. The meeting was rescheduled to 17–28 August and held in Geneva, Switzerland, a quick turnaround made possible by the strong commitment of the CITES Parties and the Secretariat to reorganise with minimal delay.

Many positive outcomes from the Geneva meeting have set the scene for the work of CITES in the future. A Resolution on the new CITES Strategic Vision post-2020 was adopted, framing a significant role for the Convention in the post-2020 Global Biodiversity Framework. Development of policy around conservation and livelihoods was also the subject of deep discussion, along with moves to undertake a comprehensive review of the Convention in order to enhance its impact and effectiveness.

New topics of concern were considered, such as the songbird trade, and delegates explored in detail new approaches to control trade in all big cats. New trade regulation measures were also adopted for marine species such as guitarfishes *Glaucostegus* spp., wedgefishes Rhinidae spp. and mako sharks *Isurus oxyrinchus* and *I. paucus*, while actions were outlined to ensure the sustainable use of resources such as medicinal and aromatic plants and wild meat. Agreement was reached on practical measures to enhance the effectiveness of CITES on a range of implementation issues such as legal acquisition findings and stockpiles. However, the CoP also saw divisions deepen among the Parties on a number of key issues, such as trade measures for African Elephant *Loxodonta africana*, local community engagement, the balance between new species listings and solving implementation challenges for those already adopted in the past and on principles related to sustainable use. These will need to be addressed in the coming years if CITES is to remain relevant and effective.

A VISION FOR THE FUTURE

A key outcome from the meeting was the steps put in place to encourage that wildlife trade issues are reflected when world governments formulate a post-2020 Global Biodiversity Framework and Strategic Plan to reverse the decline in nature at the 15th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD CoP15), set to take place next year in China. It is essential that there is strengthened co-operation, collaboration and synergies between CITES' Strategic Vision, the CBD's Strategic Plan for Biodiversity and the 2030 Agenda for Sustainable Development, as well as greater engagement with the process currently under way to adopt a post-2020 biodiversity framework. At CoP18, Parties adopted a new Resolution on the CITES Strategic Vision post 2020 that provides a good framework for realising these synergies.

It should be noted that the CBD's current Strategic Plan for Biodiversity does not include a specific wildlife trade target, despite illegal and unsustainable trade being a key driver of biodiversity loss, and sustainable, well-managed legal trade having the scope to provide benefits

to all from biodiversity and ecosystem services. Setting a wildlife trade-focused target within the post-2020 Global Biodiversity Framework would help to motivate the political commitment and levels of implementation to address this global issue. This is central to the effective implementation of CITES and would ensure connectivity to the Sustainable Development Goals. CITES has demonstrated its role in reducing the pressure of illegal and unsustainable trade in wild flora and fauna on biodiversity and enhancing the benefits to wildlife conservation and human well-being deriving from sustainable, legal wildlife trade. The lead up to the CBD CoP15 is a golden opportunity for Parties to demonstrate the vital contribution CITES can make to the targets being set in 2020.

As the CITES Secretary-General, Ivonne Higuero, noted at CITES CoP18, by adopting the CITES Strategic Vision Post 2020, the Parties have confirmed their collective view that CITES must be a leader in promoting transformative change in wildlife conservation and management.

COMMUNITIES AND LIVELIHOODS

In order to achieve the goal of environmental, economic and social sustainability, the active engagement and support of indigenous peoples and local communities (IPLCs) is essential. The CoP saw a range of divergent views expressed on this issue. Parties agreed to direct the Secretariat to issue a Notification inviting Parties to provide information on their experiences and lessons learned in engaging IPLCs in CITES processes, and Parties were asked to collate or conduct new case studies to demonstrate how the involvement of IPLCs contributes to their livelihoods and the conservation of the species in the wild. The CoP amended the resolution on CITES and livelihoods, recognising that empowerment of rural communities should be encouraged through measures that may include engaging rural communities in national processes when preparing and submitting proposals to amend the appendices, and other documents for consideration at CoP meetings.

While it is disappointing that divergent views prevented further meaningful progress on the issue, it is a positive development that steps are being taken to consider the potential impacts of CITES decisions on IPLCs. With these IPLCs bearing the brunt of conflict in connection with wildlife trade and the importance of wildlife to livelihoods, it is important that the engagement of CITES with IPLCs is increased and strengthened, and the vital contribution of sustainable use of wild species to their livelihoods be further recognised. Hopefully, the work of the inter-sessional Working Group will focus on achieving consensus and agreement on issues of common concern that can bridge the current divide.

MAKING CITES WORK

A number of decisions taken at the CoP drew attention to critical issues relating to strengthening the effective implementation of the Convention. Zimbabwe proposed a series of decisions calling for a comprehensive review

of the Convention in order to enhance its impact and effectiveness. Many Parties balked at the prospect of a fundamental rethink of CITES provisions and did not agree with many of the arguments and justifications in this document, including claims of a contradiction between CITES and World Trade Organization (WTO) trade rules. However, there was general agreement that a review to improve and enhance the effectiveness of CITES could be beneficial and a decision was agreed directing the Standing Committee to consider the need for a targeted review of the implementation of the Convention.

Such a review could help strengthen the Convention. However, it is important that it be conducted in a transparent and impartial manner, with clear objectives and terms of reference. It could provide a crucial opportunity for Parties to consider not only how to maximise the impact of CITES itself but also how the work of the Convention can be aligned with that of other biodiversity, environment and development agreements and conventions to ensure the synergies and integrated approach that is needed to reverse the alarming trends highlighted in the IPBES report. Ambitions, plans and actions of CITES and other relevant biodiversity and environmental agreements must be co-ordinated, coherent and aligned with the objectives that will emerge from discussions on the post-2020 biodiversity framework.

CoP18 also arrived at new decisions dealing with the issuing of **legal acquisition findings** (LAFs)—the mechanism used to prevent trade in animals or plants that were not legally obtained. This included agreement on a new Resolution on LAFs as well as the inclusion of non-binding guidance for making LAFs as an annex to the Resolution. This is a significant point in the evolution of CITES, as to date, this crucial issue has received relatively little attention. By contrast, the means by which countries can assess whether export of a species is sustainable, through the issuing of a non-detriment finding (NDF), has received far more attention within CITES, with a Resolution on the topic adopted by Parties at CoP16 and a range of guidance materials developed to support countries when making NDFs.

Strengthening LAFs would reduce opportunities for international trade in illegally harvested and smuggled specimens or their offspring. A case study on the captive breeding of Caribbean endemic reptiles was released by TRAFFIC recently that clearly illustrated some of the very issues and problems involved (Outhwaite and Vique, 2019). The research found that most reported trade in CITES-listed Caribbean reptile species is between non-range States, and that some of this trade is likely in smuggled specimens—or frequently their offspring—which have subsequently been produced in captivity. For some species, despite no trade from the wild reported in the CITES Trade Database, seizures indicate offtake from the wild continues. Any unregulated trade is of concern as many of these species are highly range-restricted and rare. The document highlights the need for importing and (re-)exporting countries to ensure any international trade in Caribbean endemic reptiles is limited to specimens of legal origin.

The case study also highlighted concerns regarding false claims of **captive-breeding**, another issue that was debated at CoP18. Trade from captive sources is already larger than trade from the wild, and the need for clarity and guidance is urgent. A comprehensive review was undertaken by the Secretariat on this critical issue that highlighted many inconsistencies and ambiguities that Parties face when trying to implement the Convention. The proportion of trade declared as from captive sources is only likely to grow as stakeholders, including governments, encourage captive-breeding, and as more species are protected from wild harvest nationally and internationally. Ensuring there is no fraudulent use of source codes should be fundamental to the Convention and it is important that sustainable funding is provided for work on this issue to continue and have a positive impact.

Another issue that is fundamental to the effective implementation of the Convention, particularly LAFs, is **traceability**—systems for tracking wildlife products through the trade chain to ensure that relevant national and international legislation is being respected. Such systems can also improve transparency to help consumers ensure they are not unwittingly purchasing, and therefore supporting, illegal or unsustainable trade. Progress had been made inter-sessionally and at the CoP, with agreement on a working definition of traceability and decisions to support Parties that may request assistance in planning traceability projects. While the CoP noted that the Standing Committee did not support the need for a CITES resolution on traceability at this time, traceability is such a fundamental component of delivering CITES implementation that eventual development of a resolution on traceability remains a high priority for Parties to tackle this issue in a comprehensive and co-ordinated manner.

One implementation issue that has been a challenge for CITES Parties has been the control of **stockpiles**. The accumulation of wildlife products, such as elephant ivory, rhinoceros horns and pangolin scales, takes place as a continuous process for government authorities worldwide. The products are derived from a variety of sources, including natural mortalities or as a result of wildlife management interventions or law enforcement actions. Consequently, the development of effective stockpile management systems has become imperative. Numerous instances of the leakage of seized specimens into illegal markets have highlighted the importance of addressing this issue effectively. Parties at CITES CoP17 had adopted Decision 17.170 directing the Standing Committee to review the existing provisions agreed by the Parties concerning controls on stocks of specimens of CITES-listed species and report its conclusions and recommendations at CoP18. An inter-sessional Working Group on the issue was established but while there has been progress in the process to rationalise CITES' approach on the issue of stocks and stockpiles, the Working Group was not able to achieve consensus on a range of subjects. CoP18 agreed to extend the Decision, directing the Standing Committee to report its conclusions and recommendations at CoP19.



▲ MULANJE CLOUD FOREST, MALAWI. MULANJE CEDAR *WIDDINGTONIA WHYTEI* HAS BEEN EXPLOITED TO THE POINT WHERE NO MATURE TREES EXIST IN THE WILD. THE SPECIES WAS LISTED IN CITES APPENDIX II AT CoP18.

CITES Resolutions and Decisions currently address stock and stockpile issues associated with specimens of Asian big cats, elephants, rhinos, Saiga *Saiga* spp. and Tibetan Antelopes *Pantholops hodgsonii*, pangolins *Manis* spp., snakes, Malagasy ebonies *Diospyros* spp., and palisanders and rosewoods *Dalbergia* spp. The issue of re-sale of confiscated specimens has been addressed, but practical guidance on stock and stockpile management and security has not been a major focus.

To assist Parties on this issue, TRAFFIC produced an Information Document for the CoP that provides guidance on how to deal with a recurrent issue facing government authorities (CITES CoP18 Inf. 72). The document sets out the steps needed for adequate management of stockpiles, including designating the appropriate agencies to manage all aspects of stockpile management and their roles and responsibilities, the development and operational roll-out of stockpile management systems.

ENSURING LEGAL AND SUSTAINABLE TRADE

CITES CoP16 saw the historic listing of five species of shark and two manta ray species in CITES Appendix II in 2013, followed by four other species of shark at CoP17 in 2016. This year's CoP saw Parties continue to recognise the role of CITES in managing commercially-exploited **aquatic species**, with Parties agreeing to the listing of mako sharks, guitarfishes, wedgefishes and three sea cucumber *Holothuria* species in Appendix II. Historical decreases in the population of the Shortfin Mako *Isurus oxyrinchus* have been observed across large parts of its range and, in recent years, populations have been declining in the North Atlantic, Indian Ocean and Mediterranean. It is likely that similar trends have occurred for Longfin Mako *Isurus paucus*. As the fins and meat of the two species are often mixed in the same market category, enforcement officers are unlikely to be able to distinguish between them. Similarly, all six

species of guitarfish have undergone population declines over the past three generations, driven mainly by over-harvest. Trade is known to be contributing to more than 80% declines in the populations of two species of wedgefish over the last three generations.

Antigua and Barbuda had earlier submitted an agenda document urging Parties to refrain from proposing additional marine species listings, arguing that past listings of marine species under CITES have encountered implementation challenges and that some have failed to achieve their desired conservation outcomes. Indeed, there are implementation challenges for some listed marine species and the intended impacts of CITES regulation may not yet be fully realised. However, it should also be recognised that a great deal of commitment and effort to strengthen the effective implementation of these listings have been made over the years and great strides taken, including progress on the development of NDFs; increased investment in capacity building and implementation support tools; better harmonisation with other management and regulation measures; and productive co-operation with relevant international organisations such as the Food and Agriculture Organization of the United Nations (FAO). Marine species listings can be implemented when the will is there to do so and there is adequate support provided to the range States concerned. In an intervention to the CoP, TRAFFIC noted the parallels with the high volume, high value timber trade where there have been big strides forward with implementation of CITES for tree species: attained by accumulating experience, securing investment to build capacity and through CITES' productive co-operation with other international organisations such as the International Tropical Timber Organization (ITTO). Following debate on the issue, Antigua and Barbuda subsequently withdrew its document.

Progress was also seen with regard to a number of commercially-exploited **timber** species, including the listing in Appendix II of all cedars (genus *Cedrela*) as

well as a species of African rosewood *Pterocarpus tinctorius*. *Cedrela odorata* has been intensively exploited for its timber, with some populations having been substantially reduced. Other species of cedar are difficult to differentiate from *C. odorata* and were therefore listed as look-alikes. Malawi's proposal to list Mulanje Mountain Cedar *Widdringtonia whytei* was also accepted. This species has been exploited to the point where no mature trees exist in the wild. While this may appear to negate the need for CITES controls, the existence of in-situ plantations of the species that have potential for timber production in the short to medium term may warrant ongoing monitoring and management of trade until such time that Malawi re-establishes the species in the wild and timber extraction is resumed. More significantly, though, the economic extinction of this desirable timber species should serve as a wake-up call for the African continent; several other timber species that still have relatively healthy populations are under similar or greater pressure for timber harvest and are, according to the IUCN Red List, decreasing in the wild. Without vigorous monitoring and management of trade, these species could too face the fate of the Mulanje Mountain Cedar with resulting negative economic consequences for their countries.

A number of other decisions adopted at CoP18 aimed to ensure sustainable and legal trade in species that not only provides opportunities for increased benefits to conservation from international wildlife trade but also helps secure resources that are important to the food, health and livelihood needs of many rural communities. For example, over 60,000 plant species are used globally for medicinal purposes, and about 3,000 are in international trade, more than 800 of which are listed in Appendix II of the Convention. Given the large number of species of **medicinal and aromatic plants** that are regulated by CITES, it is surprising that it was only at CoP18 that attention has been given to managing the complex trade patterns in this diverse taxonomic group of species. The Secretariat's document on CITES implementation for trade in medicinal plant species outlined the reasons why the global trade in medicinal plants warrants CITES attention, highlighting issues such as the high numbers of mostly wild-sourced species in trade; the economically substantial, growing trade volumes and values; and the crucial role medicinal plants play in meeting health and livelihood needs, especially for rural communities.

A series of decisions were adopted by CoP18 to help address some of the challenges facing effective CITES implementation for trade in medicinal plants, including engaging key players in the medicinal plant trade supply and value chains to raise awareness and understanding of CITES regulations for medicinal plant species; examining case studies involving local and traditional knowledge, and participatory assessments, monitoring and management of CITES-listed medicinal plant species; and reviewing ongoing work on sustainable and traceable supply and value chains for medicinal plant products, focusing on certification schemes, standards and guidelines. TRAFFIC and the IUCN Medicinal Plant Specialist Group (IUCN MPSG) recommended that the scope of work cover aromatic plants too, as

CITES-listed species traditionally traded as “medicinal products” are often also used in aromatherapy, cosmetics, and in food, for example Jatamansi *Nardostachys jatamansi*. The addition of the term “aromatic” allows for acknowledgement of these types of uses, and the engagement of wider stakeholder groups and industry beyond those dealing only with medicinal applications. This suggestion was accepted by Parties. These new CITES Decisions are the first steps in strengthening CITES implementation along the entire trade chain for medicinal and aromatic plant species and will hopefully provide the foundation for a long-term workplan on these taxa by CITES.

Another natural resource that is important to rural communities is **wild meat**—an important food supply and source of income for many of these communities. Amendments were made at CoP18 to the CITES Resolution on Bushmeat urging Parties to, where appropriate, make use of the voluntary guidance for a sustainable wild meat sector that is part of the Annex to Decision XIV/7 on Sustainable wildlife management adopted at the 14th meeting of Conference of the Parties to the Convention on Biological Diversity (CBD CoP14) in November 2018. The guidance aims to support the work of governments and other stakeholders to promote, implement and accelerate integrated action and initiatives to ensure that the supply of wild meat is sustainably managed at the source; control the excessive demand for wild meat in towns and cities; and create an enabling environment for the sustainable management of wild meat. Its widespread use will greatly enhance the governance for a sustainable, participatory and inclusive wild meat sector that will allow for the sound management of the species concerned to sustain their populations and habitats, while considering the socioeconomic needs of the local communities involved.

The Resolution also urges all relevant Parties to take advantage of the guidance and other materials provided by the Collaborative Partnership on Sustainable Wildlife Management (CPW) in relation to the sustainable management and use of wildlife. The CPW is a voluntary partnership of 14 international organisations, including the Secretariats of the CBD, the Convention on the Conservation of Migratory Species (CMS) and CITES, as well as NGOs such as TRAFFIC. The CPW was established pursuant to Decision XI/25 taken at CBD CoP11, with the aim of promoting the sustainable management of terrestrial vertebrate wildlife in all biomes and geographic areas, contributing to the conservation and sustainable use of biodiversity and to human food security and livelihoods.

ILLEGAL AND UNSUSTAINABLE TRADE: BREAKING NEW GROUND

CITES CoP18 also saw the Convention break new ground with attention being given to possibly one of the most critical yet underappreciated wildlife trade issues today: the widespread over-exploitation of songbirds. Trapping of songbirds takes place in large quantities in parts of Latin America, Africa, and in particular—and arguably best-known—in Asia. TRAFFIC's trade studies

for over two decades, particularly in physical markets in South-east Asia, have shed light on the scale of this trade. In recent times, tens of thousands of birds have been recorded in markets of Indonesia, Singapore and Viet Nam at any one point in time. But the picture that is only slowly emerging is of the extent of the trade involved.

Previously, the songbird trade has largely been considered a domestic trade issue—and thus outside the remit of CITES. However, the international dimensions of this trade are increasingly apparent. TRAFFIC's survey in Singapore in 2015, for example, noted that 80%—or more than 11,000 birds—recorded in the bird markets were species not native to Singapore; 97% of the birds traded were also not listed in CITES. TRAFFIC bird market surveys in Singapore—historically the epicentre of the bird trade markets in Asia—found numbers of Abyssinian White-eyes *Zosterops abyssinicus* for sale. Their origin can only be from Africa and their appearance in Asia appears to be linked to their close similarity to the white-eye species of Asia. Hugely popular as cagebirds, there is gathering evidence of the near total extirpation of what were formerly common white-eye species, like the Javan White-eye *Z. flavus*, from large parts of their former ranges in Asia, doubtless because of relentless trapping pressure. Ahead of the debate on this topic at the CoP, TRAFFIC also released a report into the trade in one of the most popular songsters—the White-rumped Shama *Copsychus malabaricus*—which illustrated the nature of this trade, with some two-thirds of the individuals seized in South-east Asia between 2008 and 2018 destined for international trade (Leupen *et al.*, 2019).

The first Asian Songbird Trade Crisis Summit was held in 2015, identifying 28 songbirds most threatened by trade and the critical actions needed to protect them. Sixteen more species were subsequently added to the list of species threatened by trade, emphasising the quick changes in trends and the need for more information about the true extent of the trade in global songbird species. While Parties expressed concern over the sheer number of songbird species potentially involved, a way forward was established with a series of Decisions adopted at the CoP. These call for a preliminary study to be conducted on the scale and scope of the international songbird trade and the convening of a technical workshop to consider the findings of the study, which will be considered by the CITES Animals and Standing Committees.

The trade in Helmeted Hornbill *Rhinoplax vigil* parts and products also received attention from Parties at the meeting, following up from Resolution Conf. 17.11 on conservation of and trade in this species adopted at the previous CoP. Recent TRAFFIC analysis found that at least 2,878 Helmeted Hornbill casques, skulls and products were seized from at least 59 known confiscations between 2010 and 2017 and evidence of high poaching levels in Indonesian Borneo, while many Helmeted Hornbill parts were openly for sale in markets in the Special Economic Zones in Lao PDR, and online in many countries in Asia. TRAFFIC released a new study to coincide with the CoP which found hundreds of parts and products from Helmeted and other hornbill species offered for sale through Thai social media (Phassaraudomsak *et al.*, 2019). The online survey found

a minimum of 236 online posts offering a minimum of 546 hornbill parts and products in 32 of the 40 groups surveyed on Facebook, looking at a historical period from June 2014 through to April 2019.

In May 2017, a Helmeted Hornbill Conservation Strategy and Action Planning Workshop, held in Sarawak, Malaysia, developed a 10-year Conservation Strategy and Action Plan calling for unprecedented levels of international collaboration and more financial resources to scale up conservation attention aimed at targeted population recovery across the species' range. Parties at CoP18 adopted a series of Decisions that would significantly assist in these efforts. This includes a call urging Parties, especially range, transit and consumer States, to provide information to the Secretariat on their implementation of Resolution Conf. 17.11; as well as calling for assistance to range States in their implementation of the Resolution and the Conservation Strategy and Action Plan.

CITES also broke new ground with the adoption of Decisions calling for the establishment and convening of a CITES Big Cats Task Force. This Task Force would develop strategies and make recommendations to improve international co-operation regarding CITES enforcement and implementation issues related to illegal trade in all big cat species from Africa, Asia and Latin America. A TRAFFIC report for the CITES Standing Committee had earlier found possible links between markets for Lion *Panthera leo* and other large cat parts, such as the lion bone trade and the farming of Tigers *Panthera tigris* (CITES SC70 Doc. 54.1 Annex, 2018). A Task Force would enhance greater co-operation among countries in addressing any such connections. However, the clarity and focus of any Task Force would need to be well-defined given the complexity of issues surrounding trade in big cats, including complications where a legal trade regime exists. It is hoped that the work of the Task Force, as well as relevant future research, will help illuminate the dynamics of the legal trade in lion parts with the illegal trade in Asian big cats so that any contradictions in existing policies governing the two issues can be resolved.

On Asian big cats specifically, the CoP also adopted Decisions calling for improved oversight of the tiger trade, including specific attention to monitoring captive tiger facilities and their relationship to overall dynamics of supply and demand. During the meeting TRAFFIC released *Skin and Bones: Unresolved*, a report which found that there has been no respite for the heavily hunted tiger, with an estimated minimum of 2,359 tigers seized between 2000 and 2018 across 32 countries and territories globally, resulting from 1,142 seizure incidents (Wong and Krishnasamy, 2019). A significant number of tigers from captive sources were seized during this period which illustrates the recurrent threat regarding the leakage of captive tigers into the illegal market. The study found over half (58%) of the tigers seized in Thailand and 30% in Viet Nam were identified as originating from captive breeding facilities. The continuing seizures of tigers from captive facilities serve as a stark reminder that such facilities seriously undermine CITES efforts to control illegal trade, which will ultimately have an

impact on populations in the wild. The CoP18 Decisions urge Parties in whose territory there are facilities keeping Asian big cats in captivity to review national management practices and controls that are in place for such facilities; ensure strict application of all management practices and controls implemented; and report to the Secretariat on progress.

On **rhinoceroses**, while it was noted that the annual number of rhinos poached in Africa has been declining since 2015, and that the decline appears to have continued into 2018, the reported decrease in detected carcasses of illegally killed rhinos across Africa is mitigated by the fact that there are fewer animals to poach in many accessible locations, as many as 20% of the poached carcasses are never detected in places like South Africa’s Kruger National Park (KNP), and the reported losses still indicate that three rhinos have been lost every day from 2013 to 2017 inclusive. TRAFFIC warned that the demand remains high as the percentage of horns seized in Africa has almost doubled since CoP17, from 4.5% to 8.9%, while the percentage of horns seized outside Africa has remained at similar levels: 5.8% and 5.5%, respectively. TRAFFIC is particularly concerned that South Africa’s White Rhinoceros *Ceratotherium simum* populations are now suffering declines that are reversing decades of uninterrupted growth for the first time. According to the IUCN/TRAFFIC report tabled at the CoP (CITES CoP18 Doc. 83.1 Annex 2), the KNP White Rhinoceros population—the largest in the world but continually facing the most serious poaching threat—has now decreased to 2004 numbers.

The CoP agreed to a number of decisions to address this challenge, urging Parties to review trends associated with the illegal killing of and trade in rhinos and rhino parts, and the measures and activities they are implementing to address these crimes. In addition, a number of countries, including China, Mozambique, South Africa, and Viet Nam—priority countries of concern identified by the IUCN/TRAFFIC report—were encouraged to strengthen their implementation of Resolution Conf. 9.14 (Rev. CoP17) on Conservation of and Trade in African and Asian rhinoceroses, including by pursuing the initiation of joint investigations and operations aimed at addressing members of organised crime networks across the entire illegal trade chain, and to report to the Secretariat.

Kenya proposed to amend Resolution Conf. 9.14 to mandate the closure of domestic rhino horn markets. While this proposal did not gain full support among Parties, a Decision was adopted directing Parties where illegal markets for rhino horn exist to develop demand reduction programmes targeted at key identified audiences, taking advantage of the experience and expertise developed in other jurisdictions and by other organisations.

THE AFRICA DIVIDE

One of the most significant issues of grave concern that emerged from CoP18 is the apparently deepening divide that exists between some countries on the African continent. While divergent views have existed for decades on the issue of the trade in African Elephant ivory, CoP18 saw the chasm between some southern African countries and other African countries grow even wider on that issue, as well as in the debates surrounding other species such as giraffes, rhinos and lions, as well as on strategic issues such as the role of rural communities, use versus non-use and how to pay for work on anti-poaching and conservation.

On **African Elephants**, a proposal to transfer the population of Zambia from Appendix I to Appendix II and another to allow for exports of registered raw ivory from Botswana, Namibia, South Africa and Zimbabwe were both rejected by Parties. As in previous CoPs, southern African countries argued that these exports would benefit communities and conservation efforts, while other African countries warned that they would lead to increases in poaching of elephants for ivory. Opponents to the proposals also expressed concern over where the ivory would be sold, since there were no market destinations identified. The divide was also evident when Kenya tabled its proposed amendments to Resolution Conf. 10.10 (Rev. CoP17) on closing all remaining legal domestic ivory markets, with Gabon, Burkina Faso, and other member States of the African Elephant Coalition fully supporting the proposal and Namibia, eSwatini, and other southern African countries strongly opposed.

While TRAFFIC’s Elephant Trade Information System (ETIS) analysis for CoP18 indicates that

SPECIES SUBJECT TO LISTING PROPOSALS AT CoP18

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Tokay Gecko *Gekko gecko*; Cedar *Cedrela odorata*; Star Tortoises *Geochelone elegans*; Vicuña *Vicugna vicugna*.

illegal ivory trade activity appears to be exhibiting some measure of reduction, it is unclear if this is being sustained based on incidents in 2018–19, which were not available for the analysis prior to the CoP (CITES CoP18 Doc. 69.3 (Rev. 1), 2019). The raw data for 2017 indicate “a major drop in large-scale ivory seizures, resulting in an equally large decline in quantities of ivory by weight in global commerce ... [though] this trend may be partially influenced by a shift in ivory processing from Asia to Africa and will need to be carefully monitored”. However, exceptionally large ivory seizures in China, Viet Nam and possibly other countries in 2019 (approximately 34 t including 8.8 t seized in Singapore in July 2019) could presage resurgent large-scale movements of ivory from Africa to Asian destinations. Parties will need to respond quickly to these dynamic market changes and shifts in global source-to-market trade patterns and some good examples of multi-country law enforcement collaborations have illustrated how intelligence-led interventions can be made at various points along ivory trafficking chains. However, while the ivory trafficking networks in Asia need increased scrutiny as policy changes in China, Thailand and other locations are implemented and enforced, the concerted, continent-wide co-operation needed in Africa to respond effectively will be a major challenge if this “Africa divide” continues.

Beyond elephants, the successful proposal to list the **Giraffe** *Giraffa camelopardalis* in Appendix II showed the same deep divisions between those supporting the southern African countries where giraffe populations are stable or increasing and trophy hunting takes place, and those backing the Appendix II listing. There was little evidence to show that where declines in populations are taking place that international trade is responsible, rather than that it is poaching for domestic use and habitat loss. Range States supporting the listing will therefore need to take concerted efforts to address the local threats rather than depend on an Appendix II listing to safeguard these populations. Countries also disagreed on the document calling for a review of the Convention, with southern African countries supporting its proposals, calling for balance of equity and sustainable use to be higher on the CITES agenda, while other African States opposed the review and discounted the claims made by its proponents.

Ministers from the countries of the Southern African Development Community (SADC) have even threatened to leave the Convention, accusing CITES of bowing to animal rights groups and unreasonably prohibiting the trade of African wildlife and products rather than regulating it fairly.

Africa is home to a rich and diverse animal, plant, and marine biodiversity, much of it driving the continent's economy. It is also experiencing a dramatic loss of this biodiversity, affecting the livelihoods and food security of some of its most vulnerable rural communities, not to mention the potential revenue contributing to national economies. If African nations are to address the multiple threats facing their biodiversity and natural resources, it is important that they work together and speak with one voice to the world community on international platforms such as CITES. Efforts must be found to

close the chasm that now exists between the relevant countries well before CITES CoP19, which will take place in 2022. This will require mutual understanding (particularly on issues such as those related to the principle of sustainable use); consensus on shared areas of concern; a spirit of compromise; and a commitment to bridge-building from all Parties concerned as the CITES decisions taken in Geneva last August are implemented in the coming years. The need for all countries to work together to address the grave scenarios outlined in the IPBES report and to prepare for the post-2020 Global Biodiversity Framework may well provide a platform for this challenge to be successfully met.

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OUTCOME OF LISTING PROPOSALS SUBMITTED TO CoP18.

Species	English common name	Proposal	Result
<i>Capra falconeri heptneri</i>	Heptner's Markhor	Transfer pop. of Tajikistan from App I to App II	WITHDRAWN
<i>Saiga tatarica</i>	Saiga Antelope	Transfer from App II to App I	ACCEPTED as amended to incl. <i>S. borealis</i> , with zero export quotas
<i>Vicugna vicugna</i>	Vicuña	Transfer pop. of Prov. of Salta (Argentina) from App I to App II with annotation.	ACCEPTED as amended
<i>Vicugna vicugna</i>	Vicuña	Amend name of pop. of Chile from "population of the Primera Región" to "populations of the region of Tarapacá and of the region of Arica and Parinacota"	ACCEPTED
<i>Giraffa camelopardalis</i>	Giraffe	Include in App II	ACCEPTED
<i>Aonyx cinereus</i>	Small-clawed Otter	Transfer App II to App I	ACCEPTED
<i>Lutrogale perspicillata</i>	Smooth-coated Otter	Transfer App II to App I	ACCEPTED
<i>Ceratotherium simum simum</i>	Southern White Rhinoceros	Remove existing annotation for pop. of eSwatini	REJECTED
<i>Ceratotherium simum simum</i>	Southern White Rhinoceros	Transfer pop. of Namibia from App I to App II	REJECTED
<i>Loxodonta africana</i>	African Elephant	Transfer pop. of Zambia from Appendix I to Appendix II	REJECTED
<i>Loxodonta africana</i>	African Elephant	Amend annot. for pops of Botswana Namibia, South Africa, Zimbabwe	REJECTED
<i>Loxodonta africana</i>	African Elephant	Transfer pops of Botswana, Namibia, South Africa, Zimbabwe from App II to App I	REJECTED
<i>Mammuthus primigenius</i>	Woolly Mammoth	Include in App II	WITHDRAWN
<i>Leporillus conditor</i>	Greater Stick-nest Rat	Transfer from App I to App II	ACCEPTED
<i>Pseudomys fieldi praeconis</i>	Shark Bay Mouse	Transfer App I to App II	ACCEPTED
<i>Xeromys myoides</i>	False Swamp Rat	Transfer App I to App II	ACCEPTED
<i>Zyzomys pedunculatus</i>	Central Rock Rat	Transfer App I to App II	ACCEPTED
<i>Syrnaticus reevesii</i>	Reeves's Pheasant	Include in App II	ACCEPTED
<i>Balearica pavonina</i>	Black Crowned-crane	Transfer App II to App I	ACCEPTED
<i>Dasyornis broadbenti litoralis</i>	Lesser Rufous Bristlebird	Transfer App I to App II	ACCEPTED

OUTCOME OF LISTING PROPOSALS SUBMITTED TO CoP18 ctd.

Species	English common name	Proposal	Result
<i>Dasyornis longirostris</i>	Long-billed Bristlebird	Transfer App I to App II	ACCEPTED
<i>Crocodylus acutus</i>	American Crocodile	Transfer pop. of Mexico App I to App II	ACCEPTED as amended, with zero export quota
<i>Calotes nigrilabris</i> and <i>C. pethiyagodai</i>	Garden lizards	Inclusion in App I	WITHDRAWN
<i>Ceratophora</i> spp.	Horned lizards	Inclusion in App I	ACCEPTED as amended, exc. <i>C. aspera</i> and <i>C. stoddartii</i> listed in App II with zero quota
<i>Cophotis ceylanica</i> / <i>C. dumbara</i>	Pygmy lizards	Inclusion in App I	ACCEPTED
<i>Lyricephalus scutatus</i>	Hump-nosed Lizard	Inclusion in App I	ACCEPTED as amended, listed in App II with zero quota
<i>Goniurosaurus</i> spp.	Leopard geckos	Inclusion of pops of China and Viet Nam in App II	ACCEPTED (as amended to excl. spp native to Japan)
<i>Gekko gekko</i>	Tokay Gecko	Inclusion in App II	ACCEPTED
<i>Gonatodes daudini</i>	Grenadines Clawed Gecko	Inclusion in App I	ACCEPTED
<i>Paroedura androyensis</i>	Grandidier's Madagascar Ground Gecko	Inclusion in App II	ACCEPTED
<i>Ctenosaura</i> spp.	Spiny-tailed iguanas	Inclusion in App II	ACCEPTED
<i>Pseudocerastes urarachnoides</i>	Spider-tailed Horned Viper	Inclusion in App II	ACCEPTED
<i>Cuora bourreti</i>	Bourret's Box Turtle	Transfer from App II to App I	ACCEPTED
<i>Cuora picturata</i>	Vietnamese Box Turtle	Transfer from App II to App I	ACCEPTED
<i>Mauremys annamensis</i>	Annam Leaf Turtle	Transfer from App II to in App I	ACCEPTED
<i>Geochelone elegans</i>	Star Tortoise	Transfer from App II to App I	ACCEPTED
<i>Malacochersus tornieri</i>	Pancake Tortoise	Transfer from App II to App I	ACCEPTED
<i>Hyalinobatrachium</i> spp., <i>Centrolene</i> spp., <i>Cochranella</i> spp., and <i>Sachatamia</i> spp.	Glass frogs	Include in App II	REJECTED

OUTCOME OF LISTING PROPOSALS SUBMITTED TO CoP18 ctd.

Species	English common name	Proposal	Result
<i>Echinotriton chinhaiensis</i> and <i>Echinotriton maxiquadratus</i>	Spiny newts	Inclusion in App II	ACCEPTED
<i>Paramesotriton</i> spp.	Asian warty newts	Inclusion in App II	ACCEPTED
<i>Tylototriton</i> spp.	Crocodile newts	Inclusion in App II	ACCEPTED
<i>Isurus oxyrinchus</i> and <i>I. paucus</i>	Mako sharks	Inclusion in App II	ACCEPTED
<i>Glaucostegus</i> spp.	Guitarfishes	Inclusion in App II	ACCEPTED
Rhinidae spp.	Wedgefishes	Inclusion in App II	ACCEPTED
<i>Holothuria (Microthele) fuscogilva</i> , <i>H. (Microthele) nobilis</i> , <i>H. (Microthele) whitmaei</i>	Sea cucumbers	Inclusion in App II	ACCEPTED (entry into force delayed by 12 months)
<i>Poecilotheria</i> spp.	Ornamental spiders	Inclusion in App II	ACCEPTED
<i>Achillides chikae hermeli</i>	Mindoro Peacock Swallowtail	Inclusion in App I	ACCEPTED
<i>Parides burchellanus</i>	Riverside Swallowtail	Inclusion in App I	ACCEPTED
<i>Handroanthus</i> spp., <i>Tabebuia</i> spp. and <i>Roseodendron</i> spp.	Trumpet trees	Inclusion in App II with annotation	WITHDRAWN
<i>Widdringtonia whytei</i>	Mulanje Cedar	Include in App II	ACCEPTED
<i>Dalbergia sissoo</i>	North Indian Rosewood	Delete from App II	REJECTED
<i>Dalbergia</i> spp., <i>Guibourtia demeusei</i> , <i>G. pellegriniana</i> , <i>G. tessmannii</i>	Rosewoods, palisanders and bubingas	Amend annotation	ACCEPTED as amended
<i>Pericopsis elata</i>	African Rosewood	Expand scope of annotation	ACCEPTED
<i>Pterocarpus tinctorius</i>	African Padauk	Inclusion in App II	ACCEPTED
<i>Aloe ferox</i>	Bitter Aloe	Amend annotation	ACCEPTED as amended
<i>Adansonia grandidieri</i>	Grandidier's Baobab	Amend annotation	ACCEPTED
<i>Cedrela</i> spp.	Cedars	Inclusion in App II	ACCEPTED amended to cover pop. of Neotropics (entry into force delayed by 12 months)

THE TRADE IN NATIONALLY PROTECTED LIZARDS FROM AUSTRALIA, CUBA, AND MEXICO AND THE EU'S ROLE AS A MAIN DESTINATION

Report by Sandra Altherr, Katharina Lameter and Juan Carlos Cantu



Santiago Grass Anole *Anolis rejectus*, a Cuban endemic species.

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INTRODUCTION

Its broad geographical extent, large number of wealthy consumers and the absence of internal trade barriers make the European Union (EU) a coveted market for smuggled live animals (Auliya *et al.*, 2016a,b). The demand from certain consumers is aimed at “special species” that are characterised, for example, by their rarity (in the wild or in trade), endemism, or morphological characteristics such as striking colours and patterns or other special features, such as viviparity (Brook and Sodhi, 2006; Canlas *et al.*, 2017; Ngo *et al.*, 2019). Those clients—high-end hobbyists, breeders and wildlife dealers—are willing to pay up to several thousand Euros per animal, making trade in such species highly lucrative (Nijman and Stoner, 2014; Altherr *et al.*, 2016). Among such limited available species are those that are strictly protected from capture, sale and export in their country of origin, but which are not covered by the international trade controls of CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora). Therefore, once they have entered the EU, there are no obvious legal grounds for stopping their trade. This questionable business is therefore a highly profitable activity, with much lower risks and penalties compared with the illegal trade in CITES-listed species (Altherr, 2014; Auliya *et al.*, 2016).

This study focuses on online trade in the EU in non-CITES, endemic lizard species from Australia, Mexico and Cuba. All three countries are biodiversity hotspots (Mittermeier and Mittermeier, 1997; Myers *et al.*, 2000), have strict national legislation restricting or prohibiting the export of native wildlife for commercial purposes,

and were therefore selected as case studies. This report reviews the range of species on sale in Europe, prices, how this special type of wildlife crime is organised and investigates how the EU and other destinations can regulate this trade.

METHODS

Over a period of six months (mid-September 2017 to mid-March 2018) online surveys on five European online platforms and in five Facebook groups (both open and closed) were conducted. Closed groups are more resistant to surveillance by law enforcement agencies in source and market countries. The species names follow the Reptile Database by Uetz and Hošek (1995–2019).

The range of species, number of individuals, prices, as well as the sellers' indicated nationalities were recorded. In cases where no number was given but offers for sale indicated more than one specimen, two individuals were counted, prices for groups were converted into price/individual. In addition, the species' status in the IUCN Red List of Threatened Species and national protection status were determined. Two Australian endemic species (bearded dragons *Pogona henrylawsoni* and *P. vitticeps*) were excluded from this analysis due to large-scale captive-breeding, which fully meets demand for these species.

Statistical information on Mexico's legal exports for the period 2000–2016 was received from the country's CITES Management Authority; data on reptile seizures in Mexico were received from the Federal Office of Environmental Protection (PROFEPA *in litt.* to J.C. Cantu, 2019).

SHORT REPORT

Common name	Scientific name	IUCN	Price €	No. specimens	EU Traders	Non-EU Traders
Chameleon Gecko	<i>Carphodactylus laevis</i>	LC	1,000	4	DE	CA
Marbled (Southern) Gecko	<i>Christinus marmoratus</i>	LC	10–49	2	DE	
Pink-tongued Skink	<i>Cyclodomorphus gerrardii</i>	LC	60–125	52	AT;DK;DE;FR;HU;NL;IT;UK	
Forked Gecko	<i>Diplodactylus furcosus</i>	LC	120	3	DE	
Helmeted Gecko	<i>D. galeatus</i>	LC	350–500	15	BE;DE;FR;HU;SK;SE	
Western Stone Gecko	<i>D. granariensis</i>	LC	90–250	2	DE	
Fine-faced Gecko	<i>D. pulcher</i>	LC	600	1	DE	
Eastern Stone Gecko/Wood Gecko	<i>D. vittatus</i>	LC	185–300	7	AT;DE	
Cunningham's Skink	<i>Egernia cunninghami</i>	LC	500–800	4	DE;PL	UA
Western Pilbara Spiny-tailed Skink	<i>E. cygnitos</i>	LC	5,000	2	DE	
Pygmy Spiny-tailed Skink	<i>E. depressa</i>	LC	1,900	13	AT;DE;ES;FR;SE;SI;SK	MY
Central Pygmy Spiny-tailed Skink	<i>E. eos</i>	LC		2	DE	
Eastern Pilbara Spiny-tailed Skink	<i>E. epsisolus</i>	LC	2,100–3,000	37	DE;ES;UK	CH;HK
Hosmer's (Spiny-tailed) Skink	<i>E. hosmeri</i>	LC	250–500	2	DE;	RU
King's Skink	<i>E. kingii</i>	LC		2		MY
Pilbara Crevice Skink	<i>E. pilbarensis</i>	LC	2,500	3	DE	
Black Crevice Skink	<i>E. saxatilis</i>	LC		2	DE	
Gidgee (Spiny-tailed) Skink	<i>E. stokesii</i>	LC	350–750	2	CZ;DE;IT;UK	
Tree Crevice Skink	<i>E. striolata</i>	LC	165–200	10	CZ;DE;IT	
Dubious Four-clawed Gecko	<i>Gehyra dubia</i>	LC	40	2	NL	
Bynoe's Gecko	<i>Heteronotia binoei</i>	LC	55–81	89	CZ;DE;FR;NL;UK	CH;US
Boyd's Forest Dragon	<i>Lophosaurus boydii</i>	LC	750–800	42	DE;SK;UK	
Beaded Gecko	<i>Lucasium damaeum</i>	LC	150	8	AT;CZ	
Robust Velvet Gecko	<i>Nebulifera robusta</i>	LC	125–150	1	CZ;DE	
Centralian Rough Knob-tail Gecko	<i>Nephrurus amyae</i>	LC	230–1,000	61	CZ;DE;DK;ES;FR;NL;PL;UK	CH;US
Rough Knob-tail	<i>N. asper</i>	LC	1,500	10	DE;ES;UK;	US
Pernatty Knob-tail	<i>N. deleani</i>	LC	250–290	42	CZ;DE;ES;NL;PL;SK;UK	US
Smooth Knob-tail	<i>N. laevis</i>	LC	500	2	CZ;ES;NL	
Three-lined Knob-tail	<i>N. levis</i>	LC	250–500	106	AT;BE;CZ;DE;ES;FR;IT;NL PL;SK;UK	CH;RU;US
Kimberley Rough Knob-tail	<i>N. sheai</i>	LC	750	2	SK	
Stellate Knob-tail	<i>N. stellatus</i>	LC	1,250–1,400	27	DE;ES;NL;UK	
Midline Knob-tail	<i>N. vertebralis</i>	LC	220	5	AT;CZ;DE;ES;NL;PL;UK	US
Banded Knob-tail	<i>N. wheeleri</i>	LC	50–300	192	BE;CZ;DE;ES;FR;IT;NL;PL;SK	CA;CH;US
Northern Velvet Gecko	<i>Oedura castelnaui</i>	LC	80–150	13	AT;CZ;DE	RU
Western Marbled Velvet Gecko	<i>O. fimbria</i>	LC	90–250	2	CZ;DE	
Marbled Velvet Gecko	<i>O. marmorata</i>	LC	100	4	CZ;DE	
Ocellated Velvet Gecko	<i>O. monilis</i>	LC	40–200	70	CZ;DE	
Southern Spotted Velvet Gecko	<i>O. tryoni</i>	LC	150	5	HU	
Mount Elliot Leaf-tailed Gecko	<i>Phyllurus amnicola</i>	NT	1,250–2,030	45	CZ;DE;FR;SK	RU;US
Ringed Thin-tail Gecko	<i>P. caudiannulatus</i>	NT	500–800	2	DE	
Broad-tailed Gecko	<i>P. platurus</i>	LC	420–950	10	CZ;PL	
Eastern Bearded Dragon	<i>Pogona barbata</i>	LC	220	18	IT	
Western Bearded Dragon	<i>P. minor</i>	LC	120–220	21	CZ;DE;ES;FR	CH
North-west Bearded Dragon	<i>P. mitchelli</i>	NE	950	2	DE	
Kate's Leaf-tailed Gecko	<i>Saltuarius kateae</i>	LC		13	DE	
Rough-throated Leaf-tail Gecko (Wyberba) Leaf-tailed Gecko	<i>S. salebrosus</i>	LC	2,000	15	DE;DK;	CA;CH;RU;US
(Wyberba) Leaf-tailed Gecko	<i>S. wyberba</i>	LC	350–1,500	5	CZ;DE;FR;NL;UK	RU;US
Goldfields Spiny-tailed Gecko	<i>Strophurus assimilis</i>	LC		4	DE	
(Northern) Spiny-tailed Gecko	<i>S. ciliaris</i>	LC	170–550	143	CZ;DE;FR;NL;PL;SK;UK	JP
Jewelled Gecko	<i>S. elderi</i>	LC	2,100	11	DE	
Southern Spiny-tailed Gecko	<i>S. intermedius</i>	LC	80–120	4	CZ;DE;PL	
Kristin's Spiny-tailed Gecko	<i>S. krisalys</i>	LC	350–520	4	CZ;PL;	US
Exmouth Spiny-tailed Gecko	<i>S. rankini</i>	LC	350	33	DE;FR;SI	
Soft Spiny-tailed Gecko	<i>S. spinigerus</i>	LC	190–203	15	DE;HU;NL;SK	
Western Spiny-tailed Gecko	<i>S. strophurus</i>	LC	600	2	DE	
Golden Spiny-tailed Gecko	<i>S. taenicauda</i>	LC	90–300	41	DE;FR;IT;HU;SK;UK	
Western Shield Spiny-tailed Gecko	<i>S. wellingtonae</i>	LC	650	2	CZ	
Eastern Spiny-tailed Gecko	<i>S. williamsi</i>	LC	120–203	72	CZ;DE;HU;NL;PL;SI;UK	US
Pygmy Bluetongue Lizard	<i>Tiliqua adelaidensis</i>	EN	at least 150	17	DE;UK	RU
Centralian Bluetongue	<i>T. multifasciata</i>	LC		2	CZ;NL;UK	MY
Blotched Bluetongue	<i>T. nigrolutea</i>	LC		2	CZ;ES	MY
Shingleback Lizard	<i>T. rugosa</i>	LC	400–7,900	21	AT;CZ;DE;ES;FR;SE;HK;MY	
Common or Eastern Bluetongue	<i>T. scincoides*</i>	LC	100–6,000	83	AT;BE;CZ;DK;DE;FR;HU;IT NL;SK;UK	CA;MY;UA
Eyrean Earless Dragon	<i>Tympanocryptis tetraporophora</i>	LC	80	12	DE;NL	
Thick-tailed or Barking Gecko	<i>Underwoodisaurus milii</i>	LC	50–465	132	AT;CZ;DE;HU;PL;SK;UK	CA;US
Border Thick-tailed Gecko	<i>Uvidicolus sphyrurus</i>	LC		2	DE	

Table 1. List of lizard species endemic to Australia and not protected by CITES that were found on sale at surveyed online platforms and in social media groups in Europe. All native species are protected nationally in Australia's *Environment Protection and Biodiversity Conservation Act 1999*. IUCN: EN = Endangered, LC = Least Concern, NE = Not Evaluated. Key for country codes, page 63.

*The Indonesian subspecies *Tiliqua scincoides chimaera* has been excluded from these figures.

LEGISLATION

In Australia, the commercial export of live native reptiles is strictly prohibited by the federal *Environment Protection and Biodiversity Conservation Act 1999*.

Cuba's threatened species are protected via federal Resolution No. 160/2011 (and previous versions), which in its Appendix I lists those species strictly protected (i.e. prohibiting capture and export for commercial purposes) and in its Appendix II protected species (commercial exports only authorised via special permits); these national Appendix listings, reflecting the rarity of a species, are not identical to the CITES Appendices.

In Mexico, any capture or commercial activity involving reptiles that are endemic, in danger of extinction ("P"), threatened ("A"), or subject to special protection ("Pr") is prohibited without a permit. Those species are listed in federal law *NORMA Oficial Mexicana NOM-059* as of 2010. Mexico's Criminal Code, article 420 sets penalties of up to nine years for any illegal use of endemic species.

Within the EU, the EU Wildlife Trade Regulations (EU WTR) implement the provisions of CITES and go beyond the requirements of the Convention in several respects. Under *Council Regulation (EC) No 338/97*, import permits are required for imports of species listed on Annex A of the Regulation (equivalent to CITES Appendix I but with some additional species) and those listed on Annex B (approximately equivalent to CITES Appendix II). An import notification is required for the importation of Annex C species (Appendix III equivalent) and for those on Annex D (an annex which lists those species in which trade into the EU is deemed to warrant monitoring). Otherwise, the regulation does not provide any legal basis to counter trade. The EU only prohibits and sanctions the purchase etc. of Annex A and B species

from illegal sources, not for Annex C or Annex D (see Article 8 and 16 of EU Council Regulation 338/97). For Annex C species, only the lack of an appropriate certificate for import/export can be sanctioned in the EU. Beyond these provisions, there is no general import declaration requirement for non-CITES species.

RESULTS

In total, 2,167 individuals of 104 species were recorded, which are endemic either to Australia, Cuba or Mexico. Almost 73% of the individuals (1,581 animals) were Australian, 12.6% (n=274) Cuban, and 14.4% (n=312) Mexican species (Tables 1–3).

Almost 70% of online posts did not indicate whether the animals were wild-caught or captive-bred. Online offers for sale were made by traders from 15 EU Member States and nine non-EU countries; by being represented in the sale of almost all offered species, Germany has a central role (Tables 1–3). Furthermore, most online offers refer to the German city of Hamm (examples are given in Fig. 1) and Houten in the Netherlands, both of which host reptile trade fairs.

Australian species

The online survey identified 66 lizard species that are endemic to Australia and not protected by CITES (Table 1). Price offers ranged from between EUR10 and EUR7,900 (USD11–8,800), with some species in the genera *Egernia* (Fig. 1a), *Nephruirus*, *Saltuarius*, and especially *Tiliqua*, among the most expensive. Posts claimed to be from 15 EU Member States and eight non-EU countries (Table 1). During the authors' survey, a Russian trader offered *Tiliqua adelaidensis*, likely for the first time in Europe, provoking intense discussions



Facebook post from a trader in Spain offering adult *Egernia epsisolus*, with reference to Europe's largest reptiles trade show in Hamm, Germany.

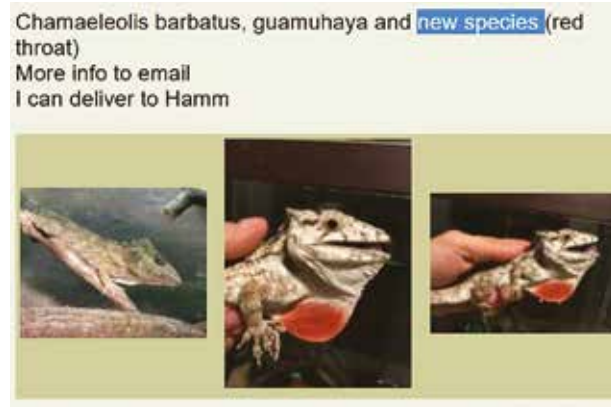
Post on terraristik.com by a trader in Russia offering adult *Tiliqua adelaidensis* and other Australian endemic lizards for sale in Hamm.



Fig. 1a (left); 1b. Screenshots of online posts.



◀ Facebook post reported by a trader in Sweden offering Frilled Lizard *Chlamydosaurus kingii*. The species is restricted to New Guinea and Australia. The post states the origin as Australia.



▲ Trader in the Czech Republic offering various endemic Cuban *Chamaeleolis* (syn. *Anolis*) species on Facebook, including a new species; handover in Hamm offered.

Fig. 1c (left); 1d. Screenshots of online posts.

amongst conservationists about the evident illegal origins of these animals (Fig. 1b).

In addition to endemic species from Australia, the authors also noticed several offers for *Chlamydosaurus kingii*, which is native to Australia, Indonesia, and Papua New Guinea. While there are legal exports from Indonesia, some traders highlight the (illegal) origin from Australia (Fig. 1c).

Cuban species

On the online platforms surveyed, the authors identified 23 non-CITES lizard species endemic to Cuba, of which at least 18 are covered by national legislation (Table 2): 10 of these are strictly protected and their capture and export for commercial purposes is prohibited; commercial export of the other eight species requires special permits. For another eight species commercial exports are only authorised with special permits. The legal status of two species is unclear due to taxonomic uncertainties (Table 2).

Prices for Cuban species range from EUR10 to EUR3,000 (USD11–3,340), with higher prices often correlating with a higher protection level: the three by far the most expensive species listed in Table 2 are all strictly protected in Cuba. Online posts for Cuban endemic lizards were recorded from 12 EU Member States, and from Switzerland as the only non-EU country.

Five Cuban lizard species are classified by the IUCN Red List as Endangered (Table 2). In addition, six species listed by the IUCN Red List as being either of Least Concern or which have not been assessed, are classified in Cuba's national Red List as Endangered (*Anolis barbatus*, *A. guamuhaya*, *A. imias* and *Sphaerodactylus siboney*) or Vulnerable (*Anolis allogus*, *A. rejectus*) (Gonzales Alonso *et al.*, 2012). Fig. 1d shows online offers for some

of these rare *Anolis* species and for a new, undescribed species. Cuban conservation authorities were not aware of the large range of Cuban endemic species offered in the European pet trade (Alvarez, 2018). In reaction to these findings and after consultation with herpetologists and enforcement staff, the Cuban Government has requested the listing of 20 endemic species in CITES Appendix III (Alvarez *in litt.* to Altherr, May 2019).

Mexican species

The survey identified 15 non-CITES-species endemic to Mexico, 11 of which are nationally protected (Table 3). One third of these 15 species are threatened, according to the IUCN Red List.

Ctenosaura was the most diverse group of Mexican species offered in Europe, with four species for sale. According to official export data for the period 2000–2016 (SEMARNAT, 2019), Mexico allowed exports for commercial purposes of only two species relevant to this report. With more than 1,740 specimens, *Ctenosaura pectinata* comprised the vast majority of official commercial exports; five specimens of *C. defensor* were also legally exported for trade. For all other species in Table 3, no export permits were issued for commercial purposes. Accordingly, there are questions regarding the legal origin of those species, including *Ctenosaura conspicuosa*, which was the most expensive Mexican species, selling for up to EUR1,500 (USD1,600).

Posts involving trade in Mexican endemic species to the European market were reported from 12 EU Member States and six non-EU countries. It is remarkable that a trader from Mexico placed online posts for four species, none of which has been granted a commercial export permit since 2000 (Table 3).

Common name	Scientific name	Res. No. 160/2011 National	IUCN Global/ national*	Price €	No. of specimens	Traders EU	Traders non-EU
Cuban Worm Lizard	<i>Amphisbaena cubana</i>	App. I	LC	100	6	DE	
Bueycito Anole	<i>Anolis allogus</i>	unclear	LC/VU*	50	1	DE	
Blue-eyed Grass-bush Anole	<i>A. alutaceus</i>	-	LC		6	DE	
Guantanamo Anole	<i>A. argenteolus</i>	App. II	NE	30–80	39	DE	
Baracoa Anole	<i>A. baracoae</i>	App. II	NE	50–70	28	CZ;FR;IT;SK	
Western Bearded Anole	<i>A. barbatus</i>	App. I	NE/EN*	60–300	41	BE;CZ;DE;NL;PL	CH
West Cuban Anole	<i>A. bartschi</i>	App. II	NE	10	12	DE;NL	
Short-bearded Anole	<i>A. chamaeleonides</i>	App. I	NE	1,250	6	CZ;DE	
Cabo Cruz Banded Anole	<i>A. guafe</i>	App. II	EN/VU*	100	1	DE	
Escambray Bearded Anole	<i>A. guamuhaya</i>	App. I	NE/EN*	700	4	CZ;DE;DK	
Habana Anole	<i>A. homolechis</i>	App. II	NE	60–80	8	DE	
Imias Anole	<i>A. imias</i>	App. II	NE/EN*	100	1	DE	
Peach Anole	<i>A. loysiana</i>	App. II	NE	250	2	DE	
Cave Anole	<i>A. lucius</i>	-	NE	80–120	8	CZ;DE	
Holguin Anole	<i>A. noblei</i>	unclear	NE	150	1	DE;ES	
Oriente Bearded Anole	<i>A. porcus</i>	App. I	NE	145	11	CZ;DE;IT;NL;PL	
Santiago Grass Anole	<i>A. rejectus</i>	App. II	NE/VU*	200	14	DE	
Smallwood's Anole	<i>A. smallwoodi</i>	-	NE	200	2	DK;SI	
Guantanamo Coastal Gecko	<i>Sphaerodactylus armasi</i>	App. I	EN/EN*	80–200	8	DE	
Santiago de Cuba Least Gecko	<i>S. dimorphicus</i>	App. I	EN/EN*	200	2	DE	
Mantanzas Least Gecko	<i>S. intermedius</i>	App. I	EN/EN*	180–3,000	18	DE;FR;PL	CH
Siboney Least Gecko	<i>S. siboney</i>	App. I	LC/EN*		10	DE	
Barbour's Least Gecko	<i>S. torrei</i>	App. I	EN	100–200	45	DE;ES;NL;UK	

Table 2. List of lizard species endemic to Cuba and not protected by CITES on sale at surveyed online platforms and in social media groups in Europe. National protection via Cuba's Resolution No. 160/2011. * = species classification in Cuba's national Red List. IUCN: EN = Endangered, LC = Least Concern, VU = Vulnerable, NE = Not Evaluated. Key for country codes below.

Common name	Scientific name	NOM-059	IUCN	Price €	No. of specimens	Traders EU	Traders non-EU
Yucatán Spiny-tail Iguana	<i>Cachryx defensor</i>	P	VU	200–330	14	AT;DE;ES;FR, PL;SE;UK	
Tiburon Collared Lizard	<i>Crotaphytus dickersonae</i>	-	LC	250–300	14	CZ;DE;ES	UA
Eastern Collared Lizard	<i>C. insularis</i>	-	LC	20–90	2	ES	
Balsas Armed Lizard	<i>Ctenosaura clarki</i>	A	VU	300–750	12	CZ;DE;NL;PL	MX
San Esteban Spinytail Iguana	<i>C. conspicuosa</i>	Pr	NE	800–1,500	6	DE	
Oaxaca Spiny-tailed Iguana	<i>C. oaxacana</i>	A	CR	750–950	2	CZ;DE;ES;PL	
Guerreran Spiny-tailed Iguana	<i>C. pectinata</i>	A	NE	180–1,200	25	BE;DE;ES;IT; PL;SE;UK	
Gadow's Alligator Lizard	<i>Mesaspis gadovii</i>	Pr	LC		2		MX
Baja (California) Rock Lizard	<i>Petrosaurus thalassinus</i>	Pr	LC	60–135	115	AT;CZ;DE;ES, FR;NL;PL;UK	
Mountain Horned Lizard	<i>Phrynosoma orbiculare</i>	A	LC	100–200	66	DE	
Mexican Horned Lizard	<i>P. taurus</i>	A	LC	500	2	DE;ES;FR	MX
Minor Lizard	<i>Sceloporus minor</i>	-	LC	240–400	26	BE;CZ;DE;DE	MX, UA
Teapen Rosebelly Lizard	<i>S. teapensis</i>	-	LC		1	DE	
Newman's Knob-scaled Lizard	<i>Xenosaurus newmanorum</i>	Pr	EN	100–250	23	DE;FR;IT;NL	
Flathead Knob-scaled Lizard	<i>X. platyceps</i>	Pr	EN	150–350	2	DE;FR;IT;NL	

Table 3. List of lizard species endemic to Mexico and not protected by CITES on sale at surveyed online platforms and in social media groups in Europe. National Protection via NORMA Oficial Mexicana NOM-059 as of 2010: A=threatened, P=in danger of extinction, PR=special protection. IUCN: CR=Critically Endangered, EN=Endangered, VU=Vulnerable, LC=Least Concern, NE=Not Evaluated. KEY for country codes: EU countries: AT=Austria, BE=Belgium, CZ=Czech Republic, DE=Germany, DK=Denmark, ES=Spain, FR=France, HU=Hungary, IT=Italy, NL=Netherlands, PL=Poland, SE=Sweden, SI=Slovenia, SK=Slovakia, UK=United Kingdom; Non EU countries: CA=Canada, CH=Switzerland, JP=Japan, MY=Malaysia, MX=Mexico, RU=Russia, UA=Ukraine, US=United States of America

DISCUSSION AND CONCLUSIONS

The internet has become a major channel for wildlife trade, facilitating global contact between exporters, traders and clients, and resulting in an increased diversity of species being offered in the international exotic pet trade (Lavorgna, 2014; Jensen *et al.*, 2019). Online surveys are a simple and efficient source to illustrate the species composition and volumes in trade (Canlas *et al.*, 2017; Wakao *et al.*, 2018). Several studies document the high demand in the international pet trade for rare, newly discovered or even nationally protected species (Nijman and Stoner, 2014; Janssen and Leupen, 2019; Janssen and Shepherd, 2019; Ngo *et al.*, 2019; Shepherd *et al.*, 2019). Many of the targeted species are threatened in the wild and illegal oftakes further imperil their survival (Auliya *et al.*, 2016). The EU market has a central role as a consumer of those species (Altherr, 2014; Janssen and da Silva, 2019). Prices are often as high as for CITES-listed species, but risks for the smugglers and their clients are much lower (Altherr, 2014).

The smuggling of endemic and nationally protected species from Australia and Mexico for the international commercial trade has been documented before (Fitzgerald *et al.*, 2004; Altherr, 2014; Menagh, 2015; Altherr *et al.*, 2016; Albaladejo, 2019). Furthermore, official data from Mexico document regular seizures of *Ctenosaura*, *Sceloporus*, *Phrynosoma*, *Xenosaurus*, *Crotaphytus*, and *Mesaspis* species (PROFEPA *in litt.* to J.C. Cantu, 2019). These seizures confirm ongoing illegal exports from Mexico, including to Europe.

Data on wildlife trafficking from Cuba are limited, with only anecdotal reports (Neme, 2015), while reptile smuggling in the region, e.g. in the Caribbean Lesser Antilles, has been documented (Noseworthy, 2017).

The present report provides the first systematic picture of the trade in endemic, nationally protected lizards from Australia, Cuba, and Mexico to Europe, and the number of animals found during the online surveys (which were limited in terms of time and the number of platforms selected), is probably just the tip of the iceberg. That most online offers recorded refer to Hamm, Germany, and Houten in the Netherlands, both of which host reptile trade fairs, indicates that most sales and purchases of specimens are arranged via the internet, while the physical transfer of the reptiles occurs at the trade fairs.

The EU's significant role as a hub and destination for the exotic pet trade is by no means limited to species from the three countries under discussion (Altherr *et al.*, 2016; Auliya *et al.*, 2016; Janssen and de Silva, 2019; Ngo *et al.*, 2019). The trafficking of wildlife from countries where species are protected should not be tolerated in consumer countries, as it undermines national protection efforts and tolerates a business model that relies on poaching and trafficking, and often corruption and financial crimes.

A proposal submitted by Mexico and El Salvador to the 18th meeting of the Conference of the Parties to CITES in August 2019 to include all non-listed *Ctenosaura* species in Appendix II was accepted (CITES, 2019). While this is highly commendable, given the broad range of species targeted by wildlife traffickers, high end commercial hobbyists, breeders, and wildlife dealers, a great deal more needs to be done.

For several species from Australia, Mexico and Cuba, captive-breeding has been successful in Europe and for these a considerable proportion of the specimens recorded in this study were probably captive-bred. However, for some 70% of specimens offered for sale, information on origin was lacking and for many the possibility that the animal itself or the founder or breeding stock was originally trafficked from their countries of origin cannot be ruled out. Furthermore, many individuals in trade were offered as adults or sub-adults, which may be an indication that a high proportion of animals are caught from the wild. For other species, including those that are new in international trade or for which records for captive-breeding is lacking, the mislabelling of wild-caught animals as captive-bred is commonplace. According to Auliya *et al.* (2016) and Weissgold (pers. comm. to Altherr, 2019), authorities should be aware that smugglers may especially target gravid females—the most valuable animals in conservation terms—and sell their offspring as “captive-bred”.

The process of listing species in CITES Appendix I (which prohibits international commercial trade in wild specimens) or Appendix II (trade in which requires permits and the making of a non-detriment finding) is slow, with meetings of the Conference of the Parties taking place every three years and listings often hampered by lack of data or commercial interests. Accordingly, highly threatened species may remain internationally unprotected or CITES-listings come too late to prevent large-scale trafficking (Frank and Wilcove, 2019; Janssen and Shepherd, 2019).

Another solution that has been suggested is the listing of nationally protected species in CITES Appendix III (CITES CoP17 Doc. 80; Shepherd *et al.*, 2019). This Appendix contains species that are nationally protected in at least one range State which has asked other Parties for assistance in controlling the trade. However, few countries have used Appendix III listings and only for a limited number of species. Moreover, the EU neither prohibits nor imposes penalties for the sale, purchase and ownership of illegally-sourced animals listed in Annex C; only imports or exports without an appropriate certificate may be subject to penalties. Given this, in combination with the massive profit margins for rare species, Appendix III does not seem to be an appropriate solution.

One option would be to make use of the existing legislation and list nationally protected species in Annex B of the EU WTR in consultation with relevant range States and supported by listings in Appendix III by the range States, while the Annex B listing is decided and comes into force. However, so far the EU has not been making use of this option—with the exception of one species, *Lygodactylus williamsi*, that was included in Annex B in 2015 (Client Earth, 2018), a process that took three years to be concluded. Given that there was much controversy within the EU about inclusion of non-CITES species and the lengthy process, the authors believe it is questionable whether listing on Annex B provides a viable option for the considerable number of nationally protected species that are in trade in the EU.

Another option would be legislation, such as the US *Lacey Act*, which prohibits the import, sale and possession

of all species that were illegally caught, transported, sold or exported in their range State. While initial development and adoption of new legislation would require time, it would provide a framework that can be applied to all nationally protected species traded illegally within the EU. A legal analysis by Client Earth (2018) has confirmed that such legislation would not conflict with EU *Council Regulation (EC) No 338/97*. Considering its central role as a consumer of illicit wildlife, similar legislation for the EU is recommended by an increasing number of scientists, conservationists and institutions (DNR, 2019; EFFACE, 2016; EU Parliament, 2016; UNODC, 2016).

RECOMMENDATIONS

In 2017, the UN General Assembly passed Resolution 71/L88, which “... *urges Member States to take decisive steps at the national level to prevent, combat and eradicate the illegal trade in wildlife, on both the supply and demand sides [bold type by authors], including by strengthening their legislation and regulations necessary for the prevention, investigation, prosecution and appropriate punishment of such illegal trade.*” To meet these duties, range and consumer States need to strengthen efforts to enforce their national legislation, intensify controls and impose deterrent fines for the trafficking of specimens taken and exported in violation of the country of origin’s legislation.

Those countries that are the main consumers of trafficked specimens should therefore take responsibility and support national conservation measures of the countries of origin. Important consumer markets, such as the EU, with its central role as a destination and hub for trade in such species, should develop legal measures to combat this form of wildlife crime. Passing legislation comparable to the US *Lacey Act*, making import, sale and purchase of specimens illegally acquired in range States a criminal act in their countries, would be a proven and meaningful option. Examples of how the US *Lacey Act* is enforced are given e.g. by Global Trade Expertise (2018). Furthermore, in order to prevent the unsustainable offtake from populations in the wild, it is imperative that EU countries assist range States in order to prevent illegal harvest and trade in these species.

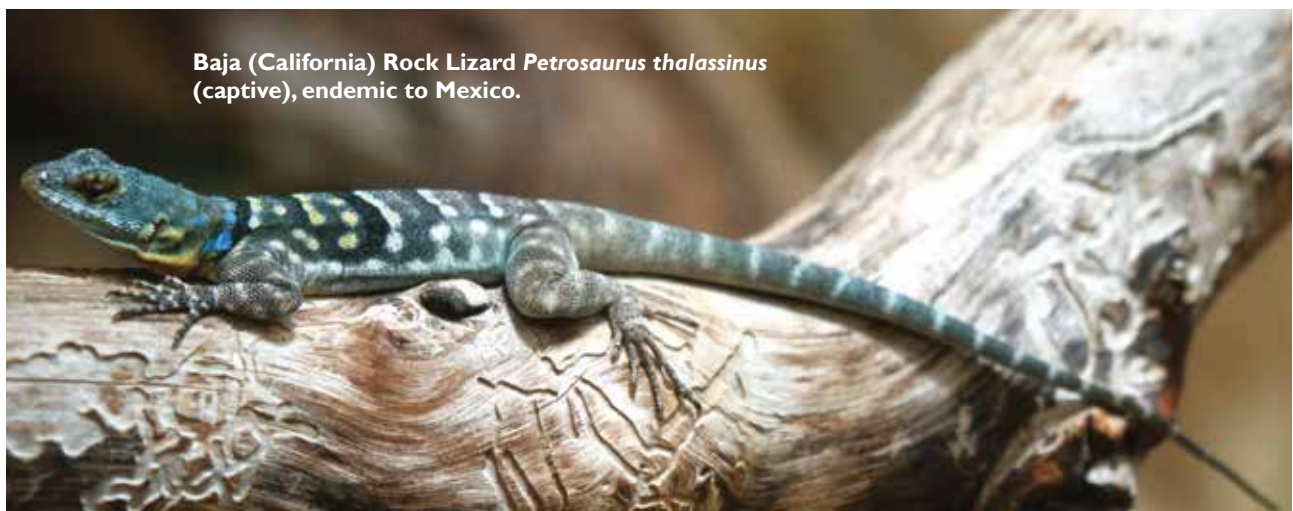


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Australian endemic species:
Shingleback Lizard *Tiliqua rugosa*.

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Baja (California) Rock Lizard *Petrosaurus thalassinus*
(captive), endemic to Mexico.

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Revealing the online trade of Sun Bears in Indonesia

Lalita Gomez, Chris R. Shepherd and John Morgan

INTRODUCTION

Sun Bears *Helarctos malayanus* are the only native bear species in Indonesia and are split into two subspecies—*H.m. malayanus*, which occurs on mainland Asia and on the island of Sumatra, and *H.m. euryspilus*, endemic to the island of Borneo. Indonesia is an important stronghold for Sun Bears, with one of the highest densities of this species compared with other range States (Scotson *et al.*, 2017). Nevertheless, Sun Bears are far from safe in Indonesia. Studies have shown that the country has one of the highest rates of deforestation globally (FWI/GFW, 2002; Margono *et al.*, 2014), resulting in diminishing habitat crucial for the species. Indonesia is also a major centre of poaching and the illegal wildlife trade is considered a prominent threat to a wide variety of species, and Sun Bears are no exception (Meijaard, 1999; Kurniawan and Nurashid, 2002; Nijman and Nekaris, 2014; Gomez and Shepherd, in prep.). The bears are being killed to meet both a domestic and international demand for gall bladders and bile for use in traditional medicine, meat and paws for the exotic food trade, and parts (e.g. claws, teeth, skin, skull) prized as talismans and trophies. Live cubs are also traded as pets. However, the extent and magnitude of the trade in Indonesia is unknown. In 2017, during a workshop organised by the IUCN SSC Bear Specialist Group to develop a Conservation Action Plan for Sun Bears, Indonesia was flagged as a country requiring further monitoring of and investigation into the poaching and trade of this species so that effective law enforcement and other conservation interventions can be determined.

Increasingly, illegal wildlife trade is being conducted on online platforms largely due to the low risk of detection, global reach and the anonymity it provides (Derraik and Phillips, 2009; IFAW, 2011; Lavorgna, 2014; Harrison *et al.*, 2016). According to WCS Indonesia, at least 40% of wildlife traders in Indonesia use online platforms for their transactions (Sinaga, 2017). Considering that much of Indonesia's wildlife trade is shifting from physical markets to online markets, it is suspected that trade in bears over the internet is also on the rise. Here, the authors attempt to address the paucity of information on the illegal trade of Sun Bears and related products by investigating the trade occurring online and identifying what action can be taken to reduce such demand and halt the decline in populations of this species.

LEGISLATION

Sun Bears are classified as Vulnerable by the IUCN Red List of Threatened Species (Scotson *et al.*, 2017) and the species is listed in Appendix I of CITES (Convention on

Yang Ada Stock Beruang Madu di tunggu komentarnya
Yang Bisa Transaksi REKBER
#MAMBS
#BerkasBerkas
MAKASIH ADMIN DAN JAJARANNYA



Sun yang sedang
Luker (REKBER)



Screenshots of a Sun Bear cub and a pendant carved from a Sun Bear tooth, for sale online.

International Trade in Endangered Species of Wild Fauna and Flora). Sun Bears have been completely protected in Indonesia since 1973 under the *Act of the Republic of Indonesia No. 5 of 1990 Concerning Conservation of Living Resources and their Ecosystems* and *Government Regulation No. 7 1999 Concerning the Preservation of Flora and Fauna*. It is prohibited to catch, injure, kill, keep, possess, care for, transport or trade protected species, whether alive or dead. Violation of the law carries a maximum penalty of five years in prison and a fine of IDR100 million (~USD7,100).

Cybercrime in Indonesia is governed by *Act No. 11 (2008), Concerning Electronic Information and Transactions*, and to a lesser extent, *Law No.7 (2014) about Trade*. These laws focus on managing trade and the protection of electronic information and transactions, with prohibitions on fraud. It is not a criminal offence to post offers of illegal products for sale; only the sale of such products is illegal. Further, authorities can only take enforcement action against a person in possession of protected species or when physically involved in an illegal transaction, gambling, defamation and extortion. Neither law specifically addresses measures to regulate online wildlife trade and related crimes.

METHODS

Online surveys were conducted between 1 November 2018 and 31 January 2019. All offers of bears or bear parts for sale obtained during this period were recorded along with screenshots of each post. Online surveys were focused on Indonesian Facebook wildlife trade groups encompassing Closed (n=10), Public (n=3) and Secret Groups (n=2) and consisted of four hours of research per week. A Public Group and its posts can be viewed by everybody; a Closed Group can be found by anyone on Facebook but only members of the Closed Group can see the Group's posts; a Secret Group and related posts are visible only to the group's members. Facebook search filters were used to narrow down searches by year and month, and by trade group. The search dated back

Commodity	2013	2014	2015	2016	2017	2018	2019	Total (posts)	Total quantity (specimens)
Claw			2	20	29	14	2	67	140
Live	1	3	18	12	1	5	2	42	47
Skull						1		1	1
Taxidermy (whole)					1			1	2
Taxidermy (paw)					1			1	1
Teeth			1	13	25	13		52	86
Total	1	3	21	45	57	33	4	164	277

Table 1. Bear commodities for sale in Indonesia on Facebook by year based on posts between 1 January 2013 and 31 January 2019. Note: $n=158$ Facebook posts, with several advertising more than one type of commodity.

to 2013 and was undertaken in the Indonesian language using the key word “beruang”, which means “bear” in Indonesian. Researchers collecting data were fluent in both Indonesian and English. Where possible, data were extracted from each posting and included location/base of operation of seller (if available), the type of commodity on sale (e.g. live or parts—teeth, claws, skin, skull, etc.), quantity, age, price of bears on sale, name of the Facebook group, date of post, etc. No personal data about the sellers were collected and no interaction with sellers took place. The number of bears or parts being offered for sale was extracted directly from the posts when provided or was estimated based on the pictures provided or otherwise estimated to involve a minimum of one item/individual. Care was taken to omit products that were obviously fake or likely parts of other animals. However, due to the difficulty in determining the authenticity of a bear part on sale from the images alone and considering some commodities had been altered (e.g. bear canines were sometimes found painted, polished or carved, for sale as pendants), it was generally assumed that commodities offered were genuine. Care was also taken to avoid inflation of numbers, with each post cross-checked to remove duplicate records.

RESULTS

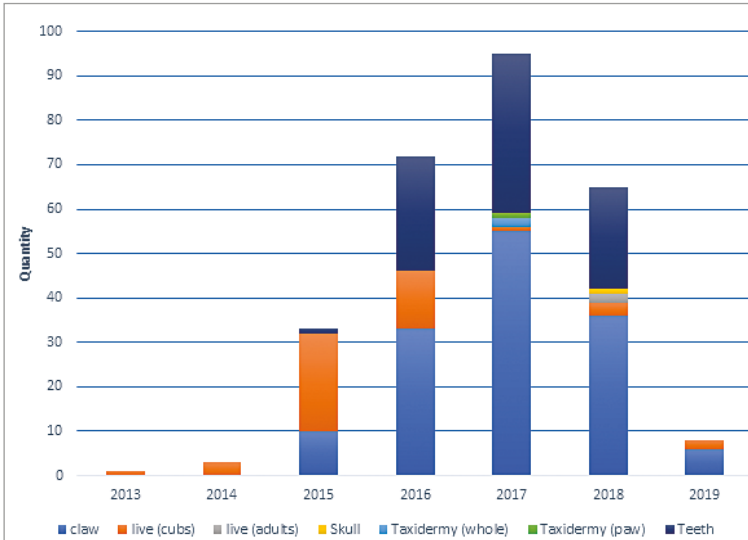
A total of 158 posts (six of which offered more than one item) offering either live bears or bear parts for sale were reviewed on Facebook for the period January 2013 to January 2019. This included 15 Facebook Groups and 111 individual sellers, of which seven were associated with online outlets. The Facebook Groups comprised 10 Closed ($n=143$ posts), three Public ($n=9$) and two Secret Groups ($n=6$). Information on the location of the seller was available in 149 posts with the highest number originating from Java (94.6%), the majority of which were reported to be based in Jakarta ($n=75$ posts), followed by West Java ($n=43$), Banten ($n=17$), East Java ($n=3$), Central Java ($n=1$) and Surabaya ($n=1$). The remaining 5.4% were based in Sumatra ($n=6$), Kalimantan ($n=1$) and Sulawesi ($n=1$).

The main commodities recorded for sale in terms of frequency and abundance were bear claws followed by bear teeth and live bears (Table 1). Fig. 1 gives a breakdown of the quantity of each commodity per year based on the posts recorded, while Fig. 2 lists a breakdown of the quantity of each commodity per province based on data extracted from seller locations.

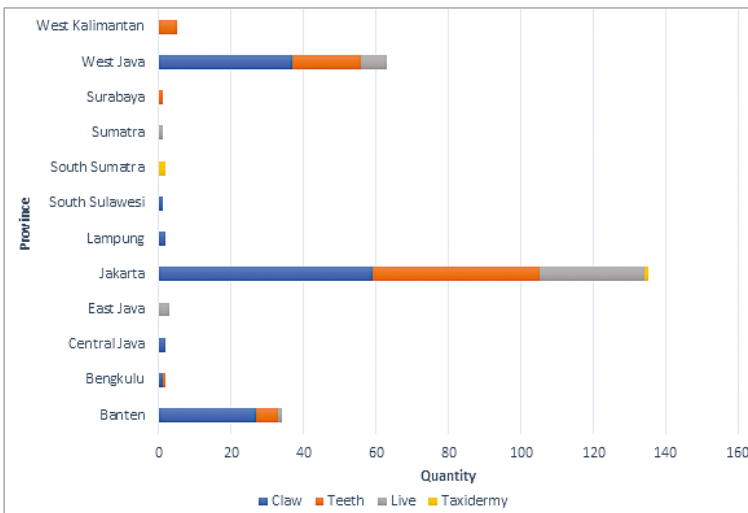
Commodity	Posts	No. of specimens	Price (IDR)	Price (USD)
Claw	26	69	50–450,000	4–32
Claw (key chain)	2	2	100–500,000	7–35
Claw (pendant)	39	69	140–300,000	10–21
Live (adult)	2	2	-	-
Live (cub)	40	45	6–13 million	424–918
Skull	1	1	450,000	32
Taxidermy (whole)	1	2	1.5 million	106
Taxidermy (paw)	1	1	-	-
Teeth	27	49	175–600,000	12–42
Teeth (carved pendant)	5	11	1–1.5 million	70–106
Teeth (pendant)	20	26	250,000–1.2 million	18–85

Table 2. The price range for bear commodities observed for sale in Indonesia on Facebook.

The majority of prices were found in posts obtained between 2016–2018 ($n=72$ of 79 posts obtained; none in 2013 and 2014). Note: currency conversion based on <https://www.oanda.com/currency/converter/> as of 11 April 2019.



◀ Fig. 1. The quantity of bear commodities for sale on Facebook in Indonesia by year based on posts between 1 January 2013 and 31 January 2019.



◀ Fig. 2. The quantity of bear commodities for sale on Facebook in Indonesia by province based on posts between 1 January 2013 and 31 January 2019.

The claws offered for sale were either described as bear claws (n=26) or as pendants (n=39) and key chains (n=2). Similarly, teeth were for sale (n=27) or as pendants/necklaces, some of which were carved (n=25). The live bears offered for sale represented 47 individuals, mostly bear cubs (n=40 posts; 45 individuals), with two posts each offering one adult Sun Bear.

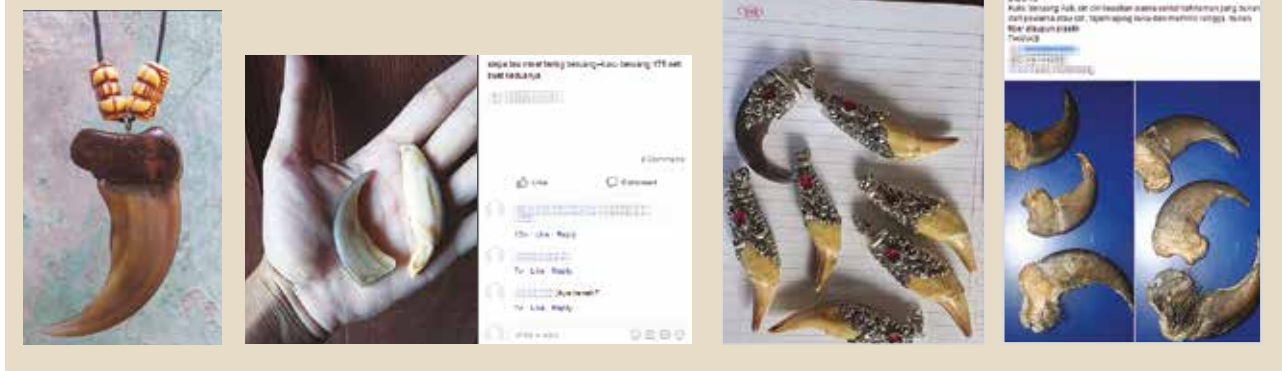
The Facebook posts obtained covered a period between 1 January 2013 and 31 January 2019. The majority were obtained for 2017 (n=57) followed by 2016 (n=45) and 2018 (n=33) and primarily involved bear teeth and claws. Posts offering live bear cubs for sale were mainly observed in 2015 and 2016. Prices for the different bear commodities were available in 79 of the 158 posts obtained. It is unclear how prices are determined for the various bear parts on sale as the range varies and overlaps between the different commodities (Table 2). Nevertheless, the most expensive commodity on sale were live bear cubs, with prices ranging between IDR6 million and IDR13 million (~USD424–USD918).

DISCUSSION

Illegal wildlife trade in Indonesia is widespread and online platforms are used to buy and sell myriad live animals and their parts and derivatives. This study shows that Sun Bears are being offered for

sale online in violation of national law and provides evidence of a continuing domestic demand for bear parts (mostly teeth and claws) for trophies and talismans. It also reveals a high number of live bears are being traded for the local pet trade, with 42 posts documented, representing 45 bear cubs and two adult bears for sale. While the posts offering live bear cubs for sale peaked in 2015, with 18 posts amounting to 22 cubs (averaging two to three cubs/month), in just the first month of 2019, there were at least two posts each offering a bear cub. Continued monitoring of the online trade in bears as pets is therefore warranted to assess trends and the potential impact on future wild bear populations in Indonesia. It is also consistent with other identified markets in the region (e.g. Malaysia and Thailand) which found a high number of live animals for sale on Facebook (Bouhuys and Scherpenzeel, 2015; Krishnasamy and Stoner, 2016; Gomez and Bouhuys, 2018).

Screenshots of raw and worked Sun Bear teeth and claws for sale online, featuring some items fashioned into jewellery.



No gall bladders or bile-based products were observed for trade online. Bear seizure data for Indonesia were recently analysed for 2011 to 2018 and the findings were similar to this study, with domestic demand primarily involving bears as pets and for bear parts (claws and teeth) for ornamental purposes (Gomez and Shepherd, in prep.). However evidence was also found of bears being killed for food and for their parts used in traditional medicine which were being traded locally as well as to foreign markets, namely Cambodia, China, Kuwait, Malaysia and Viet Nam (Gomez and Shepherd, in prep.), despite legislation in place prohibiting such practices. Such activities were not apparent on the Facebook groups investigated in this study, perhaps due to the fact that demand for bear bile, which is used primarily in traditional Chinese medicine, serves a more niche market. A study in 2002 found that 78 of 124 outlets selling traditional medicine surveyed in eight large cities across Indonesia sold bear gall bladders and derivatives (Kurniawan and Nurashid, 2002).

The online trade appears to be occurring predominantly on the island of Java where the species has long been considered extinct (Scotson *et al.*, 2017); this suggests illegal trade links with Sumatra and Kalimantan where Sun Bears do occur (Scotson *et al.*, 2017). Java has been identified previously as the main hotspot for online trade for other species, including live Ploughshare Tortoises *Astrochelys yniphora* (endemic to Madagascar and assessed as Critically Endangered by IUCN) (Morgan and Chng, 2017; Lauteriz and Pedrono, 2008), otters (Gomez and Bouhuys, 2018) and Sulawesi tortoises (Morgan *et al.*, in prep.). With Java's dense human population, its relatively central location and long-established trade routes with other islands, a long cultural tradition of bird- and animal-keeping, and with animal markets found in almost every major city, it is no surprise that much of the online trade in wildlife appears to be focused here too. Due to weak legislation and lax enforcement, illegal trade in wildlife flourishes in Java, with well-organised networks of traders operating openly, taking advantage of high profit margins and a low risk of detection and/or prosecution.

In 2013 and 2014, online posts on Facebook for Sun Bear commodities were still fairly low ($n=1$ and $n=3$ respectively). In 2015, a sharp increase in the number of posts ($n=21$) was observed, which continued to rise until it peaked in 2017 ($n=57$), before decreasing slightly in 2018 ($n=33$). This rapid growth in wildlife trade on social media after 2014 is consistent with other studies of online trade in Indonesia (Morgan and Chng, 2017; Morgan *et al.*, in prep.) and Malaysia (Bouhuys and Scherpenzeel, 2015; Krishnasamy and Stoner, 2016) and probably coincided with improved internet accessibility, the introduction of smart phones and the huge popularity of social media in Indonesia, especially Facebook and Instagram (Scheepers *et al.*, 2014). Furthermore, during 2015 and 2016, following a string of law enforcement efforts targeting illegal wildlife trade in physical markets, including a raid in February 2016 on Jakarta's Jatinegara animal market (PN Jakarta Timur, 2016)—notorious for openly trading in protected species—it is likely that some traders switched to the safer option of online trade.

Facebook and other social media platforms are more difficult to monitor and regulate. Fake accounts can easily be set up to maintain traders' anonymity, and closed and secret trade groups make it difficult for law enforcement authorities to collect evidence and take action. Face-to-face meetings between the seller and the buyer are no longer required: payment can be transferred via online banking and the goods shipped direct to the buyer's address. Commonly, traders specify in the posts that they will only accept payments via "REKBER" (*Rekening Bersama*), which involves the payment being sent to the bank account of a trusted third party. When the payment has been made, the goods will be shipped. The REKBER payment system makes it more difficult to police money transfers and connect the buyer and the seller, which could later be used as evidence in court.

It is not a criminal offence to post offers of illegal products for sale in Indonesia, only the sale of such products is illegal.

In April 2019, a new feature appeared on Facebook that enables users to report “Unauthorised Sales” and “Endangered Animals”. This appears to have had an immediate impact, with numerous wildlife trade groups swiftly deleted by Facebook. However, early anecdotal indications suggest that many trade groups have migrated to other social media platforms.

This study shows that live Sun Bears and their parts are persistently being offered for sale in Indonesia although it was not possible to ascertain how many offers resulted in sales. There are no known bear farms in Indonesia, and certainly none that are registered with the authorities; all live bears or their parts being offered for sale are therefore likely sourced from the wild. Given the relative ease with which the illegal bear trade was detected in Indonesia, it is clear poachers and wildlife traders are not fearful of enforcement action or prosecution. Findings from an analysis of bear seizure data for Indonesia between 2011 and 2018 showed that only 32% of incidents resulted in successful prosecution and only one of those cases came close to the maximum penalty afforded by the law, and in that particular case frozen pangolins were included in the seizure (Gomez and Shepherd, in prep.). More effort from enforcement agencies is clearly called for if this trade is to be significantly reduced and if the negative impact of poaching for commercial trade is to be addressed.

The fact that bears are for sale on social media points to a fundamental flaw in the wildlife legislation. It is not a criminal offence to post offers of illegal products for sale (or it is at least deemed as insufficient evidence to bring charges), only the sale of such products is illegal. Further, authorities can only take enforcement action against a person in possession of protected species or when physically involved in an illegal transaction. The monitoring and detection of illegal activities on social media already pose significant challenges for enforcement authorities. One means of meeting some of these challenges would be to improve wildlife laws and policies concerning the regulation of online wildlife trade that supports and empowers enforcement authorities to investigate and take action against illegal wildlife traders operating online.

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Editor's note: The Coalition to End Wildlife Trafficking Online, launched in March 2018, is a collaboration of 34 global e-commerce, tech and social media companies working to reduce wildlife trafficking online. Facebook has been a key partner, and over the past 18 months, has made substantial efforts to tighten its global wildlife policies, streamline the reporting of illegal wildlife activity, and develop a staff wildlife detection training programme with the guidance of TRAFFIC, WWF and IFAW.



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

The following pages feature a selection of seizures and prosecutions cases based on media and other reports published between April and mid-October 2019 that are considered significant in terms of species/volumes seized, *modus operandi*, penalties imposed, or to highlight enforcement action. Sources are cited at the end of each country/territory section and have not been checked for accuracy and authenticity. They are not intended to represent TRAFFIC's policies, positions or opinions.

CITES Appendix-listings are placed in parentheses, where applicable.

BIG CATS

CAMEROON: On 26 May 2019, it was reported that a police officer responsible for the protection of wildlife in the hunting areas surrounding Bouba Ndjida National Park had been arrested in Odza, Yaoundé, after being found in possession of a Leopard *Panthera pardus* (CITES I) skin and five Lion *P. leo* (CITES II) skulls (and an elephant (CITES I) tusk). The officer allegedly transported the items to a hotel in Yaoundé with the aim of selling the products, but his activities were already under investigation by the park. He is alleged to have played a role in transporting illegal products and connecting buyers across the country, as well as activating a group of poachers and offering them protection and business opportunities. Shortly before his arrest, he had reportedly sold two fresh cat Felidae skins.

Alwidha: <https://bit.ly/36g6zFW>, 26 May 2019

SOMALIA: On 20 July 2019, it was reported that authorities in Somaliland had seized 29 Cheetah *Acinonyx jubatus* (CITES I) cubs.

Research by the Cheetah Conservation Fund indicates an estimated 300 Cheetahs are poached and smuggled into the Arabian Peninsula each year, to be sold in the illegal pet trade where demand for the cubs as status symbols is thriving, particularly in the Gulf States. The animals are believed to originate in Ethiopia, northern Kenya, Somalia and Somaliland. Somaliland is reportedly the main transit route for Cheetahs trafficked out of East Africa (see also *TRAFFIC Bulletin* 30(2):72).

The rescued cubs are being kept in a safe place with a long-term aim of reintroducing them into the wild, although following contact with humans this may pose a problem, particularly with Cheetahs under three months-old, it is reported.

News24: <https://bit.ly/2NmqrQB>, 20 July 2019

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.

VIET NAM: On 26 July 2019, three Vietnamese nationals were detained in Cau Giay District for involvement in the illegal trade in seven frozen Tiger *Panthera tigris* (CITES I) carcasses from Lao PDR. The men were part of a gang that had reportedly been trafficking tiger carcasses from Lao PDR to Viet Nam over several years; the chief operator allegedly used his business as a cover and travelled to Lao PDR to buy and freeze the tiger carcasses before transporting them to Viet Nam.

Xinhuanet: <https://bit.ly/2PrLHFL>, 26 July 2019;
VnExpress: <https://bit.ly/2MTaxYQ>, 26 July 2019

BIRDS

HONG KONG SAR: On 30 July 2019, a man was sentenced at the District Court to 32 months' imprisonment for smuggling into Hong Kong International Airport from Malaysia two air parcels containing 27 Helmeted Hornbill *Rhinoplax vigil* (CITES I) casques in January 2019.

Hong Kong Customs & Excise press release: https://www.customs.gov.hk/en/publication_press/press/index_id_2646.html, 30 July 2019

INDONESIA: On 26 June 2019, authorities arrested two people who were selling birds and other wildlife in their shops in Telangkah Village Katingan Hilir District. Among the 119 birds confiscated was the Common Hill Myna *Gracula religiosa*, Blue-crowned Hanging Parrot *Loriculus galgulus* (both CITES II) and Greater Green Leafbird *Chloropsis sonnerati*. According to the perpetrators, they have been trading since 2013; the birds would usually be sent to Surabaya and Semarang in the Sampit City of East Kotawaringin Regency (Central Kalimantan) and Banjarmasin, South Kalimantan.

On 17 July 2019, officials at Soekarno-Hatta International Airport foiled an attempt to

smuggle 72 Helmeted Hornbill *Rhinoplax vigil* (CITES I) casques that were bound for Hong Kong. One woman was arrested. The beaks had been wrapped in aluminium foil and placed under bread in a tin being carried in a tote bag.

PPID: <https://bit.ly/2owjHG>, 17 July 2019;
Mongabay: <https://bit.ly/2MW52x7>, 17 July 2019;
Kalteng Ekspres.com: <https://bit.ly/2MXDFTE>, 26 June 2019

PHILIPPINES: Jomar L. Toledo and Rompas M. Lumakore of General Santos City, arrested on 8 April 2019 for illegal trade in wildlife, including 345 birds (see *TRAFFIC Bulletin* 31(1):44), have each been fined P30,000 (USD580); the specimens, believed to be from Papua New Guinea, were being held in a warehouse in Mati City and the men were acting as caretakers. Species seized included Red-and-Blue Lories *Eos histrio* and Palm Cockatoos *Probosciger aterrimus* (both CITES I).

Manila News: <https://bit.ly/36fcpYb>, 9 April 2019

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.

CHINA: On 28 May 2019, Changzhou Customs Anti-smuggling Branch of Nanjing Customs, Jiangsu province, broke up a gang that smuggled, processed and sold ivory; three suspects were arrested.

The investigation began in 2018, when Nanjing Customs received intelligence that criminal gangs were smuggling ivory by land to Changzhou for carving. They identified one person who reportedly had a close relationship with ivory smuggling gangs abroad

as well as local ivory carvers and sellers. He and two others were arrested and 34 pieces of ivory and 39 ivory products were found on their premises; the total amount smuggled by the principal suspect is estimated at 563 kg. The provenance of the ivory is not reported. The head of the smuggling gang suspected of supplying the suspect has also been arrested and is being investigated separately.

<https://bit.ly/34fsN99>, 29 May 2019

GABON: On 30 September 2019, guards in Minkébé National Park in Woleu-Ntem seized 41 pairs of tusks (200 kg) and 37 elephant tails from Cameroonian poachers following an exchange of fire.

Gabon Review: <https://bit.ly/2poflkz>, 2 October 2019; <https://bit.ly/2jtUEdO>, 5 October 2019

KENYA: On 10 June 2019, a Meru magistrate sentenced Francis Muriithi to 10 years' imprisonment, or a fine of KES3 million (USD28,500), for possession of an elephant tusk (6.5 kg) without a permit.

On 15 August 2019, at Jomo Kenyatta International Airport (JKIA), Laazibi Amal, a French national, in transit from France to Dzaoudzi Island, was arrested for being in possession of an ivory bangle. She was subsequently fined KES1 million (USD9,500). The court allowed her to access the bank in the airport to withdraw the funds or surrender to the court, along with her passport.

In the same month it was reported that Spanish national Maria Pich-Aguilera, in transit from Nairobi to Dar es Salaam, Tanzania, had been detained at JKIA in possession of an ivory bangle and fined KES1 million.

On 20 August 2019, at a court in Kibera, four police officers were sentenced to life imprisonment, or ordered to pay a fine of KES20 million (USD190,000) each, after being found guilty of elephant poaching. Stephen Ngawai, Martin Mwititi, Francis Karanja and Peter Kuria Kimungi were caught in Nairobi West in 2016 with a 5 kg elephant tusk.

The Star: <https://bit.ly/36dNyUL>, 13 June 2019; <https://bit.ly/2MXp2PS>, 19 August 2019; <https://bit.ly/2jvb8IX>, 21 August 2019; *Nairobi News:* <https://bit.ly/2Nlc3GL>, 15 August 2019; <https://bit.ly/32Wr0Ww>, 23 August 2019

LIBERIA: At Salayea Magisterial Court, John Z. David of Salayea District, Lofa County, was sentenced to one year in prison and fined USD2,500 after he pleaded guilty to killing more than six elephants.

Daily Observer: <https://bit.ly/2polJHr>, 10 October 2019

MALAWI: On 20 June 2019, at Zomba Magistrates' Court, Fanness Dickson of Machinga was sentenced to eight years' imprisonment with hard labour for possession of two pieces of raw ivory (742 g) and three

PALM COCKATOO ►

Probosciger aterrimus (CITES I) was among over 300 birds seized from a warehouse in the Philippines in April 2019 and in a separate consignment of birds seized in Indonesia in March.



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elephant leg bones without a permit. Dickson was apprehended at Nselema Trading Centre in January as he attempted to sell the pieces.

On 15 July 2019, in a landmark ruling, the Supreme Court overturned a MK2.5 million (USD3,300) fine imposed on two brothers for their role in the trafficking of 2.6 t of ivory and sentenced each to prison for eight years. Patrick and Chancy Kaunda were apprehended in 2013 when their vehicle was intercepted in Rumphu, en route to Lilongwe from Tanzania; inside were 781 pieces of raw ivory tusks concealed amongst bags of cement, representing the death of almost 400 elephants.

On 3 October 2019, it was reported that Nickson Nthukwa Banda and Assani Phiri had been sentenced to imprisonment at Kasungu Senior Resident Magistrates' Court for six-and-a-half years and four years, respectively, after being found guilty of killing an elephant in Kasungu National Park in July 2019. The duo was convicted on three game offences which included entering a protected area, conveying weapons into a protected area, killing a wild animal from a protected area, illegal possession of a specimen of a listed species, and possessing a firearm and ammunitions without a permit.

Department of National Parks and Wildlife, Malawi: <https://bit.ly/2MTkjin>, 21 June 2019; <https://bit.ly/2poKcNX>, 17 July 2019; *Malawi24:* <https://bit.ly/2PsNafd>, 3 October 2019

SINGAPORE: see Other/multi-seizures.

TANZANIA: On 1 June 2019, at Manyoni District Court, Singida Region, Rhamadan Saidi and Mohamed Rashid Sanda were each sentenced to 20 years' imprisonment for the killing of four elephants (and one Giraffe *Giraffa* sp.), and the illegal possession of a firearm. The original sentence of 80 years' in jail for each suspect was revised to 20 years, with separate charges to run concurrently.

On 21 June 2019, at Songea District Court, Maxmilian Mwenda from Lilondo Village in Madaba Council and Rashid Migoha alias Mwendomchanja from Ifakara in Morogoro

Region were sentenced to 20 years' imprisonment for the possession of 12 elephant tusks.

In November 2016, authorities acting on information arrested the duo at Mwenda's house in Lilongo Village in possession of the tusks. During an earlier hearing, the accused were set free but later rearrested and the case reopened.

On 3 September 2019, authorities in Dar es Salaam seized 338 pieces of elephant tusks from premises in Chamanzi Saku. One person, sought by police for several years, was among several arrested, including two policemen.

On 16 October 2019, it is reported that a High Court judge rejected an appeal by Chinese national Yang Fenglan and two Tanzanian co-defendants who were sentenced in February to 15 years in prison. Labelled the "Ivory Queen", Fenglan was charged with smuggling 2 t of ivory and for orchestrating an ivory smuggling racket.

Daily News: <https://bit.ly/2WrqEEL>, 2 June 2019; *AllAfrica:* <https://bit.ly/2BQO9xN>, 23 June 2019; *Mwananchi:* <https://bit.ly/32XKtGa>, 4 September 2019; *High Court of Tanzania Dar es Salaam District Registry Criminal Appeal No. 95 of 2019*, 16 October 2019; **TRAFFIC**

ZIMBABWE: On 21 June 2019, at Matabeleland North Provincial Magistrates' Court, Hwange, six poachers charged with illegal possession of ivory were each sentenced to nine years in prison.

In November 2018, the authorities received information that the men were in possession of ivory at Dete, which they intended to sell. Officers pretending to be trophy dealers intercepted the group and seized two pieces of ivory (37 kg).

On 18 July 2016, at Hwange Magistrates' Court, Alois Savanhu was sentenced to nine years in prison after being found in the illegal possession of almost 77 kg of raw ivory. Three others jointly charged were acquitted.

NewsDay: <https://bit.ly/2JtkGhC>, 24 June 2019; <https://bit.ly/2MSSaYf>, 20 July 2019

MARINE

BELGIUM: On 30 May 2019, it was reported that officers at Zaventem Airport had seized 24 bags containing 1.2 t of shark fins and ray wings which were being transported on a flight from Liberia to Hong Kong, labelled as dried fish and fish entrails. Among the consignment were wings of guitarfish *Glaucostegus* spp. and fins of hammerhead sharks *Sphyrnidae* spp. The shipment reportedly derived from some 1,600 to 2,000 animals, most of them young.

Guitarfish were listed in CITES Appendix II at the 18th meeting of the Conference of the Parties to CITES in August 2019 (effective 26 November 2019). Three species of hammerhead sharks were listed in CITES Appendix II in 2013.

The Brussels Times: <https://bit.ly/345A4Zc>, 14 October 2019

CHINA: In early April 2019, Qingdao Customs officials in Qingdao port, Shandong province, alerted that a horse trading company was involved in illegal wildlife shipments, seized a container arriving from Peru, declared as horse hides. Following X-ray inspection, the consignment was found to contain 560 kg of dried seahorses *Hippocampus* spp. (CITES II) concealed within layers of horse hides. A number of suspects were arrested and subsequent inspection of a warehouse yielded a further 200 kg of dried seahorses.

On 20 May, a shipment containing 520 kg of dried seahorses and reportedly involving the same gang, was seized at the port. The cases are being investigated.

Xinhuanet: <https://bit.ly/2jxf4CZ>, 20 May 2019; <https://bit.ly/2MWv2sv>, 26 June 2019

GHANA: Authorities have fined the owners of a Chinese vessel USD1 million (plus USD22,700 (GH124,000) for engaging in illegal fishing. The vessel, Lu Rong Yuan Yu 956, was apprehended off Cape Three Points in June 2019 with a crew comprising 22 Ghanaians and five Chinese nationals. Authorities decided to drop charges against the vessel owners after they agreed to pay the fine, opting for an out of court settlement. They had 30 days to pay the fine. Among the items on board the vessel were “405 cartons and 864 slabs of frozen mixed pelagic fish species generally below the minimum landing size”; they were also charged with non-logging of catch on board and nets with undersized mesh sizes.

Africa Feeds: <https://bit.ly/2PpN47Q>, 10 October 2019

HONG KONG SAR: On 12 July 2019, Customs officials at Man Kam To Control Point seized 44 kg of dried sea cucumbers *Holothuroidea* in a consignment of bottles of red wine being smuggled on three outgoing lorries. Three people were arrested.

On 23 August 2019, Customs officials at Hong Kong International Airport seized suspected dried shark fin (180 kg) and dried seahorses *Hippocampus* spp. (CITES II) (500 g), and arrested three passengers arriving from Manila, the Philippines. The items were found in check-in luggage.

Customs and Excise Department, the Government of the Hong Kong Special Administrative Region press releases: <https://bit.ly/31RhkeF>, 13 July 2019 <https://bit.ly/36dTVap>, 24 August 2019

MEXICO: On 27 May 2019, it was reported that Customs agents in Manzanillo, Colima, had confiscated ca. 10.4 t of shark fins [species not reported] from over 500 crates bound for the Philippines. Mexico prohibits the export of shark fins.

Mexico News Daily: <https://bit.ly/31X7CXW>, 27 May 2019

PERU: On 30 September 2019, a ship bound for Asia containing over 12 m illegally caught seahorses *Hippocampus* spp. (CITES II) was seized by Coast Guard officials in waters off the coastal city of Callao; the vessel had been monitored by the authorities for several days. Three Peruvian nationals and a Venezuelan national were arrested. Fishing, transportation and trade in seahorses has been prohibited in Peru since August 2004.

Daily Mail: <https://dailymail.com/31YsZbs>, 2 October 2019

SOUTH AFRICA: a selection of incidents involving abalone (*perlemoen*) *Haliotis midae*:

On 3 May 2019, a man was arrested in Table View, Cape Town, after being found in possession of 13,042 dried and shucked abalones in his vehicle.

On 8 May 2019, a vehicle leaving a warehouse in Cape Town was searched by authorities and found to contain boxes of dried abalones (348 kg). A subsequent search of the warehouse uncovered an illegal abalone processing facility. A Chinese national was arrested.

On 16 July 2019, authorities in Milnerton, Cape Town, uncovered an illegal abalone processing facility and vehicles containing boxes of abalones. A second premises in the area uncovered further quantities, yielding a total of 19,032 dried abalones and 5,064 wet abalones. Four suspects were arrested. The raid is deemed to be a significant blow to the illegal abalone trade in this province.

On 6 August 2019, authorities in the Western Cape arrested two foreign nationals after an abalone processing facility was discovered in premises in Protea Park, Hermanus. A total of 1,170 kg of wet and dried abalones was seized.

On 5 September 2019, police at Lingeletu West Police station, Western Cape, arrested an employee of the South African National Parks (SANParks) in possession of 936 abalones at premises in Velani Crescent in C-Section, Khayelitsha.

On 10 September 2019, 5,000 dried abalones were seized from premises in Loarti Village, Kraaifontein. No arrests were made and the case is under investigation.

On 12 September 2019, three Western Cape police officers who are part of the Major Offences Reaction Team were arrested for armed robbery. The charges relate to an incident on 21 July when the driver of a taxi transporting poached abalones from Hermanus to Cape Town was pulled over by the officers in Somerset West; one of the officers drove the taxi to his residence, where the abalones were allegedly offloaded. The driver was dropped off and instructed to return to his vehicle which was found without the abalones. An investigation led to the arrest of the suspects.

On 3 October 2019, authorities acting on information intercepted a vehicle in the Table View area and seized bags containing shucked abalones (1,973). A suspect was arrested.

News24: <https://bit.ly/2pmjQMD>, 6 May 2019; *South African Police Service media statements:* <https://bit.ly/36d2aDL>, 8 May 2019; <https://bit.ly/2JxglEF>, 17 July 2019; <https://bit.ly/2pdamn1>, 6 August 2019; <https://bit.ly/2BQpx8d>, 5 September 2019; <https://bit.ly/31WRkhY>, 3 October 2019; *Independent Online (IOL):* <https://bit.ly/2Jv3ng4>, 9 May 2019; *IOL:* <https://bit.ly/31WQRMK>, 12 September 2019 *News24:* <https://bit.ly/31QkM9e>, 15 September 2019

SPAIN: On 31 May 2019, at Madrid Criminal Court, a criminal network accused of removing 724 kg of juvenile European Eels *Anguilla anguilla* (CITES II) from Spain in 500 suitcases between 2011 and 2012 was fined EUR580,000 (USD652,700). The eels were exported using falsified permits that declared the shipment contained the unprotected American Eel *Anguilla rostrata*.

El Pais: <https://bit.ly/34ajS95>, 12 June 2019

PANGOLINS

All eight species of pangolins *Manis* spp. are listed in CITES Appendix I.

CAMEROON: On 31 May 2019, it was reported that four people had been arrested in Tonga, Ndé department, after attempting to smuggle nearly 100 kg of pangolin scales into a hotel. The two women and two men allegedly bought the scales from wild meat sellers and other dealers in Tonga and Makenéné.

In a separate case, police in Douala arrested two people carrying five bags of pangolin scales (200 kg) from a transportation agency.

On 12 August 2019, authorities seized 383 kg of Giant Ground Pangolin *Manis gigantea* scales in Bamenda, North-West region. No further details reported.

Camernews: <https://bit.ly/349PtHX>, 31 May 2019;
Le360Afrique.com: <https://bit.ly/2C3XlJL>,
15 August 2019

CONGO, DEM. REP. OF: On 24 July 2019, police in Kinshasa arrested an individual in possession of 300 kg of pangolin scales. The seizure results from collaboration between the Garamba National Park and African Parks Network.

Congo Actuel: <https://bit.ly/2poLV5R>, 29 July 2019

CÔTE D'IVOIRE: On 23 July 2019, authorities seized three tonnes of pangolin scales, reportedly the largest consignment of pangolin scales ever recorded in the country. Eight people were arrested.

VOA: <https://bit.ly/31UEukh>, 27 July 2019

HONG KONG SAR: On 17 July 2019, Customs officials at Hong Kong International Airport detained two male passengers arriving, respectively, from Kinshasa, Democratic Republic of the Congo, and Xiamen, Fujian Province, China, after a total of 100 kg of suspected pangolin *Manis* spp. scales were found in their suitcases.

On 10 September 2019, at District Court, a man was sentenced to 34 months' imprisonment for smuggling 64 kg of pangolin scales (and for breaching a condition of stay). He was arrested after Customs officials at Hong Kong International Airport uncovered the consignment arriving from Malaysia; a further 190 kg of pangolin scales were seized from industrial premises in Sheung Shui where the suspect was working.

Customs and Excise Department, The Government of the Hong Kong Special Administrative Region press releases: <https://bit.ly/2PvduoH>, 17 July 2019
https://www.customs.gov.hk/en/publication_press/press/index_id_2696.html, 10 September 2019

MALAWI: In September 2019, at a court in Lilongwe, Jimmy Mkwelzalemba and Julius Sanudia of Malawi were sentenced to three years in prison for smuggling and the illegal possession of pangolins following their arrest in May 2019. Both men are thought to be part of one of Africa's largest transnational wildlife trafficking syndicates.

The suspected chief operator of the trafficking network, a Chinese national, was arrested in August 2019. He has reportedly been linked to a range of wildlife crimes including the possession and smuggling of processed elephant ivory, 103 pieces of rhino horn, 556 pangolin scales and three live pangolins, and had been on the run following the May arrests that included his wife.

Mongabay: <https://bit.ly/348ZHII>

NIGERIA: On 17 July 2019, it was reported that Customs officials had seized some 670 kg of pangolin scales from a warehouse in Lagos. No details on provenance or of any ensuing arrests were reported.

The Sun: <https://bit.ly/3475hLu>, 17 July 2019

SINGAPORE: see Other/multi-seizures

SOUTH AFRICA: On 14 June 2019, it was reported that Shadrack Malatji, Israel Mamejia and France Shai had each been sentenced at Lenyeny Regional Court, Limpopo, to an effective five years in prison for possession of a live pangolin. The animal, which was seized from a vehicle, was returned to the wild.

In August 2019, at Mhala Regional Court, Vincent Nyathi was sentenced to eight years in prison after being found in possession of a pangolin. He was arrested in Rietboklaagte near Acornhoek; a pangolin found in a drum at his house was later released following treatment.

Bosveld Weekend Review: <https://bit.ly/2BXRbQx>,
14 June 2019; *Lowelder*: <https://bit.ly/36doFsd>,
29 August 2019

TURKEY: On 29 July 2019 it was announced that security forces at Istanbul Airport had seized over 1.2 t of pangolin scales after becoming suspicious of a shipment declared as "simply prepared (animal) bones or horn cores." Authorities were initially alerted by Customs to a possible health and safety hazard before the contents were found to consist of pangolin scales. No further details reported.

Daily Sabah: <https://bit.ly/2WmsbMt>, 29 July 2019

VIET NAM: In May 2019, authorities announced a seizure of 8.3 t of pangolin scales from "an African country" in the northern Haiphong port. In total, officials discovered 311 bags hidden beneath sacks of Cassia *Senna siamea* seeds; each bag of scales weighed between 25 kg to 30 kg.

On 23 May 2019, Customs officials at Cai Mep International Port Terminal, Ba Ria-Vung Tau, made a record seizure of more than 5.2 t of pangolin scales concealed in a shipment of cashew nuts from Nigeria. The scales were reported to derive from Giant Ground Pangolin *Manis gigantea*, Black-bellied Pangolin *M. tetradactyla* and White-bellied Pangolin *M. tricuspis*.

Phys.org: <https://bit.ly/2MTT33h>, 24 May 2019;
<https://bit.ly/2Jy3S93>, 16 May 2019; *Saigon Giai Phong Online (SGGP)*: <http://sggpnews.org.vn/national/over-5-tons-of-pangolin-scales-seized-at-cai-mep-intl-port-81945.html>, 24 May 2019

ZIMBABWE: On 21 August 2019, it was reported that Matabeleland North Provincial Magistrates' Court, Hwange, had sentenced Killian Siacho of Lusulu, Binga, to a total of 24 years' imprisonment: 15 years for illegal

possession of 175 pangolin scales (2,525 kg) and nine years for possession of a firearm.

Newsday: <https://bit.ly/2WYIYrz6>,
21 August 2019

REPTILES

AUSTRALIA: On 5 June 2019, authorities at Perth Airport arrested two Japanese nationals attempting to smuggle 13 bobtail lizards *Tiliqua* spp. out of the country. The men were about to board separate flights to Singapore and Kuala Lumpur; one of them was found to have 13 native bobtail lizards in his check-in luggage. The lizards, packed in net bags wrapped in towels and placed in plastic containers, appeared to be in poor health and were without food or water. Similar containers were found inside the suitcase of the other suspect and photos of the lizards discovered on his phone. The two were subsequently investigated for possible involvement in an international wildlife smuggling syndicate linked to three other Japanese nationals charged with similar offences in Sydney, Melbourne and Perth over the previous six months.

Kyodo News: <https://bit.ly/2NntvdH>, 6 June 2019

CANADA: On 4 June 2019, it was reported that Li Wan of Vancouver had been fined CAD18,000 (USD13,700) after pleading guilty to attempting to smuggle 19 live turtles *Testudines* into the country from the USA in a duffel bag. The money from the fine will go into the federal government's environmental damages fund. Li was caught with the undeclared turtles in his vehicle at Point Roberts border crossing on 27 January.

The animals were reportedly ordered online from different locations and picked up by Li at a US mailing outlet, and included CITES-listed species: Black Pond Turtle *Geoclemys hamiltonii* (CITES I); Diamondback Terrapin *Malaclemys terrapin* (CITES II); Pig-nosed Turtle *Carettochelys insculpta* (CITES II); and CITES III-listed Pearl River Map Turtle *Graptemys pearlensis* and Black-knobbed Map Turtle *G. nigrinoda*.

CBC: <https://bit.ly/2C41enz>, 4 June 2019

MADAGASCAR: On 22 May 2019, it was reported that an appeals court in Tulear had upheld a six-year sentence against three people convicted of dealing in over 10,000 Radiated Tortoises *Geochelone radiata* (CITES I). The court also fined the defendants MGA100 million (USD26,500) and ordered them to pay MGA100 million to the environment ministry. The men were arrested at a house in possession of the turtles in April 2018.

AFP: <https://yhoo.it/2WzuSsA>, 22 May 2019



◀ **APOLLO BUTTERFLY**
Parnassius apollo (CITES II).
Two Danish nationals were apprehended with ca. 35–40 specimens of a subspecies of Apollo Butterfly in Jotunheimen, Norway, in August 2019.

MALAYSIA: On 18 May 2019, Sabah Wildlife Department seized 220 crocodiles *Crocodylia* spp. at a swamp in Kampung Pasir Putih, Tawau, believed to have been smuggled in from neighbouring Kalimantan. This was reported to be the first time that the authorities had uncovered crocodile smuggling from outside the State; the provenance (and intended purpose) of the animals was being investigated, including whether they were to supply local crocodile farms. Five had perished; the surviving specimens were released in the wild and two Malaysians and two Indonesians were arrested.

Under Schedule 2 of the *Sabah Wildlife Conservation Enactment*, it is illegal to hunt, collect the eggs or remove the crocodiles from the wild under any circumstances.

The *Jakarta Post*: <https://bit.ly/2WnA7Nm>, 20 May 2019

ZIMBABWE: On 2 August 2019, at Harare provincial magistrates' court, Blessed Morris of Beatrice was sentenced to the mandatory minimum nine years' imprisonment for possession of protected wildlife without the requisite permits. He was apprehended on 28 July while walking in Mbare in possession of a woman's handbag, prompting the police to investigate. Inside the bag, wrapped in cloth, were specimens later identified as a Yellow-throated Plated Lizard *Gerrhosaurus flavigularis*, a Mozambican Spitting Cobra *Naja mossambica*, two Olive Grass Snakes *Psammodphis mossambicus*, and a python *Pythonidae*, all protected species.

ZimLive: <https://bit.ly/2NiCblI>, 2 August 2019

RHINOCEROSES

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.

CHINA: On 16 August 2019 it was reported that Beijing Second Intermediate People's Court had rejected an appeal by four people sentenced to prison for up to 13 years for trading in 33 kg of African rhino horn.

Defendants Hou and Xin bought the horn through the online platform Wechat, which they sold to co-defendants Lin and Chen. On 26 April 2018, police arrested Hou, Lin and Chen in a vehicle and seized 19 pieces of rhino horns. Xin was arrested at a hotel in Huairou, Beijing.

The four had been sentenced in Xicheng District Court: Lin to 13 years and six months in prison, and fined CNY26,000 (USD3,600); Hou to 13 years, fined CNY26,000; Chen to 13 years in prison, fined CNY2,400, and Xin was sentenced to nine years in prison and fined CNY18,000.

Weixin: <https://bit.ly/2jwLAAa>, 16 August 2019

MOZAMBIQUE: On 26 August 2019, at Maputo City Court, Chinese national Pu Chiujiang was sentenced to 15 years' imprisonment following his arrest at Maputo International Airport on 15 April 2018 with 4.2 kg of rhino horn pieces in a suitcase. Pu, who had been bound for Hong Kong via Doha, was also fined an undisclosed amount.

This is reportedly the first case of a foreign national imprisoned in Mozambique for a wildlife crime. The provenance of the horns has not been established.

On 2 September 2019, it was reported that two poachers had been given prison sentences of 17 and 16 years, respectively, for killing two rhinos in Kruger National Park, South Africa, and for the unlawful possession of unlicensed weapons. The duo, from Gaza Province, also received fines. It is reported to be the first conviction and sentencing in Mozambique for rhino poaching since 2008.

Club of Mozambique: <https://bit.ly/2NpwKI5>, 27 August 2019; AllAfrica: <https://bit.ly/2BQTDsb>, 27 August 2019; South African National Parks media release: <https://bit.ly/32XlIkI>, 2 September 2019

SOUTH AFRICA: During 12–16 August 2019, at Skukuza Regional Court, three people received prison sentences for rhino poaching in Kruger National Park. Adolph Ndlovu, convicted of trespassing, being in possession of an unlicensed firearm, unlicensed ammunition, and possession of a firearm with intent to commit a crime, was sentenced to 10 years' imprisonment. Abednigo Mahlabane, arrested in 2017, was convicted of trespassing, being an illegal immigrant, possession of and pointing an unlicensed firearm, and given an effective sentence of 10 years in prison. Jeffrey Mathebula, arrested in 2015, was fined R10,000 (USD678) or sentenced to two years' imprisonment of which half is suspended for five years.

South African National Parks media release: <https://bit.ly/2BOxzil>, 16 August 2019

USA: On 1 October 2019, Richard Sheridan, an Irish national, pleaded guilty to trafficking a "libation cup" carved from the horn of a Black Rhinoceros *Diceros bicornis* and was sentenced to 14 months in prison, with two years of supervised release.

Sheridan was extradited to the USA in August following his indictment in May charging him and an accomplice, Irish national Michael Hegarty, with "conspiracy to traffic in a libation cup made from the horn of protected rhinoceros". Sheridan was also charged with smuggling the cup out of the USA. He was arrested in the UK as part of an ongoing criminal investigation.

Sheridan and Hegarty were alleged to be members of an organised crime gang accused of carrying out raids on museums and auction houses to steal rhino horn and high-value artefacts from UK museums and from European countries, Hong Kong SAR and the USA. Both have previously served prison sentences in connection with related offences (see *TRAFFIC Bulletin* 28(1):33; 30(1):32).

NY Daily News: <https://bit.ly/2BTyT36>; The Irish Sun: <https://bit.ly/2Nn0WgzI>, 3 October 2019; *TRAFFIC*

VIET NAM: On 16 May 2019, in a Lao Cai courtroom, three men received prison sentences for attempting to smuggle rhino horn across the border into China. The sentences were prosecuted under the country's recently amended penal code, which includes a provision for higher penalties for those convicted of wildlife crime.

Two of the men, Duong Van Thanh and Duong Van Sang, were arrested in May 2018 in Lao Cai after police received information that they would be transporting the horn over the border. They were caught in a car with 20 kg of rhino horn concealed in vases and a nylon bag. Police later arrested the owner of the rhino horn, Duong Van Chiem.

Duong Van Thanh and Duong Van Sang were each imprisoned for 8.5 years, while Duong Van Chiem received a 10-year sentence.

On 25 July 2019, authorities at Hanoi's Noi Bai airport seized 55 pieces (125 kg) of rhino horn that had been encased in plaster. The provenance of the horn, which was bound for the United Arab Emirates, was not known.

TRAFFIC: <https://bit.ly/36cl39U>, 17 May 2019; *Haiquan Online*: <https://bit.ly/2WnCDmM>, 27 July 2019; *Herald Live*: <https://bit.ly/2ow3HE0>, 28 July 2018

ZIMBABWE: A man serving 10 years in jail for poaching a rhino in Beitbridge has been jailed for a further nine years for poaching another rhino at a safari lodge in Chipinge. Godknows Mashame was found guilty at Chipinge Magistrates' Court after a witness provided evidence against him. He will finish serving one sentence before serving the second term.

It is alleged that Mashame entered the safari lodge area in July 2011 without a permit and poached a Black Rhinoceros *Diceros bicornis* (CITES I) using a gaming GPS monitor, with intentions to sell the horn to foreign buyers. He fled after committing the crime.

The Herald: <https://bit.ly/3493CVV>, 21 May 2019

FLORA

CHINA: In July 2019, a raid involving 100 wildlife law enforcement officers resulted in the seizure of many tonnes of teak *Tectona* spp. and rosewood *Dalbergia* (CITES II) logs and the dismantling of a major crime syndicate involved in the smuggling of timber from Myanmar to Yunnan Province. The timber was seized from eight warehouses around Nongdao. Anticipating resistance from workers and villagers employed by the timber smuggling syndicates, helicopters were used for initial surveillance and power was cut to the town to disable CCTV cameras and prevent news of the raid spreading.

Several major operators involved in the syndicate, one of whom owned a wood processing factory in Ruili, on the border with Myanmar, were arrested and await trial.

Environmental Investigation Agency: <https://bit.ly/2PtIOWj>, 2 September 2019

INDIA: On 10 September 2019, authorities in Mumbai disrupted an international smuggling racket and arrested three people in possession of 1,556 kg of Red Sandalwood (Red Sanders) *Pterocarpus santalinus* (CITES II). The consignment had been transported from Chennai and was bound for Hong Kong via contacts in Goa.

On 27 September 2019, at Indira Gandhi International Airport, Delhi, authorities arrested three people for illegal possession and an attempt to smuggle to Hong Kong 160 kg of Red Sandalwood. Bundles of sandalwood were detected in the luggage of one suspect; he was allowed to check in while being kept under surveillance, during which time it was evident that two other passengers were accompanying him; all three were apprehended. Others are believed to be involved and the case is under investigation.

During two separate incidents at Chhatrapati Shivaji Maharaj International Airport, Mumbai, on 4 October 2018, officials seized a total of 87 kg of Red Sandalwood chips from two Sudanese nationals. The first man, flying to Addis Ababa, was carrying 75 kg of the wood in his carry-on luggage (9 kg) and checked-in baggage (66 kg); the second case involved 10 kg of sandalwood chips in plastic packets in the possession of a passenger bound for Doha, Qatar.

Over 60,000 specimens of *Conophytums* *Conophytum* spp. were among two separate seizures of succulents illegally collected in the Western Cape, South Africa, in recent months. These plants form clusters and grow largely on inhospitable rocky slabs, sheltering from the sun in cracks and crevices. The clusters are not large and it is easy to destroy entire populations at a local level.



Conophytum ernstii

Hindustan Times: <https://bit.ly/2MWlzkY>, 11 September 2019; <https://bit.ly/343QLEu>, 28 September 2019; *India Today*: <https://bit.ly/32SDChg>, 8 October 2019; *The Hindu*: <https://bit.ly/2WxCrSh>, 6 October 2019

PERU: On 8 August 2019, at Second Unipersonal Penal Court of Maynas, Rubén Antonio Espinoza, director of Cacao del Perú Norte SAC, a company charged with the illegal trade in timber and obstruction, was sentenced to eight years' imprisonment; Ernesto Vega Delgado and Giovanni Cubas Ramírez of the same company, were given a four-year suspended sentence for related offences.

The three are linked to a Czech-American businessman, who since 2010 established a network of companies for the large-scale cultivation of oil palm and cocoa in the country. Cacao del Perú Norte SAC (now called Tamshi SAC), was one of these companies, accused of deforesting more than 13,000 ha of forests in Loreto and Ucayali, in the Peruvian Amazon, and for the illegal trade in timber forest products. The company prevented inspections of the deforested areas leading to a charge of obstruction.

On 2 September 2019 the company was also ordered to pay the State the equivalent of USD4,626,750 within the first year of the sentence as compensation for the transformation of 1,950 ha of forest in Tamshiyacu, in the district of Fernando Lores, in Loreto. Images and testimony presented during the trial showed what the area had looked like before the arrival of the company and the subsequent extent of deforestation; it was also able to prove that the wood had been extracted and later processed and illegally traded commercially without a permit.

The accused, who did not attend the hearing, have appealed their sentences.

SERFOR Ministry of Agriculture and Irrigation: <https://bit.ly/332Ljli>, 9 August 2019; *Mongabay*: <https://bit.ly/2MX06ID>, 30 July 2019

SOUTH AFRICA: On 12 September 2019, at Cape Town Regional Court, Czech nationals Jaromir Chvastek and Tomas Malir were sentenced to prison for two years, suspended for five years, and each fined ZAR500,000 (USD33,500).

The duo was apprehended in Rietpoort, Western Cape, on 7 August 2019 after more than 1,000 plants were found in their possession. The specimens had been collected near Bitterfontein, including several "critically rare" plants and more than 900 vulnerable or protected plants, predominantly *Conophytum* and *Adromischus* spp., as well as some aloe *Aloe* spp. (CITES II) and *Haworthia* spp. Also in their possession were collection bags and GPS co-ordinates to pinpoint the location of these commercially valuable plants. It is reported that Chvastek operated a website in the Czech Republic in which a wide variety of succulent plants, including South African species, were offered for sale. The men were ordered to be deported once the case was completed.

On 8 October 2019, two suspects were arrested in a vehicle travelling between Ashton and Robertson, Western Cape, while transporting 60,397 *Conophytum succulents*.

News24: <https://bit.ly/2NfCU72>, 21 September 2019; South African Police Service media statement: <https://bit.ly/2MVe8dr>, 9 October 2019

USA: A three-year investigation has concluded with the imprisonment of William Starr Schwartz after he was found guilty of stealing more than 500 federally protected cactus plants from Lake Mead National Recreation Area (Arizona/Nevada). Schwartz, who has been ordered to serve 24 months in prison, will then serve three years of supervised release, during which time he is banned from entering the park and surrounding public land. He must also pay USD22,655 in restitution.

Court documents detail how Schwartz stole and directed others to steal the plants for him between October 2014 and August 2018. He sold the cacti via the internet, illegally shipping specimens to more than 20 countries. Numerous cacti plants obtained illegally were recovered during a search of Schwartz's residence in August 2018.

US National Park Service: <https://bit.ly/2qTZlaA>, 2 May 2019

OTHER/MULTI-SEIZURES

CHINA: On 16 May 2019, Gongbei Customs officials in Zhuhai city, Guangdong province, seized 1.6 t of ivory, later identified as teeth of Hippopotamus *Hippopotamus amphibius* (CITES II) and related products during inspection of a craft manufacturing company. The company allegedly imported the items from overseas and hired workers to process and sell them illegally.

Economic Daily, <https://bit.ly/369gsp3>, 20 June 2019; China Daily: <https://bit.ly/36ep3qu>, 20 June 2019

CONGO: On 13 May 2019, Congo nationals Armand Tonton Ibanda and Justin Wawa were sentenced to two years in prison and each fined FCFA1 million (USD1,680).

The duo was caught in possession of a bag holding 260 ivory (CITES I) chopsticks, 100 ivory bracelets, necklaces and rings, 100 ivory pendants, seven ivory statuettes, two ivory pieces, as well as skins of three Leopards *Panthera pardus* (CITES I).

Journal de Brazza.com: <https://bit.ly/2WIGil0>, 16 May 2019; Africa Sustainable Conservation News: <https://bit.ly/3495Rsj>, 17 May 2019

GUINEA: On 7 May 2019, two brothers were arrested in Kissidougou with more than 60 skins of 15 protected species (felines, mammals, antelopes, crocodiles, pythons). Reportedly,

they had been supplying traffickers in Senegal, Mali and Côte d'Ivoire since the 1980s. They await trial.

VisionGuinee.info: <https://bit.ly/2Nnglls>, 14 May 2019

INDONESIA: On 19 September 2019, four people were each sentenced to four years in prison and fined IDR50 million (USD3,500). They were found guilty of attempting to smuggle by boat to Malaysia via Rupa Island, in March, 40 protected animals, including 38 birds (including Palm Cockatoo *Probosciger aterrimus*, Helmeted Hornbill *Rhinoplax vigil* (both CITES I)) and Macgregor's Honeyeater *Macgregoria pulchra* (CITES II), and two Agile Gibbons *Hylobates agilis* (CITES I), before being foiled by the authorities.

<http://archive.is/6lph0>, 21 March 2019; Garda Animalia: <https://bit.ly/31WAPSM>, 20 September 2019; <http://archive.is/7rnll>, 22 September 2019

MALAYSIA: On 15 May 2019, at Kuala Terengganu Sessions Court, Vietnamese nationals Hoang Van Viet and Nguyen Van Thiet were convicted of the illegal possession of threatened wildlife and each sentenced to two years in prison and fined MYR1.56 million (USD390,000). The duo was caught in April 2019 in Hulu Sungai Tersat in Taman Negara Pahang National Park, with 22 snares and 138 parts of the following CITES I-listed species: Leopard *Panthera pardus*, Serow *Capricornis sumatraensis*, Tapir *Tapirus indicus*, Sun Bear *Helarctos malayanus*, and Golden Cat *Catapuma temminckii*. It is the first time in Malaysia's history a fine of more than MYR1 million has been imposed for wildlife crime. The duo face a further 16 years in prison if they fail to pay the fines.

On 5 October 2019, almost 800 animal parts were seized during a raid on premises in Kapit, Sarawak, Borneo, including casques of 148 hornbills Bucerotidae, hornbill feathers, pangolin *Manis* spp. (CITES I) scales, porcupine quills, bear (CITES I/II) bile and deer antlers. One man was arrested.

TRAFFIC: <https://bit.ly/2Jw4Fam>, 15 May 2019; AFP: <https://yhoo.it/2Ws60VI>, 10 October 2019; New Straits Times: <https://bit.ly/2MUskn2>, 9 October 2019

NORWAY: On 1 August 2019, two Danish nationals were detained after being observed collecting butterflies in the Gjendebu area near Jotunheimen; in their possession were some 35–40 Apollo Butterflies *Parnassius apollo* (CITES II and listed in EU Annex A); the specimens seized were the endemic subspecies, which is rare. The duo was released from custody but reportedly face criminal action.

Ekstra Bladet: <https://bit.ly/2MZgpVn>, 1 August 2019

PHILIPPINES: On 30 May 2019, Ninoy Aquino International Airport officials, at the Central Mail Exchange Center in Pasay City, intercepted six packages of wildlife, two of which contained 100 live tarantulas Theraphosidae in plastic containers declared as "mails and toys"; they had arrive from Malaysia and Poland and were addressed to residents of Sto Tomas, Batangas, Naga City, and Cebu. Stingray *Myliobatoidei* skins (71) were also found in a package from Jakarta, Indonesia.

Inquirer.net: <https://bit.ly/2BQWT6P>, 31 May 2019; Manila Bulletin: <https://bit.ly/2PrgH8Y>, 31 May 2019

SINGAPORE: On 21 September 2019, authorities seized three containers declared to contain timber arriving from the Democratic Republic of the Congo, in transit for Viet Nam. One was found to contain 8.8 t of ivory from African Elephants *Loxodonta africana* (CITES I), Singapore's largest seizure of ivory to date, and 11.9 t of pangolin scales contained in 237 sacks, later identified as being from Giant Ground Pangolins *Manis gigantea* (CITES I).

This case brings the volume of pangolin scales reportedly seized in Singapore since April 2019 to 37.5 t. The items were to be destroyed to prevent them entering the market.

The seizure was made possible following information shared by the General Administration of Customs of the People's Republic of China.

National Parks, Singapore: <https://bit.ly/2PoPZ0N>, 23 July 2019

VIET NAM: On 12 April 2019, authorities at Nam Hai Dinh Vu Port, Hai Phong, discovered a shipment transporting 3.5 t of ivory and 4 t of pangolin *Manis* spp. scales, (both CITES I), concealed in containers of asphalt.

Viet Nam News: <https://bit.ly/31XUwJY>, 13 June 2019; Haiquaonline: <https://bit.ly/36jhdvU>, 13 June 2019; <https://bit.ly/36d6nr2>, 13 June 2019

ZIMBABWE: On 27 April 2019, it was reported that Never Ndlovu of Dete, had been sentenced at Hwange Provincial Magistrates' Court to 27 years' imprisonment. He was convicted of the unlawful possession of Lion *Panthera leo* (CITES II) skin, a python Pythonidae and raw ivory (CITES I). He claimed to have picked up the items while herding cattle in Hwange National Park, intending to use them for medicinal purposes.

Newsday: <https://bit.ly/31XmXbc>, 27 April 2019



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CITES and voluntary certification for WILD MEDICINAL AND AROMATIC PLANTS

Anastasiya Timoshyna, Simon Furnell, and David Harter

INTRODUCTION

The trade of wild-sourced medicinal and aromatic plants (MAPs) listed in Appendix II of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) totalled 25,000 t between 2006 and 2015. Trade chains for these species are often long and complex, involving multiple companies in several countries (Lehr and Jaramillo, 2017). Lack of capacity and resources may hamper the ability of CITES Parties to make non-detriment findings (NDFs) and Legal Acquisition Findings (LAFs) required under the Convention (Kasterine *et al.*, 2012). The implementation of CITES can often be a difficult process for MAP species when case-specific and field-based information is not available to CITES authorities.

This article presents findings of a project, implemented by TRAFFIC in collaboration with and with the support of the German Agency for Nature Conservation (BfN) in 2018–2019, with the aim to *identify how the application of voluntary certification standards (VCS) to CITES-listed MAPs might assist with the implementation of CITES and fulfilment of its requirements*. The findings will support governments in obtaining the information necessary to make decisions about trade in CITES species, aid industry in enabling sustainable and legal trade in CITES Appendix II species, and, overall, reduce barriers to sustainable and legal MAPs trade that is beneficial to conservation and the livelihoods of those depending on trade. The project findings have so far

been outlined in an information document presented to the participants of the 18th meeting of the Conference of Parties to CITES (CITES CoP18) (Furnell *et al.*, 2019), and the preliminary outcomes reported in the information document presented to the 24th meeting of the Plants Committee to CITES (Furnell and Timoshyna, 2018).

REGULATION OF TRADE IN MEDICINAL AND AROMATIC PLANTS

Approximately 60,000 plant species are used globally for medicinal purposes, of which about 28,000 have well-documented uses, and approximately 3,000 species are estimated to be traded internationally, with only one-third of those known to be in commercial cultivation (Jenkins *et al.*, 2018). In terms of the global threat to species, information is available for only 7% of MAPs globally, and for those, around 20% of species are threatened with extinction in the wild against the IUCN Red List criteria. The trade in MAPs is among the critical drivers of such threat: the value of the global trade in MAP species has almost tripled in the past 20 years (from USD1.1 billion in 1999 to USD3 billion in 2015), based on UN Comtrade data, a significant underestimate as the Customs code from which the figure is derived (HS1211) does not cover all relevant plants traded.

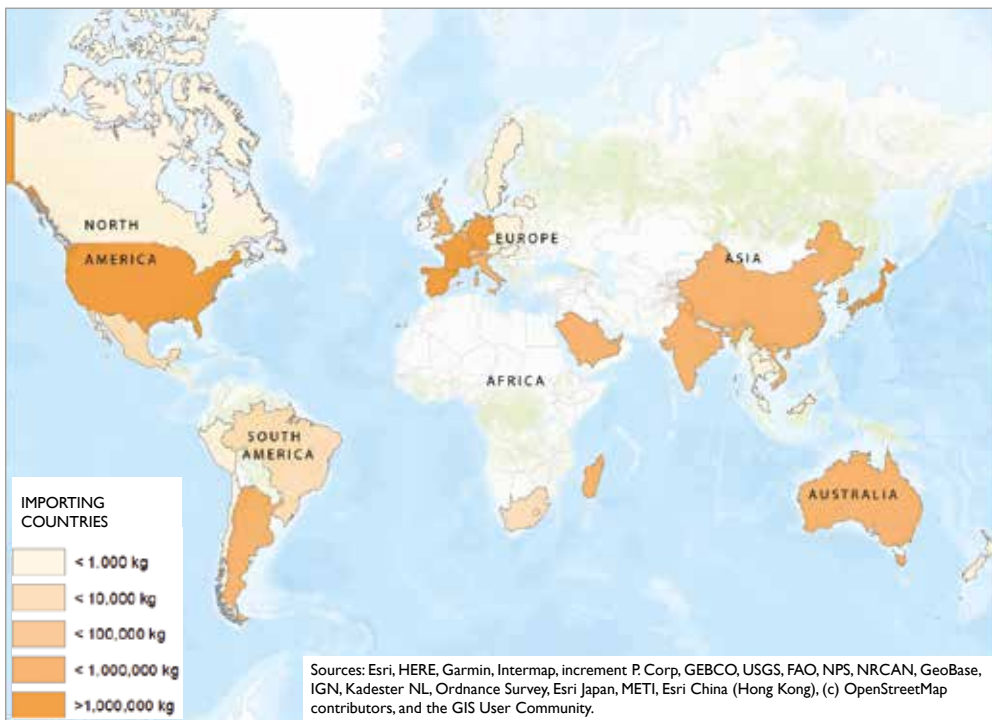
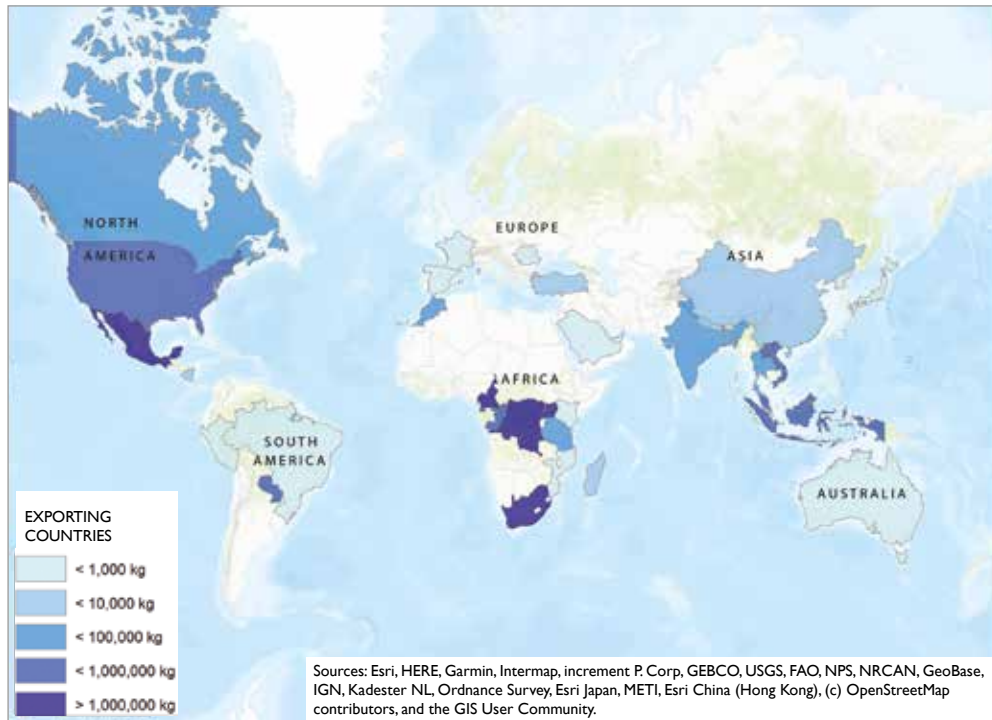


Fig. 1. Heat map (top) of most significant exporters of wild sourced, Appendix II-listed MAPs based on importer reported quantities (in kg) for commercial purposes between 2006–2015. Heat map (below) of most significant importers (in kg) of wild-sourced, CITES Appendix II-listed medicinal and aromatic plants for commercial purposes between 2006–2015.

Data source: CITES Trade Database, available at: <https://trade.cites.org/>.

CITES provides an important, and often the only, form of regulation of trade in MAPs. Over 800 species of MAPs are listed in CITES Appendix II. From the CITES trade data analysis covering the period 2006–2015, 43 CITES Appendix II wild MAP species were traded in significant volumes—some 25,000 t in total.

According to the annual reports of importers, the top three exporting countries were Mexico, Cameroon and South Africa, together representing 75% of all wild-sourced exports (kg as unit), while five countries were responsible for 77% of imports: France (26%), USA (16%), Japan (15%), Germany (11%) and Spain (7%). Fig. 1 illustrates the most significant exporters and importers of wild-sourced CITES Appendix II-listed MAPs; Fig. 2 shows the continuous reliance on wild sources in the trade in CITES-listed MAPs.

In terms of species with the greatest volume of specimens in trade, based on the data reported by importers, the trade in Candelilla *Euphorbia antisyphilitica* and African Cherry *Prunus africana*, accounted for 73%. Additionally, trade is significant in some MAP genera: aloe *Aloe* spp., *Dendrobium* orchid spp., and agarwood *Aquilaria* spp. In the analysis of trade data reported by the exporter, Jatamansi *Nardostachys jatamansi* from Nepal appears globally significant in trade.

CHALLENGES AND OPPORTUNITIES

Beyond the legal trade reported by CITES Parties and analysed above, there is evidence of illicit trade in medicinal and aromatic plants. This is exemplified by the analysis of CITES-related seizures reported by the Member States of the European Union (EU). Between January and December 2017, 27% of all seizures reported were of medicinal plant and animal products and parts/derivatives for medicinal use (TRAFFIC, 2019). This included 218,693 plant-derived medicinal items (and an additional 13,511 kg and 32 litres), with many Appendix II-listed MAPs seized, including aloe *Aloe arborescens*, *Gastrodia elata* orchid, Hoodia *Hoodia gordonii*, *Prunus africana* and *Euphorbia antisyphilitica*.

The trade in wild-sourced MAPs has particular features, which creates both challenges and opportunities. The challenges include the increasing demand (including by the constantly diversifying industry sectors), complex trade chains and traceability issues. Millions of wild harvesters in poor and marginalised regions around the world are reliant on this trade, which is often operating in the context of complex legality (including the issues of land access, tenure and use rights), with much of the trade being informal and under-reported. There are also issues of identification as MAPs are mostly traded as parts, derivatives, and finished products, including in mixed and processed form. On the other hand, market awareness of sustainability issues is growing, and best practices are available, as well as some policy and legislative frameworks in place (notably including CITES regulations), creating opportunities for establishing the conditions for sustainable and legal trade in wild MAPs,

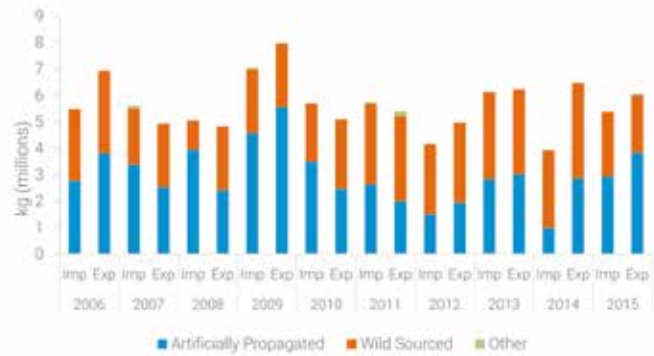


Fig. 2. Importer- and exporter-reported quantities of wild sourced (W), artificially propagated (A) and other material of CITES Appendix-II listed MAPs, 2006–2015, when quantities were reported in kg.

benefiting livelihoods, ecosystems and other species, as well as providing healthcare opportunities and food security.

This project explored an opportunity for appropriate voluntary certification standards (VCSs), if implemented for CITES Appendix II-listed MAPs, to provide case-specific and field-based data and information necessary for making NDFs and hence support CITES authorities in the implementation of its provisions in making both NDFs and LAFs.

VOLUNTARY CERTIFICATION STANDARDS AND THEIR RELEVANCE FOR CITES

VCSs were created to address consumer concerns regarding social, environmental and ethical aspects of production (Shanley *et al.*, 2008). These schemes exist in many industries to evaluate performance against a set of standards and can be led by governments, third parties or companies themselves.

Voluntary standards allow for external third-party auditing and tend to require more exacting scientific standards. These are able to separate genuinely responsible companies from those that merely engage superficially in environmental issues (Shanley *et al.*, 2008). Examples of third-party certification schemes include the Marine Stewardship Council (MSC), which certifies sustainable fisheries and the Forest Stewardship Council (FSC), which certifies areas of forest that harvest timber and non-timber forest products (NTFPs) sustainably.

In the context of wild-sourced plants (excluding timber), fungi and lichens, the most comprehensive system currently in use is the FairWild Standard, which sets out key criteria and principles for companies and producers to observe in order to ensure sources are sustainable and the trade equitable; compliance is assured through third-party auditing. A selection of certification schemes are backed by laws, such as the EU organic production regulation which came into force in 2009 (The Council of the European Union, 2007), which sets out the standard for organic certification.

NDFs Res. Conf. 16.7 (Rev. CoPI7).	9-step NDF for perennial plants (steps where relevant information would be collated) (see Fig. 3)	FairWild Standard Ver. 2.0 Performance Indicators	Field Checklist for UEBT/UTZ	FSC International Generic Indicators Certified Herbal Tea	EU Organic Regulation, from: (EC) 834/2007 and (EC) 889/2008
A. Species biology and life-history characteristics	Steps 1 and 5	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	no relevant indicator
B. species range (historical and current);	Steps 4, 5 and 6	full consideration of guidelines	partial consideration of guidelines	full consideration of guidelines	partial consideration of guidelines
C. population structure, status and trends (in the harvested area, nationally and internationally);	Steps 4, 5 and 6	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines
D. threats	Steps 4, 5, 6 and 7	full consideration of guidelines	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines
E. historical and current species-specific levels and patterns of harvest and mortality (e.g. age, sex) from all sources combined	Steps 3, 4, 5, 6 and 7	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	no relevant indicator
F. management measures currently in place and proposed, including adaptive management strategies and consideration of levels of compliance	Step 8	full consideration of guidelines	partial consideration of guidelines	full consideration of guidelines	no relevant indicator
G. population monitoring	Steps 6, 7 and 8	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	no relevant indicator
H. conservation status	Steps 4 and 6	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	no relevant indicator
Article IV, para. 2 (b)					
a Management Authority of the State of export is satisfied that the specimen was not obtained in contravention of the laws of that State for the protection of fauna and flora [i.e. Legal Acquisition Findings – LAF]	Step 3	full consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines	partial consideration of guidelines

Table 1. Matrix comparing the general guidelines for making NDFs and LAFs against four certification standards. Summary based on the full matrix presented at the stakeholders workshop, January 2019: “Making CITES work for wild medicinal and aromatic plants: the role of voluntary certification” (TRAFFIC, in prep.).

Beyond the independent third-party standards, there are numerous internal company standards, such as Unilever's Sustainable Agriculture Code¹, aimed at promoting sustainability and reducing the companies' impact on the environment. Although important, there is evidence that some companies have used codes like this to market their achievements and corporate responsibility, whilst only doing so superficially (Cherry and Sneirson, 2010).

METHODS

To evaluate the potential and suitability of VCSs to aid in CITES processes, a mix of approaches were used to identify how voluntary certification can assist with implementation of CITES and fulfilment of its requirements for Appendix II wild-sourced MAP species:

- a review of literature, including trade data analysis and species suitability analysis.
- a Certification Scheme matrix to provide a comparison of four VCSs against CITES requirements.
- a CITES Plants Committee side event aimed at receiving stakeholder feedback at the early stages of the project.
- online questionnaires for CITES Parties (Scientific and Management Authorities) and industry stakeholders were developed, and responses collected between September and December 2018. Several channels were used, requesting responses through the CITES Plants Committee regional representatives, from the participants of the CITES and Livelihood International Workshop, follow-up with existing industry contacts, and requesting industry associations to share the survey with members. In total 33 responses were received: 18 from CITES Parties and 15 from industry, which were consolidated and analysed.
- a two-day stakeholder workshop² was held in Cambridge, UK, in January 2019. The workshop was attended by participants from the CITES Authorities, CITES Secretariat, industry bodies (American Herbal Product Association and Natural Resources Stewardship Circle), companies, certification bodies, NGOs and IGOs.

RESULTS

Voluntary Certification Standards with specific potential to facilitate CITES implementation for MAP species

Participants of the stakeholder workshop confirmed the general potential of VCS to assist in CITES processes. CITES authorities noted that there have been challenges in the formulation of NDFs for some species where there is a lack of knowledge or up-to-date information. At the same time, industry representatives stated that a

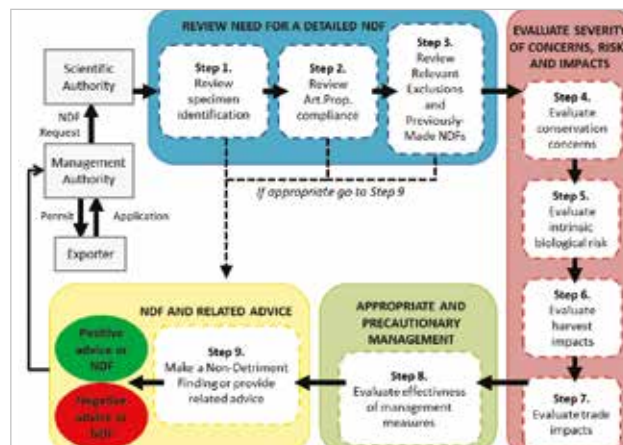


Fig. 3. A summary diagram of a 9-step process to support CITES Scientific Authorities making science-based non-detriment findings (NDFs) for CITES II-listed species. Source: Wolf et al., 2016).

CITES listing is often seen as creating additional barriers to trade. CITES Authorities and industry in general agreed that VCSs could help provide information to the NDF and LAF processes, improve efficiency of the permitting process and create scope for differentiating operators implementing best practices to enable trade when other trade restrictions are in place. There was also consensus that sustainable sourcing of MAPs among industry members may be facilitated if certification and data transfer to CITES Authorities visibly turns out to improve efficiency of permitting processes.

Given that few examples of certification schemes supporting the CITES process exist, and in order to evaluate how relevant and compliant certification schemes are against the relevant CITES requirements, a matrix was drawn up to compare certification standard requirements against the NDF requirements recommended in *Resolution Conf. 16.7 (Rev. CoP17) Non-detriment findings*, LAF requirements found in Article IV, para. 2 (b) and also against guidelines produced for NDFs for perennial plants; a summary diagram of the steps is presented in Fig. 3 (Wolf et al., 2016).

Four standards were included in the initial review to assess whether the certification schemes can provide sources of data and technical assistance to CITES Scientific Authorities (SAs) in their efforts to make accurate, up-to-date NDFs:

- FairWild: FairWild Standard Version 2.0 Performance Indicators³
- UEBT/UTZ: Field Checklist for UEBT/UTZ Certified Herbal Tea⁴
- FSC: International Generic Indicators⁵
- EU Organic Regulation⁶

Available: ¹https://www.unilever.com/Images/ul-sac-v1-march-2010-spread_tcm244-423998_en.pdf; ²Overview of workshop: <https://www.traffic.org/news/making-cites-work-for-wild-medicinal-and-aromatic-plants/>; ³<http://www.fairwild.org/certification-documents/>; ⁴http://ethicalbiotrade.org/dl/Field-Checklist-for-UEBT_UTZ-Herbal-Tea-version-1.3-Nov-2016.pdf; ⁵<https://ca.fsc.org/preview.fsc-std-60-004-international-generic-indicators.a-1011.pdf>; ⁶(EC) 834/2007 and (EC) 889/2008

BENEFITS

COSTS

CITES AUTHORITIES

- “Free”, useful and reliable information
- Reduction in processing time
- Reduction of the perception of CITES hindering trade
- Communication between industry and authorities can benefit both and improve quality of product
- Assisting the Review of Significant Trade (RST) process
- Support of livelihoods

- No liability for the certifier to give correct information
- Initially, it could take longer to obtain information
- Parties with fewer resources could rely on certification without undertaking additional checks
- Disadvantage for smaller companies if authorities start to require information

INDUSTRY STAKEHOLDERS

- Assurance of quality products
- Provides transparency and confidence to consumers
- Ease of access to markets
- Clarity of full supply chain
- Assurance of sustainability
- Prestige and recognition from the government
- Certification label can make product more desirable
- VCS data can ease the compliance with CITES processes and increase efficiency and confidence
- Time taken by compliance with CITES requirements can be reduced, certification can create knowledge on how to comply
- Create the confidence of investors in the company, both for industry and consumers
- Help with rectifying misconceptions about what CITES does
- Create opportunities for collaboration with other companies
- Risk mitigation
- Brand-holder confidence
- Potential to overcome trade restrictions and possible de-regulation, de-listing of species (supported by self-regulation/voluntary compliance)
- Business planning opportunities (new products and new markets when there is more thorough thinking about the ingredients in supply chains)
- Potential for reducing corruption through greater capacity in government authorities and the certification body involved
- Creating atmosphere of trust between governments and businesses
- More stakeholder leverage in ensuring the quality of VCS and compliance, than of compliance with CITES requirements
- VCSs provide a strong traceability basis, strong “insurance” against mis-compliance
- Assurance of equitable trade and fair-trade practices

- Financial costs of certification
- Time-consuming, complicated and too much administration
- Ongoing maintenance of certification label (compliance and audit)
- Non-conformities can be revealed with additional sustainability requirements, putting additional pressure on industry players
- Lack of knowledge of certification schemes for some products, ingredients or species
- Different schemes might confuse consumers/companies
- Standards can change creating the risk of reliance on supplies
- Costs of information sharing
- Ingredients can become more expensive
- Regulatory burden
- Reputational risk being associated with a certain certification that is not keeping up with what has been promised

Table 2. The benefits and costs of certification in the implementation of CITES for Appendix II-listed MAP species.

Table 1 presents a “traffic light” summary of the full matrix (TRAFFIC, in prep.) and highlights how some certification schemes may be more suited to certifying CITES-listed MAP species than others, and which could potentially add relevant information to NDF and LAF making. The FairWild Standard has all of the relevant indicators, which is to be expected as it was created to certify MAP species such as those listed in the CITES Appendices. UEBT/UTZ and FSC both have indicators that produce documents that could be helpful to CITES Authorities when making NDFs and LAFs, but some of the indicators are more site-specific than species-specific.

Costs and Benefits of Certification

In order for a certification approach to work, the scheme needs to comprise greater benefits than costs. These can be tangible and intangible, for example the costs of certification, or the potential savings in time and effort spent in preparing the documents for making NDFs when VCS data are made available. The project workshop discussions and responses to questionnaires showed that both industry and CITES Authorities consider certification as potentially useful in playing a role in the implementation of CITES for Appendix II-listed MAPs. The main benefit that both groups saw was that the sharing of verified information would lead to greater knowledge, which in turn could speed up the permitting process. Benefits and costs discussed are summarised in Table 2.

Suitability of CITES Appendix II species for certification

A range of factors were considered to assess the suitability of species for certification in relation to CITES implementation in discussions with CITES government agencies and industry. Species that were considered more suitable for, or likely to benefit from, application of VCS would have the following characteristics:

- Species traded in high volumes
- Species that are mainly wild collected and traded for commercial purposes
- Species with complicated annotations or Appendix II split listings (only some populations are listed)
- Species for which limited information is available (in particular, concerning range, population, sustainability of harvests and trade) and there is conservation concern, including species recently listed in CITES
- Species that have been subject to the Review of Significant Trade (RST) process
- Species that have been subject to trade suspensions
- Species that have destination markets interested in certified products
- High-value species where the cost of certification can be easily absorbed
- Species where livelihoods would be strongly affected if trade is suspended
- Species where there are additional concerns over livelihood and social issues and voluntary certification could add an element of fair trade

Examples of CITES Appendix II-listed MAP species considered suitable for certification.



Goldenseal *Hydrastis canadensis*

© ERIC HUNT / CC BY-SA 4.0



Snowdrops *Galanthus* sp.

© RITA WILLAERT / CC BY-SA 2.0



African Cherry *Prunus africana*

© SCAMPERDALE / CC BY-NC-ND 2.0



Candelilla *Euphorbia antisiphilitica*

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Documentation to help with NDFs

Harvesting plan
Description of species
Population estimates
Monitoring areas and methods
Methods of collection

Documentation to help with LAFs

Proof of origin
Information on traceability systems
Unique identifiers
Reports on quantities of species used
Documents relating to local level regulation

Table 3. Top five responses from CITES authorities (from an online questionnaire) as to what documents could help them in making NDFs and LAFs.

The examples of CITES Appendix-II listed MAPs considered as particularly suitable for certification include:

- Candelilla *Euphorbia antisyphilitica*
- Jatamansi *Nardostachys jatamansi*
- African Cherry *Prunus africana*
- Goldenseal *Hydrastis canadensis*
- Snowdrops *Galanthus* spp.
- Brazilian Rosewood *Aniba rosaeodora*
- Grandidier’s Baobab *Adansonia grandidieri* and
- American Ginseng *Panax quinquefolius*

It was also noted that certification could be considered for species that are at risk, but which are not yet listed in CITES, as a preventative method to avoid the need for a CITES listing. A specific example of using certification as a preventative method was the genus *Boswellia* (the source of frankincense) where participants agreed that certification could prevent the necessity for a CITES listing.

Additionally, discussions leaned towards using certification as a means of promoting deregulation of trade and that certification could promote the delisting of species from the CITES Appendices.

How to put into operation certification standards to assist CITES Parties

Putting certification outputs into operation within the CITES framework focused on which particular elements of the VCSs would be helpful to CITES government agencies with regard to sustainability aspects (linked to making CITES NDFs), and the other focusing on traceability aspects (linked to making CITES LAFs).

Responses from the online survey showed that half of the CITES authorities thought that documentation provided by certifiers/companies/exporters could aid in the making of NDFs. Three quarters of respondents from CITES authorities also thought that documentation provided by certifiers/companies/exporters aid in the

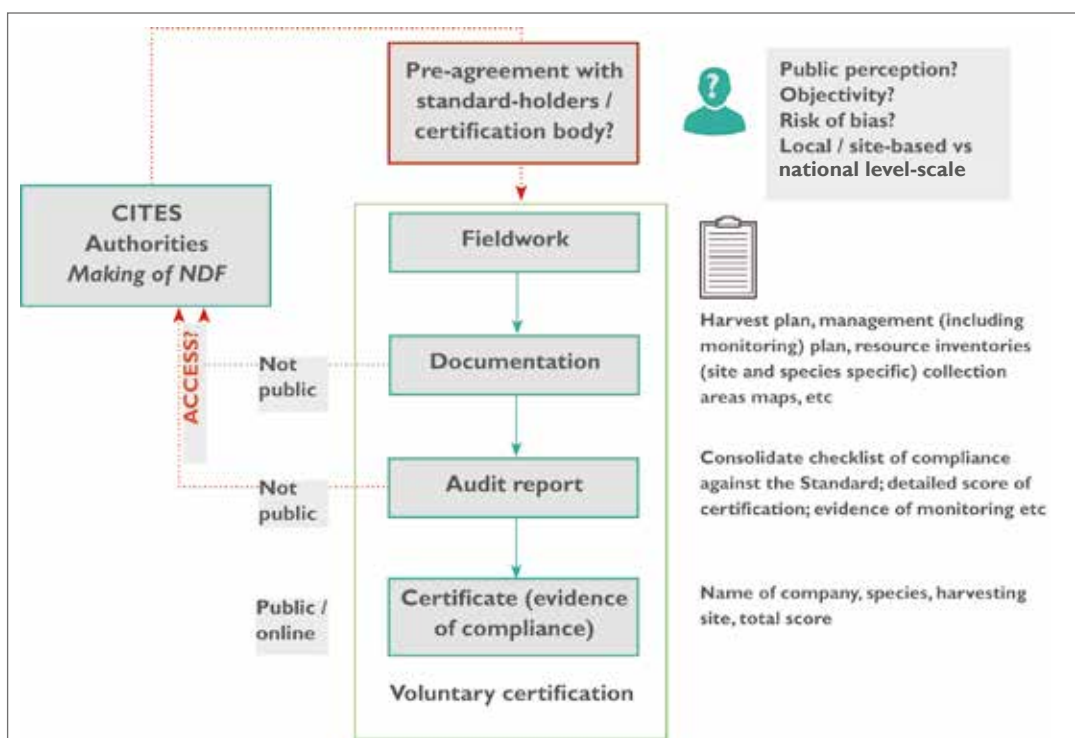


Fig. 4. Example of how a pre-agreement between CITES authorities and standard holders/ certification bodies could work.

making of LAFs. The top five documents that respondents listed both for making NDFs and LAFs are listed in Table 3. Businesses were also asked if there were any restrictions on the documents that they could share with CITES Authorities; 10 out of 15 industry respondents stated that there were no restrictions on the documents that they could share.

Discussion relating to NDFs

Discussions relating to NDFs considered whether information-sharing is possible, and between which organisations. There were diverging opinions if pre-agreements on information-sharing between CITES Authorities and standard-holding organisations, or certification bodies to this effect may be useful (risk included the outward appearance of a bias towards particular stakeholders) and possible (consider which stakeholders own and are able to share information).

It was acknowledged that a certified company is required to bring together a lot of information about its operations, including that pertaining to the sustainability of harvests and trade, and consolidating it into a range of documents. Additionally, there is a benefit of field and documents checks independently conducted by a third party as well as the frequent requirement for such field audits to take place annually. These could be of particular relevance and usefulness when conducting NDFs.

It was concluded that there may be different mechanisms for how this process could be established, including through a more formal “pre-agreement” between government agencies and certification bodies and/or standard-holding organisations (see Fig. 4). This process throws up a range of questions that need to be resolved, including the public perception of the process, the objectivity and risk of bias, information ownership and sharing between companies and certification bodies, and how the roles of ecosystems are dealt with in VCSs.

Discussions related to LAFs

Discussions relating to LAFs observed that CITES authorities look at the legality of the trade for the first time when they are issuing the LAF. They look at the national legislation (e.g. harvest permits, harvester registration information). The certification also checks legality, and the standard criteria would need to be communicated to the authorities. Some issues relating to LAFs that are still to be resolved include traceability being complex and there being differences between different products/species and different levels of traceability (specific producer location, separation of certified products).

The key elements that need to be followed up in relation to the use of VCSs in the CITES context are:

- Enabling a clear mechanism for CITES Authorities to have access to the relevant elements of the certification reports;
- Providing impartial and reliable “benchmarking” of the relevant certification schemes;



Jatamansi *Nardostachys jatamansi* (CITES Appendix II) is one of Nepal's most commercially valuable and heavily exploited species. An ongoing project pilots the use of FairWild Standard certification to aid implementation of CITES requirements for this species.

- Facilitating a clear understanding of the certification process and what “resource inventory/monitoring” mechanisms it involves.

CONCLUSIONS

Results show that, in general, there is a positive response from stakeholders when considering whether voluntary certification of CITES-listed species can assist with implementation of CITES for Appendix II wild-sourced MAP species. The standard evaluation has shown that some voluntary certification standards can already complement the general guidance on making NDFs (Resolution Conf. 16.7 (Rev.CoP17)), whilst others would need adjusting to fit the CITES framework.

Suitability analysis revealed that some Appendix II-listed MAPs may benefit more from certification than others and that there is no general blanket rule concerning the applicability of this approach. Species that are more widely traded as wild specimens, which have had a somewhat chequered past when in trade (e.g. trade suspensions or inclusion in the Review of Significant Trade process), and which are mainly traded to countries where there is a market for certified products, may be more likely to benefit from certification.

A set of recommendations directed at CITES Authorities, industry stakeholders and NGOs was

developed at the stakeholder workshop on how to make progress with the concept of VCSs aiding with the implementation of CITES for Appendix II-listed MAP species. These include recommendations to:

- encourage piloting the application of VCS to CITES Appendix II-listed MAPs, and consolidate lessons learnt from these experiences as case studies, to be shared with both CITES government agencies and businesses.
- raise awareness of standard-holding organisations, CITES Authorities and industries for which certification schemes are appropriate and helpful to CITES implementation.
- finalise and develop short summaries and recommendations from the analysis of VCS against CITES criteria.
- develop the recommendations in the VCSs analysed regarding the gaps identified to the relevant standard-holding organisations, based on the analysis.
- raise attention of the topic discussed in the CITES context to emphasise the opportunities (as well as risks) that the use of voluntary market mechanisms brings to the implementation of CITES. The appropriate CITES fora could include the Plants Committee, CITES CoP, and specific intersessional working groups (e.g. on CITES and livelihoods). Once more experiences around the use of VCS for CITES-listed species are available, relevant “NDF guidance” and “LAF guidance” can be developed and submitted to CITES.
- support the development of communication/fact sheets on how CITES is used as a tool to support sustainable and legal trade; and how in certain circumstances voluntary certification can assist CITES implementation.

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Frankincense *Boswellia* species are not listed in CITES but there are concerns over the sustainability of trade in the resin (inset) from some species in this genus. Certification could assist in demonstrating the sustainability of harvesting and trade.

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Distribution and Status. Information relating to a description of the species under discussion.

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Results. The results can consist of further sections of text that should be broken up, with subheadings, as appropriate. If research has been weak and flawed, point this out, rather than try to hide the fact. By flagging the main points emerging from the research throughout the article, it will be much easier to draw together a discussion and conclusions section.

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Acknowledgements. These should include acknowledgement of funders of research and production, as well as of reviewers and contributors.

References. See also below.

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