Vitenskapskomiteen for mattrygghet
Norwegian Scientific Committee for Food Safety

VKM Report 2016: 38

Assessment of species listing proposals for CITES CoP17

Opinion of the Panel on Alien Organisms and Trade in Endangered Species (CITES) of the Norwegian Scientific Committee for Food Safety

Report from the Norwegian Scientific Committee for Food Safety (VKM) 2016: 38
Assessment of listing proposals for CITES CoP17

Opinion of the Panel on Alien Organisms and Trade in Endangered Species (CITES) of the Norwegian Scientific Committee for Food Safety
26.07.2016

ISBN: 978-82-8259-228-4
Norwegian Scientific Committee for Food Safety (VKM)
Po 4404 Nydalen
N – 0403 Oslo
Norway

Phone: +47 21 62 28 00
Email: vkm@vkm.no

www.vkm.no
www.english.vkm.no

Suggested citation: VKM (2016) Assessment of listing proposals for CITES CoP17. Scientific Opinion on the Panel on Alien Organisms and Trade in Endangered Species (CITES). Opinion of the Norwegian Scientific Committee for Food Safety, ISBN: 978-82-8259-228-4, Oslo, Norway.

Assessment of species listing proposals for CITES CoP17

Authors preparing the draft opinion

Eli Knispel Rueness (chair), Maria G. Asmyhr (VKM staff), Siobhan Dennison (Australian Museum), Anders Endrestøl (NINA), Jan Ove Gjershaug, Inger Elisabeth Måren (UIB).

(Authors in alphabetical order after chair of the working group)

Assessed and approved

The opinion has been assessed and approved by Panel on Alien Organisms and Trade in Endangered Species (CITES). Members of the panel are: Vigdis Vandvik (chair), Hugo de Boer, Jan Ove Gjershaug, Kjetil Hindar, Lawrence R. Kirkendall, Nina Elisabeth Nagy, Anders Nielsen, Eli K. Rueness, Odd Terje Sandlund, Kjersti Sjøtun, Hans Kristen Stenøien, Gaute Velle.

(Panel members in alphabetical order after chair of the panel)

Acknowledgment

The Norwegian Scientific Committee for Food Safety (Vitenskapskomiteen for mattrygghet, VKM) has appointed a working group consisting of both VKM members and external experts to answer the request from the Norwegian Food Safety Authority/Norwegian Environment Agency. Project leader from the VKM secretariat has been Maria G. Asmyhr. The members of the working group, Eli K. Rueness, Jan Ove Gjershaug (Panel on Alien Organisms and Trade in Endangered Species (CITES)), Maria G. Asmyhr (VKM staff), Siobhan Dennison (Australian Museum), Anders Endrestøl (NINA), Inger Måren (UIB) are acknowledged for their valuable work on this opinion. The Panel on Alien Organisms and Trade in Endangered Species (CITES) are acknowledged for comments and views on this opinion.

Competence of VKM experts

Persons working for VKM, either as appointed members of the Committee or as external experts, do this by virtue of their scientific expertise, not as representatives for their employers or third party interests. The Civil Services Act instructions on legal competence apply to all work prepared by VKM.

Table of Contents

Summary **6**
Sammendrag på norsk **8**
Abbreviations and/or glossary **9**
Background as provided by the Norwegian Environment Agency **11**
Terms of reference as provided by the Norwegian Environment Agency **12**
1 Introduction **13**
2 Literature/sources of information **15**
3 Species Assessments **17**
4 Uncertainties **89**
5 Data gaps **90**
6 References **91**
Appendix 1 ..... **92**

Summary

International wildlife trade is estimated to be worth billions of dollars annually and to include hundreds of millions of plant and animal specimens. The commerce is diverse, ranging from live animals and plants, to parts of organisms and derivatives thereof utilized for food, clothing, medicine, building materials, decorative items etc.

International trade in endangered species is regulated through the CITES Convention (The Convention on International Trade in Endangered Species of Wild Fauna and Flora). The aim of the Convention is to prevent trade across borders leading to over-exploitation of species. Currently more than 35,000 species are protected at various levels by CITES (Appendices I, II, III).

Currently 182 countries (Parties) have joined and are thereby bound by the Convention. The parties have to adopt their own domestic legislation to ensure that CITES is implemented at the national level. They are obligated to designate one or more Management Authorities to administrate a licensing system for imports and exports, and one or more Scientific Authorities to advise them on possible impacts of trade on species survival.

The supreme decision making body of CITES is the Conference of the Parties (CoP), where all the Parties are represented. The Parties have agreed upon a resolution with a set of criteria for listing of species in the CITES Appendices, the Resolution Conf. 9.24. All amendments to Appendix I and II (i.e. transfer of already listed species between Appendix I and II, inclusion of new species, or removal of species listed in Appendix II) have to be done in accordance to the latest revision of the Resolution: Res. Conf. 9.24 (Rev. CoP16). All Parties are eligible to propose amendments to the Appendices in advance of the CoP.

The Norwegian Environment Agency has assigned VKM to review a list of proposals for amendments to Appendix I and II submitted ahead of the seventeenth meeting of the CoP (CoP17) that will be held in the autumn of 2016. The list of proposals includes six different organismal groups: mammals, birds, reptiles, amphibians, terrestrial invertebrates and plants.

VKM has put forward a project group comprising participants from the panel on Alien organisms and trade in endangered species (CITES), VKM's secretariat as well as external experts. The project group has reviewed the information given in each proposal and searched for additional data in order to assess the impact of legal and illegal trade. VKM has summarized the material on each species in fact-sheets. The fact sheets will constitute the scientific basis for a national public hearing of the listing proposals prior to the CoP17. If accepted, the amendments will be effectuated three months after the meeting.

Key words: CITES, Convention on International Trade in Endangered Species of wild flora and fauna, CoP17, Non-Detriment Findings, VKM, Norwegian Scientific Committee for Food Safety, Norwegian Environment Agency

Sammendrag på norsk

Hvert år omsettes ville dyr og planter for milliarder av kroner på det internasjonale markedet. Handelen teller millioner av dyr og planter og omfatter alt fra levende individer til organismedeler og ulike tilvirkede varer. CITES - konvensjonen (Convention on International Trade in Endangered Species of wild flora and fauna) er en internasjonal avtale som overvåker og regulerer handel og transport med ville arter for å forhindre at deres overlevelse trues. Konvensjonen trådte i kraft i 1975 og inkluderer per 2016 182 medlemsland (parter) som har ratifisert avtalen og dermed reglene som er vedtatt gjennom CITES. Medlemslandene er pålagt å opprettholde en eller flere forvaltningsmyndigheter med ansvar for utstedelse av tillatelser for eksport og import av arter (og produkter av arter) listet under CITES. De er videre forpliktet til å innhente vitenskapelige vurderinger av den mulige effekten handel kan ha på artenes overlevelse. Miljødirektoratet er forvaltningsmyndighet for CITES i Norge.

CITES har partsmøter (Conference of the Parties- CoP) hvert tredje år, og i forkant av disse møtene kan medlemslandene fremme forslag om endringer til to av CITES' lister over arter som reguleres (Appendix I og II). Dette kan innebære å inkludere nye arter til listene, å flytte arter mellom listene eller å fjerne arter fra Appendix II. Slike forslag omfatter en statusrapport for den aktuelle arten. Partene vurderer kunnskapsgrunnlaget i søknadene før møtet der det stemmes over forslagene. Det kreves 2/3 flertall for å gjennomføre en listeendring.

I forbindelse med partsmøtet som skal holdes høsten 2016 (CoP17), har Miljødirektoratet gitt VKM i oppdrag å vurdere kunnskapsgrunnlaget for en rekke av de søknadene om listeendringer som skal behandles.

VKM har utnevnt en prosjektgruppe bestående av medlemmer fra faggruppen for fremmede organismer og handel med truede arter (CITES), VKMs sekretariat samt eksterne eksperter på de artsgruppene som skal vurderes.

VKM har gjennomgått tilgjengelig informasjon om de aktuelle artenes biologi, populasjonsstruktur, størrelse og -trender, utbredelsesstatus, bevaringsbehov, bevaringstiltak og handels status (lovlig og ulovlig), og har på grunnlag av denne informasjonen vurdert hvorvidt handel kan påvirke artenes overlevelse.

VKM har vurdert arter eller grupper av arter som tilhører de følgende taksonomiske gruppene: pattedyr (15), fugler (4), reptiler (17), amfibier (8), terrestriske invertebrater (1) og planter (15). Bakgrunnsinformasjon og evaluering av den mulige effekten av handel er oppsummert i et artsevalueringsark (species fact sheet) per CoP-søknad.

Vurderingene fra VKM danner det vitenskapelige grunnlaget for en nasjonal høring i forkant av CoP17. Miljødirektoratet vil videre benytte artsevalueringsarkene i sitt arbeid med import- og eksportsøknader av CITES-arter.

Abbreviations and/or glossary

Abbreviations

CITES: The Convention on International Trade in Endangered Species of Wild Fauna and Flora.

CoP: Conference of the Parties.

IUCN: International Union for the Conservation of Nature.

NDF: Non-detriment finding.

NGO: Non-governmental organization.

TRAFFIC: the wildlife trade monitoring network.

UNEP: United Nations Environment Programme.

UNEP-WCMC: UNEP World Conservation Monitoring Centre.

Glossary

CITES Appendices: Appendix I includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances. Appendix II includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival. Appendix III contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade. In contrast to Appendix I and II, each Party is entitled to make unilateral amendments to Appendix III.

Non-detriment finding: A conclusion by a Scientific Authority that the export of specimens of a particular species will not impact negatively on the survival of that species in the wild. The NDF is required before an export or import permit may be issued for a specimen of an Appendix-I species and before an export permit may be granted for a specimen of an Appendix-II species. Factors regarding biology, management and sustainability of trade are evaluated and the scientific reviews as to whether or not trade endangers a species are the NDFs (Res. Conf.16.7).

Range State: Any nation that exercises jurisdiction over any part of a range which a particular species, taxon or biotope inhabits.

Resolution Conf. 9.24 (Rev. CoP16): The latest revision of the Resolution underlying listing of species in the CITES Appendices. The Parties have agreed upon this Resolution that comprises the criteria for amendment of the Appendices I and II. The criteria are formulated in the following Annexes: Annex 1 (Appendix I), Annex 2a and 2b (Appendix II), special cases are described in Annex 3, precautionary measures are given in Annex 4, definitions, explanations and guidelines are found in Annex 5 while Annex 6 defines the format for proposals to amend the Appendices.

Background as provided by the Norwegian Environment Agency

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a global agreement, which as of June 2016 has been signed and ratified by 182 Parties. The agreement aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

The 17th meeting of the Conference of the Parties to CITES (CoP17) will take place in Johannesburg, South Africa from 24 September to 5 October 2016. The Conference of the Parties (CoP), is the supreme decision-making body of the Convention and comprises all its Parties. The CoP will address proposals of new species to be included in Appendices I or II, or proposals to change their present listing status. Appendix I (approx. 1000 species) includes species threatened by extinction, and trade in specimens of these species will be permitted only in exceptional circumstances. Appendix II (approximately 33000 species) includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival.

In accordance to Resolution Conf. 9.24 (Rev. CoP16) the Parties have agreed on a set of criteria to help determine whether trade in a species or genus should be included in the conventions Appendix I and Appendix II. The assessments related to listing of species under CITES in the respective appendices are to be done in accordance with criteria as outlined in Res. Conf. 9.24 (Rev. CoP16), which includes evaluation of extinction risks as the direct result of trade and taking into consideration several biological factors. Prior to the CoP, Parties submit proposals based on those criteria to amend these two Appendices. At the CoP the listing proposals are discussed and submitted to a vote that needs 2/3 majority to be carried out.

The requested assessment produced by VKM will constitute the scientific basis for a national public hearing of the listing proposals prior to the CoP.

Terms of reference as provided by the Norwegian Environment Agency

The Norwegian Environment Agency requests the VKM to undertake an assessment according to Res. Conf. 9.24 (Rev. CoP16) and further specified in Annex 1 (included in Appendix 1 of this report), for a selection of the proposed species (see Annex 2; Inlcuded in Appendix 1 of this report). The assessment will cover the evaluation of the biological status and an impact assessment of legal and illegal trade.

The assessment should follow the format of the assessments in Annex 1, and should be approximately two pages per species. Annex 2 includes the selected CoP17 listing proposals to be assessed by VKM, which covers six different species groups: mammals, birds, reptiles, amphibians, terrestrial invertebrates and plants. All proposals for CoP17 are presented on the CITES Secretariat's webpage https://cites.org/eng/cop/17/prop/index.php.

For proposals presented in French or Spanish only, the assessment should be based on existing information, available from the literature list in the proposal and additional relevant literature on the selected species.

1 Introduction

International wildlife trade is estimated to be worth billions of dollars annually and to include hundreds of millions of plant and animal specimens. The trade ranges from whole individuals, dead or alive, to all kinds of products manufactured of plant and animal tissues.

Even though many wildlife species in trade are not endangered, international cooperation is essential to safeguard these resources for the future. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a global agreement between governments with the purpose to ensure that international trade with wild animals and plants is not a threat to their survival. Currently more than 35,000 species are protected at various levels by the Convention.

The idea behind CITES was first coined in 1963 at an IUCN meeting. The text of the Convention (https://cites.org/eng/disc/text.php) was agreed upon by representatives of 80 countries in 1973 and set to work in 1975. Today 182 countries, or Parties, have joined and are thereby bound by the Convention. The Parties have to adopt their domestic legislation to ensure that CITES is implemented. All import, export, re-export and introduction of species covered by CITES has to be authorized through a licensing system controlled by national Management Authorities. Parties that do not satisfactorily enact the legislations may be suspended from commercial trade with CITES-listed species until the national laws have been strengthened (https://cites.org/eng/legislation).

The supreme decision making body of CITES is the CoP, where all the Parties are represented. The Parties have agreed upon a resolution with a set of criteria for listing of species in the CITES Appendices (I-III), the Resolution Conf. 9.24., that contains a set of biological and trade criteria to categorize species by the degree of protection needed. All assessments related to listing of species in Appendices I and II have to be done in accordance to the criteria outlined in the latest revision i.e. Res. Conf. 9.24 (Rev. CoP16). The Parties can propose amendments to Appendix I and II prior to the CoP, while amendments to Appendix III can be made unilaterally.

Import and export of CITES` listed species requires that documentation has been obtained and a permit issued from the appropriate Management Authorities. Appendix I species are endangered and trade will be permitted only exceptionally and never for primarily commercial purposes. Permits are required from both the exporting and importing countries. For Appendix II species, only permits for export (re-export) are required. However, an export permit for species listed in Appendices I or II will only be granted if it has been established that trade is not going to be detrimental to the survival of the species through a NDF-analysis, cf. CITES Resolution Conf. 16.7. Trade quotas, if allowed, are then regulated accordingly.

VKM has reviewed 41 of the 62 proposals for amendments to Appendix I and II, cf. Resolution Conf. 9.24 (Rev. CoP16), for the seventeenth meeting of the CoP (CoP17). The list of proposals includes six different species groups: mammals, birds, reptiles, amphibians, terrestrial invertebrates and plants.

VKM's assignment has been to review the validity of the information given in each proposal and to search for additional data on legal and illegal trade. The criteria given in Conf. 9.24 (Rev. CoP16) have been applied in a standardised manner to suggest whether or not trade could be detrimental to the species in question. The fact sheets produced by VKM constitute the scientific basis for a national public hearing of the listing proposals prior to the CoP17. If accepted, the amendments will be effectuated three months after the CoP17 meeting.

Further, the Norwegian Environment Agency intends to use the species assessments in regard to processing national import/export permits for the species/species groups evaluated in this report.

2 Literature/sources of information

The proposals to amend the Appendices.

Each of the proposals VKM has evaluated was submitted by one or more of the Parties and suggests amendment of Appendix I and/or Appendix II of Conf. 9.24 (Rev. CoP16) regarding a species or a group of species. The proposals follow a standard format given by Conf. 9.24 (Rev. CoP16) Annex 6, and should provide to the CoP adequate information, of satisfactory quality and in sufficient detail for judgement against the criteria established for the proposed action. The proposals should for instance describe the species characteristics, status and trends of the populations and their habitats, threats and the levels of utilization and trade. In addition information about any national and international conservation actions and management strategies should be specified.

Literature review

VKM has evaluated the biological information presented in each proposal and its agreement with other sources of data, such as that found on the IUCN RedList site (http://www.iucnredlist.org) or in recent scientific literature. Specifically, literature that provided contrasting results to those conveyed by proponents was sought. For species not previously assessed by IUCN only primary literature was available and the amount of information available was sometimes limited. This will be reflected in the pertinent fact sheets.

Relevant databases/websites for trade data

All registered trade with CITES-listed species is being archived and is searchable at the CITES Trade Database http://trade.cites.org/. For species protected by CITES, or other multilateral environmental agreements, records of trade can also be found at SPECIES+ (http://speciesplus.net/). This database in addition includes information about the history of CITES Appendix listings, quotas and suspensions. As of June 2016 documents e.g. previous CoP proposals to amend the Appendices, Animals and Plants Committee documents relating to the CITES Review of Significant Trade Process, NDFs and Agenda and Summary of Conclusions of meetings of the EU CITES Scientific Review Group are also archived and searchable at this website.

The wildlife trade monitoring network, TRAFFIC, is a global NGO working on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development. They collect, investigate and broadcast information on trends and patterns of wildlife trade, including illegal trade and reports published on their webpage (http://www.traffic.org) were used as a sources of information when appropriate. For a few

of the species that have not previously been CITES-listed or proposed for CITES-listing, none of these resources provided information and additional reports and indications of trade had to be sought for (as stated in the relevant fact sheets). Typically, a sudden increase in prices of a wildlife product may indicate that the supply is becoming less compared to the demand, which again could reflect a decline of the source population. In other cases, searching databases such as Ebay (http://www.ebay.com/) and trade related websites for exchange in specimens or derivative products would indicate an illegal or non-registered market.

3 Species Assessments

Table 3-1 Species or groups of species assessed in this report. Note that the proposal numbers correspond to the numbers listed at: https://cites.org/eng/cop/17/prop/index.php

Group	Species name	Common name	Norwegian name	CoP17 proposal number
Mammals	*Puma concolor coryi*	Florida puma	Puma	5
	Puma concolor couguar	Eastern Puma	Puma	5
	Bison bison athabascae	Wood bison	Skogbison	1
	Panthera leo	Lion	Løve	4
	Capra caucasica	Western tur		2
	Macaca sylvanus	Barbary macaque	Berberape	13
	Equus zebra zebra	Mountain zebra	Fjellsebra	6
	Manis crassicaudata	Indian pangolin	Skjelldyr	9
	Manis tetradactyla	Long-tailed pangolin	Skjelldyr	12
	Manis tricuspis	White-bellied pangolin	Skjelldyr	12
	Manis gigantea	Giant pangolin	Skjelldyr	12
	Manis temminckii	South African pangolin	Skjelldyr	12
	Manis javanica	Sunda pangolin	Skjelldyr	11
	Manis pentadactyla	Chinese pangolin	Skjelldyr	11
	Manis culionensis	Philippine pangolin	Skjelldyr	10
Birds	*Lichenostomus melanops cassidix*	Helmeted honeyeater	Gulduskhonningeter	18
	Ninox novaeseelandiae undulate	Norfolk Island boobook owl	Nattsvermerugle	20
	Falco peregrinus	Peregrine falcon	Vandrefalk	17
	Psittacus erithacus	African grey parrot	Jako	19
Reptiles	*Cyclanorbis elegans*	Nubian flapshell turtle	Lærskillpadde	36
	Cyclanorbis senegalensis	Senegal flapshell turtle	Lærskillpadde	36

Group	Species name	Common name	Norwegian name	CoP17 proposal number
	Cycloderma aubryi	Aubrys flapshell turtle	Lærskillpadde	36
	Cycloderma frenatum	Zambezi flapshell turtle	Lærskillpadde	36
	Trionyx triunguis	Nile soft-shell turtle	Lærskillpadde	36
	Rafetus phraticus	Euphrates soft-shell turtle	Lærskillpadde	36
	Rhampholeon spp	Pygmy chameleons	Bladkameloner	28
	Rieppeleon spp	Pygmy chameleons	Bladkameloner	28
	Shinisaurus crocodilurus	Chinese crocodile lizard	Kinesisk krokodilleøgle	33
	Cnemaspis psychedelica	Psychedelic rock gecko	Gekko	29
	Abronia spp	Alligator lizards	Alligatorøgler	26
	Lygodactylus williamsi	Turquoise dwarf gecko	Gekko	30
	Atheris desaixi	Ashe`s bush viper		34
	Bitis worthingtoni	Kenya horned viper		35
	Crocodylus niloticus	Nile crocodile	Nilkrokodille	23
	Crocodylus porosus	Salt-water crocodile	Saltvannskrokodille	24
	Lanthanotidae spp	Earless monitor lizards		32
Amphibians	*Telmatobius coleus*	Titicaca water frog		40
	Paramesotriton hongkongensis	Hong Kong warty newt		41
	Scaphiophryne marmorata	Green burrowing frog		39
	Scaphiophryne boribory	Burrowing frog		39
	Scaphiophryne spinosa	Burrowing frog		39
	Dyscophus guineti	False tomato frog	Flask tomatfrosk	38
	Dyscophus. insularis	Antsouhy tomato frog		38
	Dyscophus antongilii	Tomato frog	Tomatfrosk	37

Group	Species name	Common name	Norwegian name	CoP17 proposal number
Gastropoda	*Polymita* spp	Cuban landsnails		49
Plants	*Pterocarpus erinaceus*	African rosewood, Kosso		57
	Guibourtia tessmannii	Bubingas		56
	Guibourtia pellegriniana	Bubingas		56
	Guibourtia demeusei	Bubingas		56
	Adansonia grandidieri	Grandidier's baobab		58
	Siphonochilus aethiopicus	Natal ginger	Afrikansk ingefær	61
	Sclerocactus spinosior spp *blainei*	Blaine's fishhook cactus		52
	Sclerocactus cloverae	New Mexico fishhook cactus		52
	Sclerocactus sileri	Siler's fishhook cactus		52
	Aquilaria spp	Agarwood		60
	Gyrinops spp	Agarwood		60
	Beaucarnea spp	Ponytail palm, Elephant-foot tree	Elefantfot	50
	Bulnesia sarmientoi	Holy wood		62
	Dalbergia cochinchinensis	Siamese rosewood		53
	Dalbergia spp.	Rosewoods, Palisanders		55

Review of CoP 17 proposals

Note that the webpages listed in section 2 of this report (CITES, IUCN etc.) are not listed in the reference section for each fact sheet.

Review of CoP17 proposal 5, *Puma concolor*.

1. Review of listing proposal under CITES

Canada propses the transfer of two subspecies of *Puma concolor* (Linnaeus, 1771) from Appendix I to Appendix II. The transfer would place them in Appendix II under the listing of *Felidae* spp. Canada argues that this should be in accordance with the Precautionary Measures in Annex 4 of CITES Resolution Conf. 9.24 (Rev. CoP16), as *Puma concolor couguar* is considered extinct, and *Puma concolor coryi* is strongly protected federally with stricter domestic trade restrictions than required under CITES, and there is no trade.

Species name: *Puma concolor coryi* (Bangs, 1899). Common names: Florida panther, Florida Couguar, Florida Puma. *Puma concolor couguar* (Kerr, 1792). Common names: Eastern Puma, Eastern Couguar, Eastern Panther. Norwegian name: Puma. Genetically all North American pumas (including *P. c. coryi* and *P. c. couguar*) have been shown to be homogenous (Culvier et al., 2000) and are thus considered to belong to the same subspecies, *P. c. cougar* by Wilson and Reeder (2005). But as stated in CoP15 Doc. 35 – p. 3, the Animals Committee recommends that the older version (Wilson and Reeder, 1993), including all subspecies, should be included in Res. Conf. 12.11 as the standard reference for *Puma concolor*.

Distribution: *P. c. coryi* is endemic to the United States of America where it is restricted to the southeastern part, particularly Florida. *P. c. couguar* is "possibly extinct", but was formerly common in eastern North America. The species *Puma concolor* as a whole is widely distributed in the western United States of America, Central America and South America.

Population trend: The current population trend of *P. concolor* is decreasing (Nielsen et al., 2015). The population of *P. c. coryi*, numbering 100-180, is isolated, and has been supplemented by a reintroduction of pumas from Texas (Sunquist and Sunquist, 2002; Florida Fish and Wildlife Conservation Commission 2014).

Habitat status: *Puma c. coryi* occupies less than 5% of its former range (USFWS, 2008). *Puma c. couguar* is possibly extinct, but parts of its former range remains and are being repopulated by pumas of uncertain origins (e.g. Lang et al., 2013).

Known/suspected level of trade: The trade with *P. c. coryi* and *P. c. couguar* has in recent times been limited to a few specimens for scientific purposes.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

P. concolor, as a species, is listed as Least Concern by IUCN. *P. c. coryi* and *P. c. couguar* have been listed on CITES Appendix I since 1975. All other North American *P. concolor* subspecies have been listed on Appendix II under the family *Felidae* since 1977. They were recognized in 1979 as being placed on Appendix II as "look-alike" species, to protect *P. c. coryi* and *P. c.couguar* (per Article II, Paragraph 2(b); CoP2 Plen. 2.16). The Central American Puma, *P. c. costaricensis* (Costa Rica, Panama) is also listed in Appendix I. *Puma c. Coryi*, *Puma c. couguar* and *P. c. costaricensis* are listed in EU Appendix A, since 20/12/2014, while the other subspecies are listed in Appendix B. Eastern parts of North America are being re-populated by pumas of uncertain origins (LaRue et al., 2012, Lang et al., 2013).

3. Evaluation of trade data.

For other subspecies of *P. concolor* there is considerable legal trade with wild caught specimens (mainly skins and trophies; trade.cites.org) and the species is hunted legally in many Western provinces and States of the US and Canada. There is no data available on illegal trade.

4. Potential other information by CITES reviews and on nature management issues in range states

Road kills are the principal causes of mortality in *P. c. coryi* and roads are major barriers to dispersal (Sunquist and Sunquist, 2002). In Canada *P. concolor* is managed at the species level and is protected under Provincial or Territorial Wildlife Acts. If *P. concolor* (any subspecies) reestablishes in eastern Canada it will be managed after these regulations.

There are no current suspensions or opinions for these two subspecies, but Argentina has been suspended from export of live specimens of *P. concolor* in 2006 (CITES Notif. No. 2006/006).

5. Recommendations

Following Annex 1, *P. c. coryi* is clearly threatened with extinction as the wild population is small (1A) and has a restricted area of distribution (1B). The available habitat/quality of the habitat is decreasing (1A i, 1B iv). Moreover, the subspecies is vulnerable to vehicle collisions and due to its small size also to stochastic events (extrinsic factors, 1A v, 1B iii). All trade could be detrimental.

In the case of the transfer of the "possibly extinct" *P. c. couguar* to Appendix II it could be problematic that Canada manages the species *P. concolor* according to a different nomenclature than that of CITES.

If *P. c coryi* and *P. c. cougar* are transferred to Appendix II, the issue of split-listing (Annex 3) of *P. concolor* subspecies will remain as *P. c. costaricensis* is listed in Appendix I.

6. References

Culver M., Johnson W.E., Pecon-Slattery J. O'Brien S.J. (2000) Genomic ancestry of the American puma (*Puma concolor*). Journal of Heredity 91:186-197.

Florida Fish and Wildlife Conservation Commission (2014) Annual report on the research and management of Florida panthers: 2013-2014. Fish and Wildlife Research Institute & Division of Habitat and Species Conservation, Naples, Florida, USA.

LaRue M.A., Nielsen C.K., Dowling M., Miller K., Wilson B., Shaw H., C.R. Anderson (2012) Cougars are recolonizing the Midwest: Analysis of Cougar confirmations during 1990–2008. Journal of Wildlife Management 76:1364–1369.

Lang L.D., Tessier N., Gauthier M., Wissink R., Jolicoeur H., and Lapointe F.J. (2013) Genetic confirmation of cougars (*Puma concolor*) in eastern Canada. Northeastern Naturalist 20(3):383-396.

Nielsen C., Thompson D., Kell, M., Lopez-Gonzalez C.A. (2015) *Puma concolor*. The IUCN Red List of Threatened Species 2015: e.T18868A50663436. http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T18868A50663436.en.

Sunquist M., Sunquist F. (2002) Wild Cats of the World. University of Chicago Press.

U.S. Fish and Wildlife Service (USFWS) (2008) Florida Panther Recovery Plan (*Puma concolor coryi*), Third Revision. U.S. Fish and Wildlife Service. Atlanta, Georgia. 217 pp.

Wilson D.E., Reeder D.M. (1993) Mammal Species of the World: a Taxonomic and Geographic Reference. Second edition. xviii + 1207 pp., Smithsonian Institution Press, Washington, USA.

Wilson D.E., Reeder D.M. (2005) Mammal Species of the World: a Taxonomic and Geographic Reference. Third Edition, Vol. 1-2. xxxv + 2142 pp. John Hopkins University Press, Baltimore, USA.

Review of CoP17 proposal 1, *Bison bison athabascae.*

1. Review of listing proposal under CITES

Canada request that *Bison bison athabascae* is deleted from Appendix II in accordance with the Precautionary measures in Annex 4 of CITES Resolution Conf.9.24 (Rev.CoP16).

Species name: *Bison bison athabascae* Rhoads, 1898. Common name: Wood bison, wood buffalo. Norwegian name: Skogbison.

Distribution: *B. b. athabascae* occurs in nine isolated wild subpopulations in Canada (COSEWIC 2013). These populations are found in Alberta, British Columbia, Manitoba, Yukon, and the Northwest Territories, occupying approximately 5% of their original range (COSEWIC 2013). According to the proponent, there is also one introduced population in Alaska, US, and one small population in Siberia, Russia. In addition, there are wood bisons kept in captivity at farms throughout Canada, as well as in wildlife parks and zoos.

Population trend: Increasing (COSEWIC 2013). The total population is currently estimated to between 7642-10 458 individuals, of which 5213-7191 are mature individuals (COSEWIC 2013). According to COSEWIC (2013) this represents a substantial increase over the past 3 generations (1987: 1827 individuals) and a 47% increase since 2000.

Habitat status: Some sub-populations persist in isolated fragments, but 60% of the population is in Greater Wood Buffalo National Park ecosystem (COSEWIC 2013).

Describe known/suspected level of trade: Legal trade in *B. b. athabascae* is relatively limited according to records of the last 5 years reported in the CITES trade database (CITES.trade.org). Illegal trade does not seem common for this species and it is not listed among the threats in the IUCN-assessment of the two bison sub-species *B. b. bison* and *B. b. athabascae* (Gates and Aune, 2008). According to the proponent, Canada has no record of illegal export of wild wood bison in the past 15 years.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

IUCN 2008: Near Threatened. The justification for use of this category is that the species dependends on conservation. The species is currently listed in the EU Annex B.
The species is listed as Special concern by COSEWIC 2013 (Committee on the Status of Endangered Wildlife in Canada). Species of special concern does no longer meet the COSEWIC biological criteria for Threatened, but still require protection because of a combination of biological characteristics and threats (COSEWIC 2013)

3. Evaluation of trade data.

Export of wild wood bison from Canada was low over the five-year period 2010-2014, and falls into three primary categories as stated by the proponent and confirmed by the CITES trade database (CITES.trade.org): 1) live animals exported to establish or re-establish wood bison populations, 2) scientific specimens (teeth), and 3) sport-hunted bison exported as meat, skins, skulls with horns, feet, tails or taxidermy mounts.

4. Potential other information by CITES reviews and on nature management issues in range states

While the total number of bisons is reported to increase the populations are size regulated in separated herds, thus containing possible natural movement of animals between herds (COSEWIC 2013). It is also important to note that large areas of potential wood bison habitat is currently unavailable for use by wood bison, because they are prevented from expanding in order to prevent disease transmission, hybridization with plains bison and to minimize conflict with agriculture use.

5. Recommendations

Harvest and trade of *B. b. athabascae* is heavily regulated by national (e.g. by COSEWIC) and subnational legislation for the protection of the subspecies in the wild, in both Canada and USA. In

accordance with the precautionary measures of Annex 4 of CITES Resolution Conf.9.24 (Rev.CoP16), trade is most likely not going to be detrimental to the survival of *B. b. athabascae*.

6. References

COSEWIC (2013) COSEWIC assessment and status report on the Plains Bison, *Bison bison bison,* and the Wood Bison, *Bison bison athabascae*, in Canada. Committee on the Status of Endangered Species in Canada. Ottawa. Xv –109 pp. Web site: http://www.sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Plains%20Bison%20and%20Wood%20Bison_2013_e.pdf

Gates C., Aune K. (2008). *Bison bison*. The IUCN Red List of Threatened Species 2008: e.T2815A9485062. http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T2815A9485062.en.

Review of CoP17 proposal 4, *Panthera leo.*

1. Review of listing proposal under CITES

Transfer of the entire population of African lions (*Panthera leo*) from Appendix II to Appendix I is proposed by Chad, Côte d'Ivoire, Gabon, Guinea, Mali, Mauritania, Niger, Nigeria, Rwanda and Togo. The proponents argue that there has been a marked decline of the wild population and that the species thereby fulfils the biological criteria of conf. 9.24 (Rev. CoP16), Annex I paragraph C i) and ii) and that the subpopulations of the species throughout most of its distribution range are very small, meeting the criteria of Annex I, paragraph A i) and ii). The proponents also state that on-going trade may have detrimental effects (Annex 5).

Species name: *Panthera leo* (Linnaeus, 1758). Common name: Lion, Norwegian name: Løve. Currently the African and Asian populations are acknowledged as separate subspecies, *P. leo leo* and *P. leo persica*, by IUCN, however, the validity of this division has recently been questioned (Barnett et al., 2014). Four genetic groups (West/Central Africa, East Africa, Southern Africa and India) were identified and it was revealed that the Asian lion and West/Central African lion are more closely related to each other than to the other African lions, suggesting the need of taxonomic revision (Bertola et al., 2015). Hence a temporary split into two subspecies, *P. l. leo* of Asia and West, Central and North Africa and *P l. melanochaita* of South and East Africa, was proposed by the IUCN SSC Cat Specialist Group in 2015 (Bauer et al., 2015a).

Distribution: The African lion is presently found in Angola, Benin, Burkina Faso, Botswana, Cameroon, Central African Republic, Democratic republic of the Congo, Chad, Ethiopia, Guinea, Guinea Bissau (uncertain), Kenya, Malawi, Mozambique, Namibia, Niger, Nigeria, Senegal, Somalia, South Africa, South Sudan, Sudan and Swaziland.
It is possibly extinct in: Côte d'Ivoire, Ghana, Mali, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe. It is extinct in: Algeria, Burundi, Congo, Djibouti, Egypt, Eritrea, Gabon, Gambia, Lesotho, Liberia, Libya, Mauritania, Morocco, Rwanda, Sierra Leone, Tunisia and Western Sahara. The Asian lion remains only in a small, isolated population in India.

Population trend: Decreasing. Overall the lion population is inferred to have undergone a reduction of approximately 43% over the past 21 years (approximately three Lion generations, 1993-2014). This is based on time trend analysis of census data for 47 relatively well monitored lion subpopulations with a combined size estimated to 7,500 individuals in 2014. While some subpopulation in Southern Africa, particularly within protected areas, are assumed to be stable or increase, others, in West, Central and East Africa, have declined up to 62% (Bauer et al., 2015a). The decline has been suggested to continue and to reduce the population by at least 50% over the next two decades (Bauer et al., 2015b). The interpretation of these estimates is a current matter of debate, but there is consensus regarding the general population decline of lions in Africa (Bauer et al., 2015c; Riggio et al., 2015). The total population size is estimated to 23,000-39,000 (Bauer et

al., 2015a) and the majority of subpopulations are considered to be small and isolated (Riggio et al., 2013). The West-African population has been estimated to about 400 individuals (less than 250 mature; Henschel et al., 2014). Among the causes of decline, the most important are human-lion conflict, habitat loss, unsustainable hunting, and prey base depletion.

Habitat status: The African lion has lost 75% of its original habitat (Riggio et al., 2013). In West Africa almost 99% of the historic range is presumably gone and the remaining lions are largely restricted to protected, but often poorly managed, areas (Henschel et al., 2014).

Describe known/suspected level of trade: Thousands of specimens, trophies and live animals (many of them wild caught) have been exported over the last decade. Trophy hunting is permitted in Benin, Burkina Faso, Central African Republic, Democratic Republic of Congo, Ethiopia, Côte d'Ivoire, Mali, Mozambique, Namibia, Senegal, Somalia, South Africa, Sudan, Tanzania, Togo, Uganda, Zambia and Zimbabwe. An increase in trade with Asia has been reported since 2008 (traffic.org).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

P. leo is listed as Vulnerable, but the West-African subpopulation is listed as Critically Endangered by IUCN (2015). *P.l. persica* has been listed as Endangered since 2008. *P. leo* is listed in CITES Appendix II and *P.l. persica* in Appendix I (since 1977). *P. leo* is listed in Annex B of the EU Wildlife Trade Regulations, while *P.l. persica* is listed in Annex A (since 2014).

3. Evaluation of trade data.

Several countries have reported that illegal trade occurs; Benin, Côte d'Ivoire, Ghana, Guinea, Kenya, Mali, Mozambique, Namibia, Nigeria, Senegal and South Africa, South Sudan, Tanzania, Zambia and Zimbabwe (http://www.cms.int/sites/default/files/document/ac27_cites_periodic_rev_status_african_lion_across_range_e.pdf.)

Trophy hunting is considered as a mean to conservation as it generates money, however a review undertaken by the European Commission (UNEP-WCMC, 2015) documented that poorly managed trophy hunting did not prevent population decline in Tanzania (where the largest wild population is found). Since 2008 there has been recorded a dramatic increase in the export of bones and skeletons to southeast Asia (for use in traditional medicine, probably replacing tiger derivatives) from South Africa in particular (Williams et al., 2015). A large number of the South African lions (68%) are bred in captivity for canned hunting, but also wild animals are traded. South Africa also imports a considerable amount of wild-caught specimens from other African countries (http://trade.cites.org/).

4. Potential other information by CITES reviews and on nature management issues in range states

The status of the African lion across its range was reviewed by CITES Animals Committee in 2014 (report of Kenya and Namibia) and concluded that *P. leo* did not meet the biological criteria for Appendix I (http://www.cms.int/sites/default/files/document/ac27_cites_periodic_rev_status_african_lion_across_range_e.pdf). However, it was stated that the following 12 Parties now consider trade a threat to the lion population: Benin, Côte d'Ivoire, Ethiopia, Gabon, Ghana, Guinea, Kenya, Mali, Mozambique, Nigeria, Senegal and South Sudan. In 2016 Ethiopia and Mozambique have export quotas of 10 and 54 wild taken trophies, respectively. In 2016 Guinea Bissau was suspended from all commercial trade with CITES-listed species. In 2015 Australia decided to treat all trade with African wild caught lion specimens as they should have been listed in Appendix I of CITES. In 2014 the Democratic Republic of Congo was suspended for missing permits and verification of permits, and in 2013 Guinea and Lesotho were suspended from all exports. Djibouti was suspended from all commercial trade with CITES-listed species in 2011. Lion hunting and trade are banned in Botswana, Ghana and Zambia. It is regulated by national legislation in Guinea, Namibia, Mali, Mozambique, Nigeria, the Republic of South Sudan, Rwanda, South Africa and Tanzania.

5. Recommendations

Although *P. leo* exists in many well managed protected areas there is a risk of loss of diversity as some of the most genetically distinct populations are small and in rapid decline. Particularly in West Africa where lions are critically endangered. Furthermore, the majority of the subpopulations are small and isolated and many of the range States seem to lack the resources to ensure adequate management and protection. The expected decline of the wild population over the next two decades is at least 50%, and the species therefore satisfies the criteria for conf. 9.24 Annex 1C i) and ii). Another major concern is the sudden and dramatic increase in trade of bone and other lion parts to Southeast Asia. Presently bone-trade is supposed to mostly involve captive South African lions, but this is a recent phenomenon (since 2008), and it is uncertain how the demand will be in the future and how it will impact other parts of Africa should South Africa instate a ban. Without improved management trade could be detrimental to the survival of African lions.

6. References

Barnett R., Yamaguchi N., Shapiro, B. Ho S.Y., Barnes, I., Sabin R., Werdelin L., Cuisin J., Larson G. (2014) Revealing the maternal demographic history of *Panthera leo* using ancient DNA and a spatially explicit genealogical analysis. BMC Evolutionary Biology 14: 70. doi: 10.1186/1471-2148-14-70.

Bauer H., Packer C., Funston P.F., Henschel P., Nowell K. (2015a) *Panthera leo*. The IUCN Red List of Threatened Species 2015: e.T15951A79929984. http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T15951A79929984.en.

Bauer H., Chapron G., Nowell K., Henschel P., Funston P., Hunter L.T., Packer C. (2015b) Lion (*Panthera leo*) populations are declining rapidly across Africa, except in intensively managed areas. Proceedings of the National Academy of Sciences, *112*(48): 14894-14899.

Bauer H., Chapron G., Nowell K., Henschel P., Funston P., Hunter L.T., Packer C. (2015c) Reply to Riggio et al.: Ongoing lion declines across most of Africa warrant urgent action. Proceedings of the National Academy of Sciences, 201522741.

Bertola L.D., Tensen L., van Hooft P., White P.A., Driscoll C.A., Henschel P., et al. (2015) Autosomal and mtDNA Markers Affirm the Distinctiveness of Lions in West and Central Africa. PLoS ONE 10(10): e0137975. doi:10.1371/journal.pone.0137975. pmid:26466139.

Henschel P., Coad L., Burton C., Chataigner B., Dunn A., MacDonald D., Saidu Y., Hunter L.T.B. (2014) The lion in West Africa is critically endangered. *PLoS ONE* 9(1): e83500.

Henschel, P., Bauer, H., Sogbohoussou, E., Nowell, K. (2015). *Panthera leo (*West Africa subpopulation*)*. The IUCN Red List of Threatened Species 2015: e.T68933833A54067639.http://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T68933833A54067639.en.

Riggio, J., Caro, T., Dollar, L., Durant, S. M., Jacobson, A. P., Kiffner, C., van Aarde, R. J. (2016). Lion populations may be declining in Africa but not as Bauer et al. suggest. Proceedings of the National Academy of Sciences of the United States of America, 113(2): E107–E108. doi:10.1073/pnas.1521506113.

UNEP-WCMC (2012) Review of *Panthera leo* from trading range States. UNEP-WCMC, Cambridge, UK.

UNEP-WCMC (2015) Review of *Panthera leo* from the United Republic of Tanzania and from Zambia. UNEP-WCMC, Cambridge, UK.

Review of CoP17 proposal 2, *Capra caucasica.*

1. Review of listing proposal under CITES

Inclusion of *Capra caucasica* in Appendix II, in accordance with Article II, paragraph 2 of the Convention and satisfying Criterion B in Annex 2a of Resolution Conf. 9.24 (Rev. CoP16), with a zero quota for wild- taken *Capra caucasica caucasica* exported for commercial purposes or as hunting trophies. Proposed by Georgia and the European Union.

Species name: *Capra caucasica,* Güldenstädt and Pallas, 1783. Common name: Western Tur, West Caucasian Tur, Kuban tur, Tur. There is taxonomic uncertainty of whether or not the Western Tur is a species distinct from the Eastern Tur, *Capra cylindricornis* (Blyth, 1841), which has a partly overlapping distribution range, but differs in some morphological traits (e.g. shape of the horns).

Distribution: *C. caucasica* is found in the Western Caucasian Mountains in Georgia and the Russian Federation, while *C. cylindricornis* is found in the Eastern Caucasian Mountains that also extends into Azerbaijan.

Population trend: Decreasing, with suspected populations declines of ≥50% over a period of 21 years (three generations) inferred from an observed reduction in the number of mature individuals due to over-harvesting. The total population was estimated at 5,000-6,000 animals in 2004 (Weinberg, 2008a). The estimated population of *C. cylindricornis* is higher (18,000-38,000), but also in decline for the same reason (Weinberg, 2008b).

Habitat status: Habitat degradation has been reported (Weinberg, 2008a).
Known/suspected level of trade: This species is hunted heavily for food and horns (commonly used as drinking vessels) by local communities, and for trophies.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.
C. caucasica is listed as Endangered by IUCN, while the status for *C. cylindricornis* is Near Threatened.

3. Evaluation of trade data.
A survey conducted by Aviliani et al. (2007) revealed that a considerable amount of illegal hunting of the Western Tur takes place in Georgia and poses a threat to the species' survival. Trophy hunting still occurs in the Russian Federation and is advertised through numerous webpages targeted at the international market (e.g, http://extrememountainhunts.net/index.php?newsid=38, http://prooutfitters.ru/hunting/mount/tur/kubantur/?lang=En, http://stalker-group.com/en/trophy-hunt/russia/tur#kuban-tur).

4. Potential other information by CITES reviews and on nature management issues in range states
Both Tur species are present in several nature reserves. Hunting is prohibited in Georgia, but trophy hunting occurs in the Russian Federation. *C. caucasica* and *C. cylindricornis* are both impacted by poaching, livestock grazing (resource competition) and habitat loss (Weinberg, 2008a, 2008b).

5. Recommendations
C. caucasica is endangered, its population is decreasing and its distribution area is restricted, it therefore satisfies the biological criteria for Annex 2a B. The international trade from Georgia seems to be limited, but the national hunting pressure from poaching is high. Trophy hunting in the Russian Federation could contribute to further decrease of the population. Since the species is dramatically in decline any trade could be detrimental to its survival if not regulated.

6. References
Avaliani N., Chunashvili, T., Sulamanidze G., Gurchiani I. (2007) Supporting Conservation of West Caucasian Tur (*Capra caucasica*) in Georgia.http://www.conservationleadershipprogramme.org/media/2014/11/Conservation-of-west-Caucasian-Tur_2006_Final-Report.pdf.
Weinberg P. (2008a) *Capra caucasica*. The IUCN Red List of Threatened Species 2008: e.T3794A10088217. http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T3794A10088217.en.
Weinberg P. (2008b) *Capra cylindricornis*. The IUCN Red List of Threatened Species 2008: e.T3795A10088954. http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T3795A10088954.en.
http://www.iucnredlist.org/

Review of CoP17 proposal 13, *Macaca sylvanus.*

1. Review of listing proposal under CITES

Transfer of Barbary macaque from Appendix II to Appendix I, Resolution Conf. 9.24 (Rev. CoP16) is proposed by Morocco, Algeria and EU. The proponents argue that the wild population has declined markedly and therefore satisfies Annex 1C i).

Species name: *Macaca sylvanus* (Linnaeus, 1758). Common names: Barbary ape, Barbary macaque. Norwegian name: Berberape.

Distribution: Algeria, Gibraltar (UK) where it has been introduced, and Morocco. It is extinct in Tunisia. The African subpopulations are found in various mountainous localities. *M. sylvanus,* is the only remaining African primate north of Sahara, the only primate native to Europe and the only member of the genus *Macaca* found outside Asia.

Population trend: Decreasing. Overall, the population of this species is estimated to have declined at a rate exceeding 50% over the last 3 generations (24 years). This decline is expected to continue in the future (Butynsky et al., 2008). The population size has been estimated to 8,000-10,000 Morocco (van Lavarien, 2008) and in Algeria, the population was estimated at 5,500 30 years ago (Taub, 1977). On Gibraltar, the population has been maintained at ca. 200 individuals in recent years (Hodges and Cortes, 2006). Many African subpopulations have not been surveyed in decades due to political instability (Butynsky et al., 2008).

Habitat status: Habitat loss, due to forestry and agriculture, is a main threat to this species. The population is severely fragmented (Butynsky et al., 2008).

Describe known/suspected level of trade: No wild caught Barbary macaques have been legally traded for commercial purposes over the last 40 years, but 43 wild-caught specimens originating in Gibraltar have been exported for scientific purposes since 2006 and 2 Algerian live animals were exported for use in Circus and travelling exhibition in 2008. Illegal trade of live animals occurs.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

M. sylvanus is listed as Endangered by IUCN (2008). It has been listed in CITES Appendix II since 1977, and EU Wildlife Trade Regulations Annex B since 2014 (with Algeria and Morocco being suspended from introducing wild specimens into the Union).

3. Evaluation of trade data.

Barbary macaques are subject to a significant illegal pet trade. Mainly infant monkeys that are wild caught in Morocco and smuggled into Europe, many of the animals are handed over to sanctuaries. The French police have reported that they seize approximately 50 Barbary macaques in France each year (van Lavarien, 2008).

4. Potential other information by CITES reviews and on nature management issues in range states

Most of the Algerian and some of the Moroccan subpopulations are found within National parks, but are not well protected (Butynsky et al., 2008).

5. Recommendations

The wild population of *M. Sylvanus* has decreased with a rate over 50% and satisfies the biological criteria of Annex 1C i), it further satisfies 1C ii) due to the decrease in area and quality of its habitat. Since the habitat is severely fragmented it also satisfies Annex 1 B i). The illegal trade of wild caught specimens is substantial. If the protection of the species is not strengthened trade could be detrimental to its survival.

6. References

Butynski T.M., Cortes J., Waters S., Fa, J., Hobbelink M.E., van Lavieren E., Belbachir F., Cuzin F., de Smet K., Mouna M., de Iongh H., Menard N., Camperio-Ciani A. (2008) *Macaca sylvanus*. The IUCN Red List of Threatened Species 2008: e.T12561A3359140. http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T12561A3359140.en.

Hodges J. K., Cortes, J. (2006) *The Barbary Macaque: Biology and Conservation*. Nottingham University Press, Nottingham, UK.

Lavieren E. van (2008) The illegal trade in Barbary macaques from Morocco and its impact on the wild population. TRAFFIC Bulletin 21: 123-130.

Taub D.M. (1977) The Barbary macaque in North Africa. Oryx 14(2): 245-253.

Review of proposal 6 CoP17, *Equus zebra zebra*.

1. Review of listing proposal under CITES

Transfer of the Cape mountain zebra, *Equus zebra zebra*, from Appendix I to Appendix II is proposed by South Africa. South Africa argues that the transfer is in accordance with a precautionary measure specified in Annex 4 of Res. Conf. 9.24 (Rev. CoP16). South Africa intends to implement a combination of active adaptive harvest management and management strategy evaluation to set hunting quota. Both national and provincial legislations are in place for enforcing controls and enable monitoring of the impact of the hunting quota. South Africa claims that the Cape mountain zebra is not currently considered threatened with extinction and that it meets none of the criteria listed in Annex 1 of Res. Conf. 9.24. (Rev. CoP16). Further arguments put forward by the proponent:

In accordance with Annex 2 b of Res. Conf. 9.24: "Lookalikes": Cape mountain zebra resembles the closely related sub-sub-species Hartmann's mountain zebra, *Equus zebra hartmannae* (included in CITES Appendix II), particularly in the form in which they are traded (e.g. mounted trophies). As such, this may pose difficulties for enforcement officers who may be unable to distinguish between the two sub-sub-species. Finally, as a large proportion of the sub-populations occur on private land, South Africa argues -based on stakeholder consultation- that international trade in Cape mountain zebra will increase the economic value of the sub-species, and that this in turn will contribute financially towards conservation and increase of size and range of the sub-species' distribution.

Species name: *Equus zebra zebra* Linnaeus, 1758. Common name: Cape mountain zebra. Norwegian name: Fjellsebra. Note that the Cape mountain zebra is considered one of the two sub-species of Mountain Zebra (Novellie, 2008). The other sub-sub-species is Hartmann's mountain zebra, which is listed under Appendix II.

Distribution: Cape mountain zebra is endemic to South Africa. It nearly went extinct in the 1950s, with only approximately 80 individuals left. Currently, the population is fragmented in small sub-populations (37% of sub-populations comprise 20 or fewer animals) which are isolated by fences. Dispersal occurs by translocation only. The majority of the population occurs on protected land including privately owned land (32% in 2009; Scientific Authority of South Africa, 2015).

Population trend: Increasing (IUCN: Novellie, 2008), Increasing and with population size estimated to 4000 individuals (Scientific Authority of South Africa, 2015).

Habitat status: Fragmented (isolated fragments).

Known/suspected level of trade: Limited hunting of Cape mountain zebra is allowed on private properties in the Eastern Cape and Western Cape provinces of South Africa and is aimed at controlling/managing the growth of the national meta-population (Scientific Authority of South Africa, 2015). There is currently no CITES quota for this sub-species and only very limited international trade. In the period from 2010-2015, there were 18 reported cases of export of skins, specimens and trophies out of South Africa (trade.cites.org). There is no known illegal trade in Cape mountain zebra skins or other derivatives.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

Cape mountain zebra is listed as Vulnerable by IUCN (Novellie, 2008). Note that Hrabar and Kerley (2015) state that the subspecies is in the process of being down-listed to Near Threatened (IUCN; Hrabar et al., in prep). It is listed under the EU Wildlife Trade Regulations Annex A, and has been included in the CITES Appendix I since 1975.

3. Evaluation of trade data.

The trade data listed in the CITES trade database illustrates that this subspecies is not currently under a massive trade pressure. It is however, important to note that the closely related sub-species Hartmann's mountain zebra, which is listed in CITES Appendix II, is subject to significant trade. In Namibia there is commercial trade in Hartmann's zebra skins, and the subspecies was in 2008 reportedly harvested at levels higher than their rate of population growth (Novellie, 2008b). The CITES non-detriment finding analysis issued by the Scientific Authority of South Africa (2015) states that legal local and international trade in live animals, and the export of hunting trophies at present poses a moderate to high risk to the survival of Cape mountain zebra in South Africa. However, they suggest that a small hunting quota could be beneficial, as it would i) increase the economic value of the sub-species and generate habitat conservation incentives; and ii) potentially limit the introduction of other alternative high-value species that may lead to habitat deterioration.

4. Potential other information by CITES reviews and on nature management issues in range states

The biggest current threat to the Cape mountain zebra is loss of genetic diversity (Scientific Authority of South Africa 2015). In 2006, Moodley and Harley reported low levels of genetic varibility within individual sub-populations of Cape mountain zebra, and recommended managing the meta-population with this in mind. There is currently no such management plan in place (Scientific Authority of South Africa, 2015).

5. Recommendations

While the population size of this species has been steadily increasing over the last decade, it is important to keep in mind that all the sub-populations originate from rather few individuals and that level of genetic variation within each subpopulation is low. The fact that many populations contain less than 20 individuals, and are fenced in with no natural dispersal makes them particularly vulnerable to intrinsic factors including inbreeding (in accordance with Annex I B v, Res. Conf. 9.24. (Rev. CoP16). Without appropriate management to restore genetic variability and increase subpopulation sizes, trade could be detrimental.

6. References

Hrabar H., Kerley G.I.H. (2015) Cape mountain zebra 2014/15 Status Report 63, Centre for African Conservation Ecology, Nelson Mandela Metropolitan University, South Africa.
Moodley Y., Harley E.H. (2005) Population structuring in mountain zebras (*Equus zebra*): The molecular consequences of divergent demographic histories. Conservation Genetics 6(6):953-968.
Novellie P. (2008a) *Equus zebra ssp. zebra*. The IUCN Red List of Threatened Sub-species 2008:e.T7959A12876612.
http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T7959A12876612.en.
Novellie P. (2008b) *Equus zebra*. The IUCN Red List of Threatened Species 2008: e.T7960A12876787. http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T7960A12876787.en.

Scientific Authority of South Africa (2015) Non-detriment finding for *Equus zebra zebra* (Cape mountain zebra). Issued by the CITES Scientific Authority, South Africa. May 2015.

Review of proposal 9 CoP17, *Manis crassicaudata*.

1. Review of listing proposal under CITES

Transfer of Indian pangolin (*Manis crassicaudata*) from Appendix II to Appendix I. According to India the species meets the biological criteria for Annex 1, paragraph C i) and ii). The proponents are India, Nepal, Sri Lanka and the Unites States of America.

Species name: *Manis crassicaudata* Gray, 1827. Common names: Indian pangoline, thick-tailed Pangolin. Norwegian name: Skjelldyr.

Distribution: Bangladesh (possibly extinct), China (historical records), India, Nepal, Pakistan and Sri Lanka.

Population trend: Decreasing, with suspected populations declines of ≥50% over a period of 21 years (three generations, generation length estimated at seven years; Baillie et al., 2014). There is virtually no information available on population levels of any species of Asian pangolin.

Habitat status: *M. crassicaudata* inhabits a range of habitats and is thought to adapt to modified habitats given that ants and termites are abundant, and provided it is not subjected to hunting pressure. A large proportion of its range is increasingly impacted by high human population density leading to deforestation and intensified use of pesticides (Baillie et al., 2014).

Known/suspected level of trade: Six wild-caught specimens were exported from India and Sri Lanka for scientific purposes in 2014 (trade.cites.org). The species is hunted locally for consumption (meat and scales), and for international trade (whole animals, meat, scales and skin) for food and medical purposes. It is also hunted ritualistically and skins are used to manufacture leather goods (Baillie et al., 2014).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

M. crassicaudata is listed as Endangered by IUCN. All Asian pangolins have been listed in CITES Appendix II since 1975, and a zero export quota for wild-caught animals traded for primarily commercial purposes was established in 2000 (CoP11). It has been listed in EU Wildlife Trade Regulations Annex B since 2014, with a zero quota on exports of wild specimens for commercial purposes.

3. Evaluation of trade data.

According to TRAFFIC pangolins are the most frequently encountered mammals seized from illegal traders in Asia and the demand has increased (http://www.traffic.org/home/2009/7/14/toothless-laws-encourage-rising-demand-for-asian-pangolins.html). All Asian pangolins are morphologically similar, and particularly parts of animals can be difficult to distinguish. A rise in international trade of *M. crassicaudata* has been confirmed in the last decade by an increasing number of pangolin related confiscations; an estimated 1,690 *M. crassicaudata* specimens were confiscated from illegal trade between 2009 and 2014 in India alone (Mohapatra et al., 2015). Scales, meat and leather goods, originating in India, Pakistan and Nepal and destined for Myanmar and China, are the most common specimens in illegal international trade, (Baillie et al., 2014).

4. Potential other information by CITES reviews and on nature management issues in range states

Although protected from hunting by national law in all range States, *M. Crassicaudata* is still poached for local consumptive use and for export (Mohapatra et al., 2015). India was suspended from exports of wild-taken specimens for commercial purposes in 1999. CITES Notif. No. 1999/39.

5. Recommendations

M. crassicaudata is endangered and the population radically decreasing (Annex 1C). Even though there are zero quotas for wild-caught animals traded for commercial purposes, the illegal trade is substantial and the demand rising. Trade could be detrimental to the survival of this species.

6. References (Literature list and reference to relevant webpages)

Baillie J., Challender D., Kaspal P., Khatiwada A., Mohapatra R., Nash H. (2014) *Manis crassicaudata*. The IUCN Red List of Threatened Species 2014: e.T12761A45221874. http://dx.doi.org/10.2305/IUCN.UK.2014-2.RLTS.T12761A45221874.en.

Mohapatra R., Panda S., Nair M.V., Acharjyo L.N., Challender D.W.S. (2015) A note on the illegal trade and use of pangolin body parts in India. TRAFFIC Bulletin 27: 34–39.

Review of proposal 12 CoP17, *Manis* spp.

1. Review of listing proposal under CITES

Central African Republic, Chad, Côte d'Ivoire, Gabon, Guinea, Kenya, Liberia, Nigeria, Senegal, South Africa, Togo and the United States of America propose the transfer of *Manis tetradactyla*, *M. tricuspis*, *M. gigantea* and *M. temminckii* from CITES Appendix II to Appendix I in accordance with Article II, paragraph 1, of Res. Conf. 9.24 (Rev. CoP16). Specifically, all four species meet the biological criteria found in paragraphs C i) and ii) of Annex 1, due to a marked decline in population sizes in the wild on the basis of levels or patterns of exploitation, and a high vulnerability to intrinsic (i.e. low reproductive output, low density, specialized niche requirements) and extrinsic (i.e. a decrease in the area and quality of habitat) factors, and a reduction in recruitment due to indiscriminate offtake.

Species names: *Manis tetradactyla* (Linnaeus, 1766). Common name: Black-bellied pangolin. Synomym: *Phataginus tetradactyla*. *Manis tricuspis* (Rafinesque, 1821). Common names: White-bellied pangolin, three-cusped Pangolin, tree Pangolin. Synonym: *Phataginus tricuspis*. *Manis gigantea* (Illiger, 1815). Common names: Giant ground pangolin, giant pangolin. Synonyms: *Phataginus gigantean*, *Smutsia gigantea*. *Manis temminckii* Smuts, 1832. Common names: Temminck's ground pangolin, Cape pangolin. Synomyms: *Phataginus temminckii, Smutsia temminckii*. Norwegian name: Skjelldyr.

Distribution:

M. tricuspis: Angola, Benin, Cameroon, Central African Republic, Congo, The Democratic Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Nigeria, Rwanda, Sierra Leone, South Sudan, Tanzania, Togo, Uganda and Zambia (Waterman et al., 2014a). *M. tetradactyla*: Cameroon, Central African Republic, Congo, The Democratic Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Ghana, Liberia, Nigeria, Sierra Leone (Waterman et al., 2014b). *M. gigantea*: Cameroon, Central African Republic, Congo, the Democratic Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Nigeria, Senegal, Sierra Leone, United Republic of Tanzania and Uganda. Extinct in: Rwanda (Waterman et al., 2014c). *M. temminckii*: the most widespread African pangolin species native to: Botswana, Central African Republic, Chad, Kenya, Malawi, Mozambique, Namibia, Rwanda, South Africa, South Sudan, United Republic of Tanzania, Uganda, Zambia and Zimbabwe. Possibly extinct in: Swaziland (Pietersen et al., 2014).

Population trend:

Decreasing (IUCN 2014). A continuing decline in mature individuals is reported for *M. temminickii*, *M. tricuspis* and *M. tetradactyla* (Waterman et al., 2014bc; Pietersen et al., 2014).

Habitat status:
Habitat loss, destruction and/or degradation threaten all four African pangolin species (Pietersen et al., 2014; Waterman et al., 2014a,b,c)

Known/suspected level of trade:
Legal trade: Since 2000 all Asian pangolin species have been subject to a zero export quota for wild sourced specimens for commercial purposes and thus African pangolins are the only species where legal trade occurs. According to the proponent, and supported by the CITES.trade.org, species of African pangolins were traded internationally for commercial purposes between 2000-2014. Consequently, as all Asian pangolin species are driven towards extinction from illegal trade, there has been a gradual increase in international trade in African pangolins (to China and Vietnam in particular; Challender and Hywood, 2012).
Illegal trade: the true level of illegal trade is unknown, but is reported to continue to increase as the Asian pangolins are driven towards extinction. A number of seizures of African pangolins in Asia provide evidence of an intercontinental trade (Challender and Hywood, 2012).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.
All species are listed as Vulnerable A4d in IUCN 2014. The justifications for the listing vary slightly among the species, but common for all is: There is an inferred past/ongoing and projected population reduction of 30-40% over a 21 year period based primarily on exploitation for local and international trade (Waterman et al., 2014a,b,c; Pieterson et al. 2014).

3. Evaluation of trade data.
All pangolin species are in rapid decline due to heavy poaching pressure, particularly for use of their body parts in traditional medicine, as luxury foods in Asia, and as bushmeat throughout their range (Challender and Hywood, 2012). Confiscations of illegally traded wildlife indicate that one million Asian and African pangolins were traded in the past decade, and that the increasing scarcity of Asian pangolins has led to an escalation in market prices and thus increase in the illegal trade in African pangolins (Challender, 2014). Regulation of legal trade is difficult given the challenges with differentiating between pangolin species once their scales have been removed (Challender, 2011). Reported trade in the CITES.trade.org further illustrates this, where they are recorded as *Manis spp* rather than by species name.

4. Potential other information by CITES reviews and on nature management issues in range states
None

5. Recommendations
It is important to note that given that scales and derivatives of the different pangolin species are difficult to separate, proposals to transfer all species (both Asian and African) of pangolin to CITES Appendix I have been submitted for the CoP17. In light of the situation and trends observed for the Asian species of pangolins, it is reasonable to draw the conclusion that a similar development is occurring for the African pangolins. Given the difficulties related to species identification it seems incredibly challenging to regulate trade in African pangolins sustainably. Furthermore, taking into account the predicted population decline of 30-40% over the next 21 years, lack of reliable population estimates, and habitat loss, legal and illegal trade is considered detrimental to all species of African pangolins. All four species meet the biological criteria found in Annex 1, paragraphs C i) and ii) of Resolution Conf. 9.24 (Rev. CoP16).

6. References
Challender D.W.S. (2011) Asian pangolins: increasing affluence driving hunting pressure. TRAFFIC Bulletin 23(3):92-93.
Challender D.W.S., Hywood, L. (2012) African pangolins under increased pressure from poaching and international trade. TRAFFIC Bulletin 24(2):53-55.

Challender D.W.S., Waterman C., Baillie J.E.M. (2014). Scaling up pangolin conservation. IUCN SSC Pangolin Specialist Group Conservation Action Plan. Zoological Society of London, London, UK.
Pietersen D., Waterman C., Hywood L., Rankin P., Soewu D. (2014) *Smutsia temminckii*. The IUCN Red List of Threatened Species 2014: e.T12765A45222717. http://dx.doi.org/10.2305/IUCN.UK.2014-2.RLTS.T12765A45222717.en.
Waterman C., Pietersen D., Soewu D., Hywood L., Rankin P. (2014a) *Phataginus tricuspis*. The IUCN Red List of Threatened Species 2014: e.T12767A45223135. http://dx.doi.org/10.2305/IUCN.UK.2014-2.RLTS.T12767A45223135.en
Waterman C., Pietersen D., Soewu D., Hywood L., Rankin P. (2014b) *Phataginus tetradactyla*. The IUCN Red List of Threatened Species 2014: e.T12766A45222929. http://dx.doi.org/10.2305/IUCN.UK.2014-2.RLTS.T12766A45222929.en
Waterman C., Pietersen D., Hywood L., Rankin P., Soewu D. (2014c) *Smutsia gigantea*. The IUCN Red List of Threatened Species 2014: e.T12762A45222061. http://dx.doi.org/10.2305/IUCN.UK.2014-2.RLTS.T12762A45222061.en.

Review of proposal 11 CoP17, *Manis* spp.

1. Review of listing proposal under CITES

Vietnam, Bhutan and the United States of America propose to transfer *Manis javanica* (Sunda pangolin) and *M.pentadactyla* (Chinese pangolin) from CITES Appendix II to CITES Appendix I. According to the proponets both species are threatened with extinction and are detrimentally affected by international trade and therefore meet the criteria listed in Resolution Conf. 9.24 (Rev. Cop16), Annex 1, paragraph C) i) and ii). They further argue that both species have declined markedly due to high levels of exploitation, high vulnerability to intrinsic and extrinsic factors and decrease in area or quality of habitat.

Species name: *Manis javanica* Desmarest, 1822. Common name: Sunda pangolin.
Manis pentadactyla Linnaeus, 1758. Common name: Chinese pangolin. Norwegian name: Skjelldyr.

Distribution:
M. javanica is native to Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Singapore, Thailand, and Viet Nam (Challender et al., 2014a)**.** *M. pentadactyla* is native to Bhutan, China, India, Lao PDR, Myanmar, Nepal, Thailand, and Viet Nam (Challender et al., 2014b)

Population trend: Decreasing and with a continuing decline of mature individuals (Challender et al., 2014a,b). There are currently no comprehensive estimates of the population sizes of *M. javanica* and *M. pentadactyla.* The species are rarely observed, mainly due to their increasing rarity, but also because they are secretive, solitary and primarily nocturnal (Challender et al., 2014a,b)

Habitat status: High rates of loss and degradation of primary and secondary forests across the pangolin range States in Asia are reported by several authors (e.g. Margono et al., 2014; Hansen et al., 2013; Song, 2008).

Known/suspected level of trade: Both species have been exploited locally consumptive uses, most conspicuously in China. However, international trade has substituted local use in many areas, leading to rapid population decline (Challender et al., 2014a,b).
Legal trade: Since 2000 all Asian pangolin species have been subject to zero export quotas for wild sourced specimens for commercial purposes, however, some trade with skins, leather products, specimens, scales and other derivatives has still occurred according to the proponent. This is confirmed by the CITES trade database (http://trade.cites.org/).
Illegal trade: Seizure data and records of illegal trade indicate that a substantial illegal trade has taken place since 2000. During the period 2000-2015 there were at least 153,434 seizures and trade recordings involving *M. pentadactyla* and *M. javanica* in Asia (Challender et al., 2015). Illegal trade comprises mainly scales, live and dead animals and pangolin meat, and the recorded volumes of illegal trade are most likely representing only a proportion of the actual trade volume (Challender et al., 2015).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

M. pentadactyla and *M. javanica* are listed as Critically Endangered A2d+3d+4d by IUCN in 2014 due to high levels of poaching for meat and scales across their range (Challender et al., 2014a,b). Both species are listed under EU Wildlife Trade Regulations Annex B, with a zero annual export quota established for specimens removed from the wild and traded for commercial purposes. Both species are listed under CITES Appendix II since 1975, with no current suspensions and with zero annual export quota for wild caught animals for commercial trade.

3. Evaluation of trade data.

M. pentadactyla went extinct in China by the mid-1990s, and China has since then depended on imports (Challender et al., 2015). Despite the zero quota for trade, and that the two species are listed as protected in all but two range States, Asian pangolins are currently subject to substantial and on-going illegal international trade (Challender et al., 2015). Trade seems to be typically destined to China and Vietnam, where pangolin meat is consumed as a luxury food and scales are prescribed in traditional medicine (Challender et al., 2015). The level of illegal trade is listed as the main reason for population decline in both species.

4. Potential other information by CITES reviews and on nature management issues in range states

According to the proponents, trade levels were potentially unsustainable already in the 1980s and both species were included in the Review of CITES Significant Trade process in 1988, 1992, 1999. These reviews documented high volumes of illegal international trade in Asian pangolins and reported illegal hunting-driven population declines in many areas of the species range.

5. Recommendations

M. pentadactyla and *M. javanica* both satisfy the biological criteria for Appendix I as in regard to 1C i) and ii) Res. Conf. 9.24 (Rev. Cop16), with a marked decline in population size in the wild which is observed as ongoing, and is caused by levels of exploitations, a decrease in area of habitat and high vulnerability to intrinsic and extrinsic factors. This view is concordant with the conclusions drawn at the "First Pangolin range State meeting" http://www.fws.gov/international/pdf/first-pangolin-range-states-meeting-report-8-3-2015.pdf. These species are critically endangered as a consequence of illegal trade. All trade, both legal and illegal, is considered highly detrimental to both *M. pentadactyla* and *M. javanica.* Given that scales and derivatives of the different pangolin species are difficult to separate, proposals to move all species (both Asian and African) of pangolin to CITES Appendix I have been submitted for the CoP17.

6. References

Challender D.W.S., Harrop S.R., MacMillan D.C. (2015) Understanding markets to conserve trade threatened species in CITES. Biological Conservation 187: 249-259.

Challender D., Nguyen Van T., Shepherd C., Krishnasamy K., Wang A., Lee B., Panjang E., Fletcher L., Heng S., Seah Han Ming J., Olsson A., Nguyen The Truong A., Nguyen Van Q., Chung Y. (2014) *Manis javanica*. The IUCN Red List of Threatened Species 2014: e.T12763A45222303. http://dx.doi.org/10.2305/IUCN.UK.2014-2.RLTS.T12763A45222303.en.

Challender D., Baillie J., Ades G., Kaspal P., Chan B., Khatiwada A., Xu L., Chin S., KC R., Nash H., Hsieh H. (2014) *Manis pentadactyla*. The IUCN Red List of Threatened Species 2014: e.T12764A45222544. http://dx.doi.org/10.2305/IUCN.UK.2014

http://speciesplus.net/

Hansen M.C., Potapov P.V., Moore R., Hancher M., Turubanova S.A., Tyukavina A., Thau D., Stehman S.V., Goetz S.J., Loveland T.R., Kommareddy A., Egorov A., Chini L., Justice, C.O., Townshend J.R.G. (2013) High-resolution global maps of 21st-century forest cover change. Science 342:850–85.

Margono B.A., Potapov P.V., Turubanova S., Stolle F., Hansen, M.C. (2014) Primary forest cover loss in Indonesia over 2000-2012. Nature Climate Change http://dx.doi.org/10.1038/nclimate2277

Song N.V. (2008) Wildlife trading in Vietnam: Situations, Causes, and Solutions. Journal of Environment and Development 17(2):145-165.

Review of proposal 10 CoP17, *Manis culionensis*.

1. Review of listing proposal under CITES

Transfer of Philippine pangolin (*Manis culionensis*) from Appendix II to Appendix I is proposed by the Philippines and the United States of America. According to the proponent this species qualifies for listing in CITES Appendix I because it is an endemic that is threatened with extinction and is detrimentally affected by international trade and habitat loss and thus meets the biological criteria found in Resolution Conf. 9.24 (Rev. CoP16), Annex 1, specifically: paragraph B iii) and iv), and paragraph C i) and ii).

Species name: *Manis culionensis* (de Elera, 1915). Common names: Philippine Pangolin, Palawan pangolin, balintong. Formerly considered a subspecies of *M. javanica*, *M. Culionensis* was recognized as a distinct species in 1998. Norwegian name: Skjelldyr.

Distribution: This species is endemic to the Philippines, where it is found on six islands in the Palawan faunal region.

Population trend: Decreasing, with suspected populations declines of ≥50% over a period of 21 years (three generations, generation length estimated at seven years; Lagadra et al., 2014). The knowledge on the biology and ecology, especially information on population sizes, structure, density, and the reproduction biology, which is crucial for determining the effects of hunting and habitat destruction to the survival of *M. culionensis*, is largely unkown (Schoppe and Cruz, 2009). Local hunters have reported lowered numbers (Schoppe and Cruz, 2009).

Habitat status: Declining due to deforestation.

Known/suspected level of trade: 12 wild caught specimens have been exported for scientific purposes over the last decade (trade.cites.org). *M. culionensis* is hunted locally for consumption (meat and scales), and for trade at a national and international level (whole animals, meat, scales and skin) for food and traditional medicine (Lagadra et al., 2014).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

M. culionensis is listed as Endangered by IUCN. All Asian pangolins have been listed in CITES Appendix II since 1975, and a zero export quota for wild-caught animals traded for primarily commercial purposes was established in 2000 (CoP11). *M. culionensis* has been listed in EU Wildlife Trade Regulations, Annex B, since 2014, with a zero quota on exports of wild specimens for commercial purposes.

3. Evaluation of trade data.

According to TRAFFIC pangolins are the most frequently encountered mammals seized from illegal traders in Asia and the demand has increased (http://www.traffic.org/home/2009/7/14/toothless-laws-encourage-rising-demand-for-asian-pangolins.html). All Asian pangolins are morphologically similar and can be difficult to distinguish, in particular parts of animals. In addition to the national trade, pangolins poached in the Philippines are traded through Malaysia to China and the prizes have risen (Schoppe and Cruz, 2009).

4. Potential other information by CITES reviews and on nature management issues in range states

This species is threatened mainly by 1) local use for meat and scales, 2) illegal international trade, and 3) loss of habitat from illegal deforestation (Schoppe and Cruz, 2009; Challender et al., 2015). It is classified as 'Endangered' under the Philippine Wildlife Act 9147 (2001), which bans the collection of any form of wildlife in the Province of Palawan without a permit. However, there exist no management plan or population monitoring program. The Philippines was suspended from export of wild-caught specimens of terrestrial fauna for commercial purposes in 2010 (CITES Notif. No. 2010/038).

5. Recommendations

M. culionensis is an endangered species with a very restricted geographic distribution on six islands. The population is decreasing due to hunting pressure and habitat loss. The illegal trade is substantial and the demand is increasing. The species satisfies several of the biological criteria for Appendix I and trade could be detrimental to its survival.

6. References

Challender D.W.S., Harrop S.R., MacMillan D.C. (2015) Understanding markets to conserve trade - threatened species in CITES. Biological Conservation 187: 249-259.

Lagrada L., Schoppe S., Challender D. (2014) *Manis culionensis*. The IUCN Red List of Threatened Species 2014: e.T136497A45223365. http://dx.doi.org/10.2305/IUCN.UK.2014-2.RLTS.T136497A45223365.en.

Schoppe S., Cruz R. (2009) The Palawan Pangolin Manis culionensis. In Pantel, S., Yun C.S. (ed). Proceedings of the Workshop on Trade and Conservation of Pangolins Native to South and Southeast Asia, 30 June - 2 July 2008, Singapore Zoo, Singapore. TRAFFIC Southeast Asia, Petaling Jaya, Selangor, Malaysia. Pp. 176-188.

Review of proposal 18 CoP17, *Lichenostomus melanops cassidix*.

1. Review of listing proposal under CITES

Transfer of the helmeted honeyeater (*Lichenostomus melanops cassidix*) from Appendix I to Appendix II in accordance with Res. Conf. 9.24 (Rev. CoP16), Annex 4 precautionary measure A1 and A 2a (i) is proposed by Australia.

Species name: *Lichenostomus melanops cassidix* (Gould, 1867). Common names: Helmeted honeyeater, yellow-tufted honeyeater. Norwegian name: Gulduskhonningeter.

Distribution: The helmeted honeyeater occurs only in south-central Victoria, Australia. A natural population survives at Yellingbo Nature Conservation Reserve, and there is a small colony at Bunyip State Park.

Population trend: The helmeted honeyeater population declined throughout the 20th century, and two of the last remaining colonies were destroyed by fire in 1983 (Smales et al., 1990). The total population had declined to around 50 mature individuals by 1989 and has fluctuated since (Garnett et al., 2010).

Habitat status: Habitat destruction and concomitant effects have had a major effect on helmeted honeyeater populations. Its decline in range and abundance was caused by extensive clearance of habitat for agriculture. Isolated remnant populations were vulnerable to fire, harassment by bell miners (*Manorina melanophrys*) and various stochastic events (Menkhorst, 2008).

Known/suspected level of trade: The CITES trade database reports three exports from Australia (http://trade.cites.org/). All exports were for scientific research purposes. The 2009 and 2012 exports were of non-viable eggs for research into hatching failure in captive insurance populations.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

L. melanops is listed as Least Concern on the IUCN Red List (BirdLife International 2015). Subspecies are not on the Red List. This subspecies was listed on CITES Appendix I in 1975. It was listed in Annex A of the EU Wildlife Trade Regulations in 2014.

3. Evaluation of trade data.

There is no evidence that international trade is a threat to the survival of this subspecies.

4. Potential other information by CITES reviews and on nature management issues in range states

None.

5. Recommendations

L. melanops cassidix does not satisfy the biological criteria in Res. Conf. 9.24 (Rev. CoP16), for Appendix I species, as trade has no detrimental impact on the status for this subspecies. But for Appendix II it satisfies the criteria Annex 4 A1 (no species listed in Appendix I shall be removed from the Appendices unless it has been first transferred to Appendix II) and 4 A2a (i) (the species is not in demand for international trade).

6. References

BirdLife International (2015) IUCN Red List for birds. http://www.birdlife.org

Garnett S.T., Szabo J.K., Dutson, G. (2010) The Action Plan for Australian Birds 2010. CSIRO Publishing, Collingwood, Australia.

Merkhorst P. (2008) National Recovery Plan for the Helmeted Honeyeater *Lichenostomus melanops cassidix*. Department of Sustainability and Environment, Melbourne, Australia.

Smales I.J., Craig S.A., Williams G.A., Dunn R.W. (1990) The Helmeted Honeyeater: decline conservation and recent initiatives for recovery, in: Clark T.W. & Seebeck J.H. (Eds.), Management and conservation of small populations. Chicago Zoological Society, Chicago, USA, pp. 225-238.

Review of proposal 20 CoP17, *Ninox novaeseelandiae undulata*.

1. Review of listing proposal under CITES

Transfer the Norfolk Island Boobook (*Ninox novaeseelandiae undulata*) from Appendix I to Appendix II in accordance with Res. Conf. 9.24 (Rev. CoP16), Annex 4 precautionary measure A1 and A2a(i). Proposed by Australia.

Species name: *Ninox novaeseelandiae undulata* (Latham, 1801). Common names: Norfolk Island Boobook, Morepork (Southern Boobook is the name of *Ninox boobook*). Norwegian name: Nattsvermerugle.

Distribution: The subspecies *N. n. undulata* is endemic to the Norfolk Island, an Australian external territory located 1412 km east of mainland Australia and north west of north of New Zealand. The phenological and genetically pure form of *N. n. undulata* is now extinct (Garnett and Crowley, 2000; Olsen, 1997). The last remaining female was observed in 1996. The population of boobook that currently occurs on Norfolk Island is likely to be a hybrid between *N. n. undulata* and the closely related subspecies *N. n. novaeseelandiae* (Norman et al., 1998; Olsen, 1996).

Population trend: The hybrid population consisted of 17 birds in 1996 (Olsen, 1997), but is known to be larger now as it increased slowly but steadily from 1986 to 1996 (the years for which population estimates are available). By December 2006, a total of 52 hybrid nestlings had been banded as part of the population monitoring program (Garnett et al., 2011).

Habitat status: The main cause of the decline and subsequent extinction of *N. n. undulata* was habitat loss, particularly the loss of trees bearing suitable nesting hollows (Garnett et al., 2011). Norfolk Island has been extensively cleared for agriculture, leaving only around 25% of former native forest. Woody weeds have replaced previously forested areas, making it unsuitable for the owl (Olsen, 1996; Turner et al., 1975).

Known/suspected level of trade: There has been no trade in this taxon (CITES trade database 2016). Commercial trade is very unlikely; some trade for scientific purposes may arise in remaining preserved specimens.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

N. novaeseelandiae is listed as Least Concern by BirdLife International (2015). Subspecies are not on the Red List. But *N. n. undulata* is listed on CITES Appendix I. The subspecies is listed as Endangered under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Recovery actions are included in the Norfolk Island Region Threatened Species Recovery Plan for practical purposes. It was listed in Annex A of the EU Wildlife Trade Regulations in 2014.

3. Evaluation of trade data.
There has been no trade in this taxon (http://trade.cites.org/). Commercial trade is very unlikely, but some trade for scientific purposes may arise in remaining preserved specimens.

4. Potential other information by CITES reviews and on nature management issues in range states
There is no evidence that international trade is a threat to the survival of this subspecies. Due to the intensive monitoring at the time of the extinction of the genetically pure subspecies, rediscovery of pure subspecies individuals is unlikely.

5. Recommendations
N. n. undulata does not satisfy the biological criteria in Res. Conf. 9.24 (Rev. CoP16) listed for Appendix I species, as trade has no detrimental impact on the status for this subspecies. But, for Appendix II it satisfies the criteria of Annex 4 A1 (no species listed in Appendix I shall be removed from the Appendices unless it has been first transferred to Appendix II) and 4 A2a(i) (the species is not in demand for international trade).

6. References
BirdLife International (2015) IUCN Red List for birds. http://www.birdlife.org
Garnett S.J., Szabo, J., Dutson, G. (2011) The Action Plan for Australian Birds 2010. CSIRO Publishing, Australia.
Garnett S.T., Crowley G.M. (2000) The Action Plan for Australian Birds 2000. (Online). Canberra, ACT: Environment Australia and Birds Australia.
Norman J.A., Olsen P.D., Christidis, L. (1998) Molecular genetics confirms taxonomic affinities of the endangered Norfolk Island Boobok Owl *Ninox novaeseelandiae undulata*. Biological Conservation 86: 33-36.
Olsen P. (1997) Recovery Plan for the Norfolk Island Boobook *Ninox novaeseelandiae undulata.*Botany and Zoology, ANU.
Turner J.S., Smithers C.N., Hoogland R.D. (1975) The conservation of Norfolk Island. Australian Conservation Foundation Special Publication 1.

Review of proposal 17 CoP17, *Falco pelegrinus*.

1. Review of listing proposal under CITES
Transfer of the peregrine falcon (*Falco peregrinus*) from Appendix I to Appendix II is proposed by Canada. Canada argues that this should be in accordance with the Precautionary Measures in Annex 4 of CITES Res. Conf. 9.24 (Rev. CoP16). Canada claims that the peregrine falcon is not currently considered threatened with extinction and that it meets none of the criteria listed in Annex 1 of Res. Conf. 9.24 (Rev. CoP16). Further arguments put forward by the proponent: An Appendix II listing requires a non-detriment finding before export is allowed, and thus there will be on-going review by range States prior to export. All factors considered, a transfer to Appendix II is a measure that is proportionate to the low risks to the species from international trade.

Species name: *Falco peregrinus* Tunstall, 1771. Common name: Peregrine falcon, peregrine, duck hawk. Norwegian name: Vandrefalk.

Distribution: The peregrine falcon has an extremely large global distribution, in North America, South America, Africa, Europe, Asia and Australia (del Hoyo et al., 1994).

Population trend: At present, global populations are either stable or increasing (BirdLife International 2015).

Habitat status: Habitat is generally not limiting for peregrine falcons (del Hoyo et al., 1994).

Known/suspected level of trade: Data from CITES trade database show that from 2010 to 2014, 2,759 live peregrine falcons were exported, with an average of 552 individuals being exported per year. Of these, 85% were captive-bred birds. Fifteen percent of exports were either birds of wild origin (278 birds), unknown origin (134 birds) or birds that were exported with no source code on the permit (15 birds). Ninety-one percent of peregrine falcons exported from

European countries are destined for countries in the Middle East (primarily Qatar, Kuwait, Saudi Arabia and United Arab Emirates). Similarly, 53% of birds from North America, and 91% of birds from North Africa and the Middle East are destined for Middle Eastern countries (http://trade.cites.org/).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

The peregrine falcon, as a species, is listed as Least Concern by IUCN (BirdLife International 2015). The species was listed on CITES Appendix II in 1975, except for the subspecies *F. p. tundrius*, *F. p. peregrinus* and *F. p. anatum*, which were listed in Appendix I. All the Appendix II subspecies of the peregrine falcon were transferred to Appendix I in 1977. It was listed in Annex A of the EU Wildlife Trade Regulations in 2014.

3. Evaluation of trade data.

The scale of illegal trade is difficult to assess due to its criminal nature. Some countries like Iran, the Netherlands and Pakistan have expressed concern about the effectiveness of existing legislation in addressing illegal trade (the Canadian CoP17 Proposal).

4. Potential other information by CITES reviews and on nature management issues in range states

There is a considerable lower legal trade of birds of wild origin (15%) compared with legal trade of captive-bred birds (85%). There is no data available on the extent of illegal trade (the Canadian CoP17 Proposal). In accordance with Annex 2b of Res. Conf. 9.24 (Rev. CoP16): "Look-alikes": Juvenile birds of the peregrine falcon resemble juvenile birds of the saker falcon *F. cherrug*, which is included in CITES Appendix II and proposed to be transferred to Appendix I. As such, this may pose difficulties for enforcement officers who may be unable to distinguish between juveniles of the two species.

5. Recommendations

The peregrine falcon does not satisfy the biological criteria for Appendix I (Annex I) as the wild populations are large (1A), do not have a restricted area of distribution (1B), and do not have a marked decline in the population size in the wild (1C). It does however satisfy the criterion 2B for Appendix II, as it resemble a species included in Appendix II (the saker falcon), so that enforcement officers who encounter specimens of CITES-listed species are unlikely to be able to distinguish between them.

6. References

BirdLife International (2015) *F. peregrinus*. The IUCN Red List of Threatened Species. Web site: http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T45354964A80472203.en

del Hoyo J., Elliott A., Sargatal J. (1994) Handbook of the birds of the World, vol. 2: New World Vultures to Guineafowl. Lynx Edicions, Barcelona, Spain.

Review of proposal 19 CoP17, *Psittacus erithacus.*

1. Review of listing proposal under CITES

Transfer the African grey parrot (*Psittacus erithacus*) from Appendix II to Appendix I in accordance with Res. Conf. 9.24 (Rev. CoP16), Annex 1, paragraph C. Proposed by Angola, Chad, the European Union, Gabon, Guinea, Nigeria, Senegal, Togo and the United States of America.

Species name: *Psittacus erithacus,* Linnaeus, 1758. It has recently been split into two species: *P. erithacus* Linnaeus, 1758. Common name: African grey parrot, and *P. timneh,* Fraser, 1844 Common name: Timneh grey parrot. (BirdLife International 2015; Gill and Donsker, 2016). Norwegian name: Jako.

Distribution: The African grey parrot has historically occurred from southeastern Cote d'Ivore to Ghana, Togo and eastwards from Nigeria through the forests of the Congo Basin into Uganda and Kenya. The Timneh grey parrot exists in a series of disjunct populations in Guinea-Bissau, Guinea, Sierra Leone, Liberia and southwestern Cote d'Ivoire (Juniper and Parr, 1998).

Population trend: *P. erithacus* and *P. timneh* are now extremely rare or locally extinct in Benin, Burundi, Guinea, Guinea-Bissau, Kenya, Rwanda, Tanzania and Togo (Clemmons, 2003, Martin et al., 2014, CITES 2014). The population decline in Ghana has been between 90% and 99% since the early 1990s (Annorbah et al., 2016).

Habitat status In 2003 it was estimated that West Africa had already lost 90% of the original moist forest (World Resources Institute, 2003), although the area of historical forest cover in the region may have been overestimated (Chatelain et al., 2003). Estimates of rates of deforestation alone do not fully reflect the extent to which habitat changes impact populations. Lack of forest space is not a major problem in e.g. Cameroon, but rather degradation and fragmentation have resulted in a rapid reduction of key resources. Fragmentation may increase the distances the parrots have to fly between resource patches (Tamungang and Cheke, 2012).
Known/suspected level of trade: The extent of the annual harvest for international trade, in combination with the rate of ongoing habitat loss, is suspected to cause rapid declines over three generations (47 years) (BirdLife International, 2015).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.
P. erithacus (including *P. timneh*) is listed as Vulnerable by BirdLife International (2015). The species has been included in CITES Appendix II (since 1981). It is listed in Annex B of the EU Wildlife Trade Regulations (2014).

3. Evaluation of trade data.
Wild-caught grey parrots have at times been traded in higher numbers than any other CITES-listed parrot species. Gross export reported from 1975 to 2013 was 1,550,197 individuals (http://trade.cites.org/). Assuming a 40-60% mortality rate between capture and export, the total number of birds captured to supply just the legal trade is likely on the order of 2.1-2.5 million birds since 1975. The majority of legal exports are now reported to originate in Central Africa. Currently the only countries with national quotas are Cameroon (3,000) and DRC (5,000). In addition, there is a significant level of illegal trade, which can occur under the guise of legal trade (Kievit, 1998). In recent years, several range States have reported significant exports of captive-bred specimens (CITES Source code C) despite there being no known breeding facilities in these countries. Between 2008 and 2013, approximately 7,266 specimens of grey parrots were reported as code C (captive breeding) by Guinea, Central African republic, Cote d'Ivoire, Liberia, Cameroon, Congo and the Democratic Republic of Congo, where no captive breeding facilities are known to exist (http://trade.cites.org/).

4. Potential other information by CITES reviews and on nature management issues in range states
At its 66th meeting (SC66, Geneva, 11-15 January 2016), the Standing Committee recommended a trade suspension of *P. erithacus* from the Democratic Republic of Congo, until several conditions will be met. The trade suspension exempted 1,600 specimens already harvested and ready to be exported (CITES SC66 Sum. 6). Similarly for Cameron, the Secretariat recommended that Parties not accept any CITES export permits or certificates allegedly issued by Cameroon unless their validity had been confirmed by the Secretariat.

5. Recommendations
The negative impact of trade on grey parrot populations has been recognized by IUCN in its justification for the reclassification under the IUCN Red List of Threatened Species to Vulnerable. Trapping for wild bird trade has been implicated in declines in several countries in West Africa and Central Africa.

6. References
Annorbah N.N.D., Collar N.J., Marsden S.J. (2016) Trade and habitat change virtually eliminate the Grey Parrot *Psittacus erithacus* from Ghana. Ibis 158: 82-91.
BirdLife International (2015) IUCN Red List for birds. http://www.birdlife.org
Clemmons J.R. (2003) Status Survey of African Grey Parrot (*Psittacus erithacus timneh*) and Development of a Management Program in Guinea and Guinea-Bissau. CITES, Geneva, Switzerland.
Gill F., Donsker D. (2016) IOC World Bird List (v 6.2). doi: 10.14344/IOC.ML.6.2.

Juniper T., Parr M. (1998) A Guide to Parrots of the World. Yale University Press, New Haven/London, USA/UK.
Kievit P.P. (1998) The World-Wide illegal Trade in Endangered Species of Wild Flora and Fauna, April 1994-August 1996. Environmental Crime Unit, National Police Agency, Netherlands.
Martin R.O., Perrin M.R., Boyes R.S., Abebe Y.D., Annorbah N.D., Asamoah A., et al. (2014) Research and conservation of the larger parrots of Africa and Madagascar: a review of knowledge gaps and opportunities. Ostrich 85: 205-233.
Tamungang S.A. Cheke R.A. (2012) Population status and management plan of the African Grey Parrot. SC62 Inf. 14. Prepared by the Ministry of Forestry and Wildlife, Cameroon for CITES Secreteriat, Geneva, Switzerland.

Review of proposal 36 CoP17, *Cyclanorbis* spp., etc.

1. Review of listing proposal under CITES

Burkina Faso, Chad, Gabon, Guinea, Liberia, Mauritania, Nigeria, Togo and the United States of America propose to include the following six species of softshell turtles of the Family Trionychidae in CITES Appendix II: *Cyclanorbis elegans*, *Cyclanorbis senegalensis*, *Cycloderma aubryi*, *Cycloderma frenatum*, *Trionyx triunguis* and *Rafetus euphraticus*. The proponets argue that this is in accordance with Article II paragraph 2 (a) of the Convention, satisfying Criterion B, Annex 2a of Res. Conf. 9.24 (Rev CoP16).

Species name: *Cyclanorbis elegans* (Gray, 1869). Common name: Nubian flapshell turtle. Synonym: Baikiea elegans Gray, 1869. *Cyclanorbis senegalensis* (Duméril and Bibron, 1835). Common name: Senegal flapshell turtle. Synonym: *Cryptopus senegalensis* Duméril and Bibron, 1835. *Cycloderma aubryi* (Duméril, 1856). Common name: Aubry`s flapshell turtle. *Cycloderma frenatum* Peters, 1854. Common name: Zambezi flapshell turtle. *Trionyx triunguis (*Forskål, 1775*).* Common names: African softshell turtle, Nile softshell turtle. *Rafetus euphraticus* (Daudin, 1801). Common name: Euphrates softshell turtle. Synonym: *Testudo euphratica* Daudin, 1801. Norwegian name: Lærskillpadder.

Distribution: Africa (37 countries): Angola, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Côte d'Ivoire, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Senegal, Sierra Leone, Somalia, South Sudan, Sudan, United Republic of Tanzania, Togo, Uganda, Zambia, Zimbabwe. The Middle East (6 countries): Iran, Iraq, Israel, Lebanon, Syrian Arab Republic, and Turkey.

Population trend: Few population studies have been conducted on turtles in the Family Trionychidae, and for most turtle species in trade, the size of populations is inferred from the volume of international trade and/or the prevalence of specimen availability in food and pet markets. Unfortunately, neither of these data sources are readily available for African softshell turtles. For the majority of the species, the official IUCN assessments are outdated (from 1996), however, the IUCN Tortoise and Freshwater Turtle Specialist Group (TFTSG) have prepared new drafts for the Red list status, as included in van Dijk et al. (2014)**.** *C. elegans:* Near Threatened (IUCN, 1996), Critically Endangered (TFTSG draft, 2011). *C. senegalensis*: Near threatened (IUCN, 1996), Vulnerable (TFTSG draft, 2011). *C. aubry*: Not previously listed by IUCN, Vulnerable (TFTSG draft, 2011). *C. frenatum*: Near Threatened (IUCN, 1996) not evaluated in the TFTSG draft. *T. triunguis:* Mediterranean subpopulation: Critically Endangered (IUCN 1996)*,* Vulnerable (TFTSG draft, 2011). *R. euphraticus:* Endangered A1ac+2c (IUCN, 1996), Endangered (TFTSG draft, 2011).

Habitat status: The species of the family Trionychidae all are semiaquatic to highly aquatic (Moll and Moll, 2004). Many of the species are found in river systems and are thus susceptible to alteration of the riverine habitat by activities such as gold mining, sand mining, and river dam projects.

Known/suspected level of trade: Legal trade: According to the proponents, the softshell turtles of the family Trionychidae are among the most highly valued freshwater turtle species in international trade, traded mainly to eastern Asia for consumption. Moreover, *C. elegans* and *C. frenatum* have been reported in pet trade markets in Hong Kong (Cheung and Dudgeon, 2006). None of the species are currently listed in CITES, but a total of 570 African softshell turtles (with the exception of *R. euphraticus*) was imported into the USA between 1999 and 2014 (US Fish and Wildlife Service, LEMIS Trade Database, 2015, cited in Cop17 Prop). *T. triunguis* was listed in CITES III (Ghana) from 1976 to 2007, and the CITES Trade Database reports the export of 1,051 (importer reported) or 1,522 (exporter reported) live wild caught individuals. According to the proponent, documented illegal trade in live animals, parts and products involves export of animals to Asia and elsewhere. The illegal marked seems to be shifting towards parts and processed products (such as bone powder, calipee, ground turtle paste), as they are easier to conceal than live animals (AC25 Doc.19; SC61). However, according to the proponent such shipments are rarely reported, indicating that the level of illegal trade is largely unknown.

2. Literature review of biological status and conservation status, including information status in other relevant conventions

None of the species are currently listed under CITES, nor under EU Wildlife Trade Regulations. For IUCN Red list statuses, see under population trends above.

3. Evaluation of trade data

The trade in wild caught turtles and turtle products (e.g. meat, shells, eggs, and cartilage) is the number one problem facing global turtle populations (Horne et al., 2011). The proponents present evidence of a boom and bust pattern in turtle species trade, in which exploitation and trade shift from one species to another when i) a species become so depleted or rare that is no longer commercially exploitable and ii) a species become subject to stricter regulation. Recent reports from South Asia have shown an increasing trend of trade in the dried calipee (the cartilaginous parts of a softshell turtle's shell) to China where it is consumed in a soup that has rendered the turtle cartilage into a gelatinous substance (Horne et al., 2011). Turtles are often utilized solely for this cartilage that can dried be stored and stockpiled for lengthy periods, making it a lucrative industry (Horne et al., 2011). It is often difficult to ascertain the species identity of the dried cartilage (Horne et al., 2011).

4. Potential other information by CITES reviews and on nature management issues in range states

Some of the species are protected at the range State and provincial level but domestic protection appears to be inadequate to control the harvest pressure caused by international trade. With the exception of a few species that are subject to mass farming, the whole family Trionychidae is now listed, or proposed listed, in the CITES Appendices.

5. Recommendations

The proposed inclusion of these species is in accordance with Article II paragraph 2 (a) of Res. Conf. 9.24 (Rev. CoP16), satisfying criterion B, Annex 2a as the African and Middle Eastern species are similar to Asian species in appearance. Trade in softshell turtles is generally non-specific because they are interchangeable as food and medicinal sources. In light of the listing of all other members of the family Trionychidae in CITES Appendices (exceptions being species proposed for CITES listing, or farmed species), the boom and bust trade pattern, and the limited information about actual population sizes and trends, trade could be detrimental to *C. elegans*, *C. senegalensis*, *C. aubryi*, *C. frenatum*, *T. triunguis* and *R. euphraticus.*

6. References

AC25 Doc. 19. (2011) Implementation of Decision 14.128: A study of progress on conservation of and trade in CITES-listed tortoises and freshwater turtles in Asia. http://www.cites.org/eng/com/ac/25/E25-19.pdf

Cheung, S.M., Dudgeon, D. (2006) Quantifying the Asian turtle crisis: market surveys in southern China, 2000-2003. Aquatic Conservation: Marine and Freshwater Ecosystems 16: 751-770.

Dijk, P.P., Saumure, R.A., Buhlmann, K.A., Iverson, J.B., Mittermeier, R.A. (eds) (2011) Conservation Biology of Freshwater Turtles and Tortoises: A Compilation Project of the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group. Chelonian Research Monographs No. 5, pp. 000.165–000.242, doi:10.3854/crm.5.000.checklist.v4.2011,

Horne B.H., Poole C.M., Walde, A.D. (eds) (2012) Conservation of Asian Tortoises and Freshwater Turtles: Setting Priorities for the Next Ten Years. Recommendations and Conclusions from the Workshop in Singapore, February 21-24, 2011.

Moll D., Moll E.O. (2004) The ecology, exploitation, and conservation of river turtles. Oxford University Press. New York, USA.

Turtle Taxonomy Working Group [van Dijk, P.P., Iverson, J.B., Shaffer, H.B., Bour, R., Rhodin, A.G.J.] (2014) Turtles of the world, 7th edition: annotated checklist of taxonomy, synonymy, distribution, and conservation status. In: Rhodin, A.G.J., Pritchard, P.C.H., van

Tortoise & Freshwater Turtle Specialist Group (1996) *Cyclanorbis elegans*. The IUCN Red List of Threatened Species 1996: e.T6004A12266357.http://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T6004A12266357.en.

Tortoise & Freshwater Turtle Specialist Group (1996) *Cyclanorbis senegalensis*. The IUCN Red List of Threatened Species 1996: e.T6005A12275799.http://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T6005A12275799.en.

Tortoise & Freshwater Turtle Specialist Group (1996) *Cycloderma frenatum*. The IUCN Red List of Threatened Species 1996: e.T6009A12241222.http://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T6009A12241222.en

European Reptile & Amphibian Specialist Group (1996) *Trionyx triunguis (Mediterranean subpopulation)*. The IUCN Red List of Threatened Species 1996: e.T22200A9364253.http://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T22200A9364253.en.

European Reptile & Amphibian Specialist Group (1996) *Rafetus euphraticus*. The IUCN Red List of Threatened Species 1996: e.T19070A8809367.http://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T19070A8809367.en

Review of proposal 28 CoP17, *Rhampholeon* spp., and *Rieppeleon* spp.

1. Review of listing proposal under CITES

Inclusion of all species of African pygmy chameleon (*Rhampholeon* spp. and *Rieppeleon* spp.) in Appendix II, with 7 species meeting Criterion B) Annex 2(a) of Res. Conf. 9.24 (Rev. CoP16), and the remaining 14 species meeting Criterion A, Annex 2(b). Only one species of African pygmy chameleon (*Rh. spinosus*) is currently listed under CITES Appendix II.

Species name: African pygmy chameleons of the genera *Rhampholeon and Rieppeleon*. Those proposed to satisfy Criterion B) Annex 2(a) of Res. Conf. 9.24 (Rev. CoP16): *Rhampholeon spectrum* (Buchholz, 1874), *Rhampholeon temporalis* (Matschie, 1892), *Rhampholeon viridis* Mariaux and Tilbury, 2006, *Rhampholeon* (previously *Rhinodigitum*) *acuminatus* Mariaux and Tilbury, 2006, *Rhampholeon* (prev. *Rhinodigitum*) *uluguruensis* Tilbury and Emmrich, 1996, *Rieppeleon brevicaudatus* (Matschie, 1892), *Rieppeleon kerstenii* (Peters, 1868). Those proposed to satisfy Criterion A) Annex 2(b) of Res. Conf. 9.24 (Rev. CoP16): *Rhampholeon* (prev. *Rhinodigitum*) *boulengeri* Steindachner, 1911, *Rhampholeon* (prev. *Rhinodigitum*) *chapmanorum*, Tilbury, 1992, *Rhampholeon* (prev. *Rhinodigitum*) *moyeri* Menegon et al., 2002, *Rhampholeon* (prev. *Rhinodigitum*) *platyceps* Günther, 1892, *Rhampholeon* (prev. *Rhinodigitum*) *nchisiensis* (Loveridge, 1953), *Rhampholeon* (prev. *Rhinodigitum*) *nebulauctor* Branch et al., 2014, *Rhampholeon* (prev. *Rhinodigitum*) *maspictus* Branch et al., 2014, *Rhampholeon* (prev. *Rhinodigitum*) *bruessoworum* Branch et al, 2014, *Rhampholeon* (prev. *Rhinodigitum*) *tilburyi* Branch et al., 2014, *Rhampholeon hattinghi* Tilbury and Tolley, 2015, *Rieppeleon brachyurus* (Günther, 1892). Often shipped as

"assorted pygmy chameleons", making monitoring of trade in specific species difficult (Anderson, 2011). Norwegian name: Bladkameloner.

Distribution: African pygmy chameleons are endemic to continental African countries (Burundi, Cameroon, Central African Republic, Democratic Republic of the Congo, Equatorial Guinea, Ethiopia, Gabon, Kenya, Malawi, Mozambique, Nigeria, Rwanda, Somalia, Uganda, United Republic of Tanzania, Zambia and Zimbabwe). Tanzania harbours the highest number (twelve) of individual species. Due to habitat specificity, range distributions of many individual *Rhampholeon* species are limited. Extensive habitat degradation means that almost all species live in small, fragmented populations e.g Mariaux (2010) states that within a total range of 7,000 km^2, *Rh. marshalli* only occurs in 10 fragmented patches, and *Rh. spinosus* occurs in only 2 patches throughout its 3,250 km^2 distribution.

Population trend: Of the 8 African pygmy chameleon species listed as Critically Endangered or Endangered, 7 (*Rh. spinosus, Rh. temporalis*, *Rh. viridis*, *Rh. chapmanorum*, *Rh. platypus*, *Rh. bruessoworum,* and *Rh. tilburyi*) are in decline according to the IUCN. For the eighth of these (*Rh. acuminatus*) the trend is unknown. *Rhampholeon maspictus,* listed as Near Threatened, is considered to have a stable population trend. Two of the three species listed as Vulnerable (*Rh. beraduccii* & *Rh. nebulauctor*) have unknown population trends, while the third (*Rh. marshalli*) is declining. Of the 9 species listed by IUCN as Least Concern, 4 are considered to have a stable trend (*Rh. gorongosae, Rh. uluguruensis, Rh. nchisiensis, Rh. moyeri*), 1 (*Rh. boulengeri*) is decreasing, and 4 (*Rh spectrum*, *Ri. brachyurus, Ri. Kerstenii, Ri. Brevicaudatus*) have unknown population trends (http://www.iucnredlist.org).

Habitat status: Ongoing habitat loss and degradation in range States generally mean that African pygmy chameleons tend to occur in small and fragmented populations. *Rhampholeon spp*. are largely restricted to relict montane forests, which are increasingly fragmented and prone to clearing for human activities. African pygmy chameleons are rather specialised in their habitat choice and do not tolerate altered habitat and disturbance well (Gray 1989; Akani et al., 2001).

Describe known/suspected level of trade: Possibly as a result of trade restrictions on other "more charismatic" chameleon species, trade in African pygmy chameleons has increased in recent years and even species only recently discovered in the past few years are already available in the pet trade internationally (Müller and Walbrol, 2008– cited in CoP17 Prop, verified through reptile trade websites). Between 1999 and 2014, 175,841 African pygmy chameleons of the *Rhampholeon* and *Rieppeleon* genera were imported into the USA alone. Of these, 156,949 specimens were *Rieppeleon spp.,* 7,281 were known *Rhampholeon spp.* and 11,349 *Rhampholeon* specimens were not identified to species. (US Fish and Wildlife Service, LEMIS Trade Database, 2015, cited in Cop17 Prop.). Shipments have been known to include CITES II-listed *Rh. spinosus* under its old taxonomic name (*Bradypodion spinosum*), and this change in taxonomy may have created a loophole to allow unregulated exports, which complicates accurate reporting of trade.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

No members of the genus *Rieppeleon* are currently listed under CITES, however one species from the *Rhampholeon* genus (*Rh. spinosus*) is listed under CITES II under its former taxonomic name, *Bradypodion spinosum*. Of the 22 species in these genera, 4 are listed as Critically Endangered by the IUCN Red List, 4 are Endangered, 3 are Vulnerable, 1 is Near Threatened, and 9 are Least Concern. Since other larger and more colourful genera of chameleons became protected under CITES, African pygmy chameleons appear to have appeared in the international pet trade (US Fish and Wildlife Service, LEMIS Trade Database, 2015, cited in Cop17 Prop.) – they are the only group of chameleons not protected under CITES. These species are often confused between each other because of their very similar morphology, and are often traded in shipments labelled "assorted pygmy chameleons", making it difficult to monitor or distinguish trade between threatened and non-threatened species (Anderson, 2011). Such vaguely labelled shipments also often contained the CITES II-listed *Rh. spinosus.* As a result, the proponents are requesting consideration for all species of African pygmy chameleons to be listed in order to protect those species which may be

vulnerable to extinction should the pet trade continue to flourish. African pygmy chameleons generally have rather short lifespans (1–3 years; www.chameleonforums.com), are relatively low reproducers (laying usually 2-3 eggs per clutch compared with 11–17 in other *Chameleon spp.*), and in captivity mortality is often high (Akani et al., 2001; Gostner, 2009 – cited in CoP17 Prop, could not be verified as source is in German). Unlike other tree-dwelling chameleon species, African pygmy chameleons are generally ground dwelling (Akani et al., 2001), which makes them relatively easy targets for collection.

3. Evaluation of trade data.

Import estimates for individual species vary, for example, 169 *Rh. acuminatus* (Critically Endangered) were imported into the USA between 2010 and 2014, while 2,441 *Rh. viridis* (Endangered) were imported between 2013 and 2014. However, the extremely similar appearance of many African pygmy chameleon species, and lack of CITES regulations for all but one means that often pygmy chameleons are simply traded as "assorted pygmy chameleons," which makes it difficult to accurately quantify trade for those species which may need more regulation (Anderson, 2011). It also enables the CITES II-listed *Rh. spinosus* to be shipped without CITES documents (pers. obs. Cited in Cop17 Prop.), thus allowing illegal trade (only species incorrectly traded as *Bradypodion spinosum* are subject to CITES regulation). This, along with a 2015 seizure of 136 *Rh. brevicaudatus* in the UK are the only known cases of illegal trade in African pygmy chameleons. No trade data appears available for 10 of the species (*Rh. gorongosa, Rh. marshalli, Rh. beraduccii, Rh. boulengeri; Rh. chapmanorum, Rh. playyceps, Rh. bruessoworum; Rh. nebulauctor. Rh. maspictus* and *Rh. tilburyi).* The most regularly traded species seem to be *Rh. nchisiensis*, *Rh. uluguruensis, Rh. temporalis and Rh. viridis,* with the latter two listed by IUCN as Endangered. The website, Chameleon Forums (http://www.chameleonforums.com/) states that there are very few known stable captive populations. Most pygmy chameleons available in the pet trade are wild-caught specimens (US Fish and Wildlife Service, LEMIS Trade Database, 2015, cited in Cop17 Prop.). Prices for specimens may range from US$20 to upwards of $200 (www.backwaterreptiles.com; www.undergroundreptiles.com; www.firstchoicereptiles.com; www.snakesatsunset.com; www.exotic-pets.co.uk).

4. Potential other information by CITES reviews and on nature management issues in range states

Many forests in which African pygmy chameleons live are under protection, which has slowed the rate of habitat loss, however illegal destruction of habitat is a continuing threat. Additionally, although forest patches are sometimes protected, the forest floor is still often utilised for crop activities, which is detrimental to pygmy chameleons that generally inhabit the leaf litter. No population monitoring of African pygmy chameleons is implemented with the exception of some assessments of regional populations. Some species are protected in range States, though domestic protection is thought to be insufficient to alleviate harvest pressure for international trade.

5. Recommendations

Extent of collection is unknown for some species; thus in some cases trade may be higher than reported. One species (*Rh. spinosus*) is currently protected under CITES II under its former taxonomic name, however this opens up a loophole that allows unregulated trade of this species if they are traded under their new taxonomic name, while only those incorrectly labelled as *B. spinosum* are subject to CITES regulation. The fact that other African pygmy chameleons are not subject to CITES regulation means that this species is also often traded in shipments of "assorted" pygmy chameleons with limited scrutiny or record of which species (and how many) are in trade (Anderson, 2011). More than a third of the African pygmy chameleon species are considered Endangered (or Critically so), and populations of many are declining (http://www.iucnredlist.org). In addition to this, these are habitat specialists (Tilbury, 2010) whose forest ecosystem comes under threat from various anthropogenic pressures such as land clearing for agriculture, fire, illegal logging and livestock grazing, and they do not seem to adapt well to degraded forest habitat. Fragmented habitat patches and low mobility of many of these species means that populations are in some cases restricted to small, isolated patches, which can make them vulnerable to other potential factors associated with erosion of genetic diversity if populations of those declining species continue to do so. In these cases unregulated trade is likely to be highly detrimental. Some of the African pygmy chameleon species are not threatened, nor are they declining. However, given the similar morphology of many of these species, it is highly likely that those species that do need

protection from the pet trade may be vulnerable to unregulated trade when exporters are unable to distinguish between species (Mariaux and Tilbury, 2006), which is likely to be detrimental (e.g. CITES Criterion A, Annex 2(b) of Res. Conf. 9.24).

6. References

Akani G., Ogbalu O.K., Luiselli L. (2001) Life–history and ecological distribution of chameleons (Reptilia, Chamaeleonidae) from the rain forests of Nigeria: conservation implications. Animal Biodiversity and Conservation 24:1–15.

Anderson C.V. (2005) Summary of the latest taxonomic revisions to the genus *Rhampholeon* GÜNTHER, 1874. Chameleons! Online E-Zine, June 2005. http://www.chameleonnews.com/05JunAndersonRhampholeon.html

Branch W.R., Bayliss, J., Tolley, K.A. (2014) Pygmy chameleons of the *Rhampholeon platyceps* complex (Squamata: Chamaeleonidae): Description of four new species from isolated 'sky islands' of northern Mozambique. Zootaxa 3817:1-36.

Gostner A. (2009) Zur Haltung und Nachzucht von *Rhampholeon (Rhampholeon) viridis*. Chamaeleo 38:37-46.

Gray J. S. (1989) Effects of environmental stress on species rich assemblages. Biological Journal of the Linnaean Society 37:19–32.

Mariaux J. (2010a) *Rhampholeon marshalli*. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2.

Mariaux J. (2010b) *Rhampholeon spinosus*. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2.

Mariaux J., LeBreton M. (2010) *Rhampholeon spectrum*. The IUCN Red List of Threatened Species 2010: e.T176322A7218445.

Mariaux J., Tilbury C. (2006) The Pygmy Chameleons of the Eastern Arc Range (Tanzania): Evolutionary relationship and the description of three new species of *Rhampholeon* (Sauria: Chamaeleonidae). Herpetological Journal 16:315-331.

Menegon M., Salvidio S., Tilbury, C. (2002) A new dwarf chameleon from the Udzungwa Mountains of Tanzania (Squamata: *Rhampholeon* Günther, 1874). Journal of Herpetology 36:51–57.

Müller R., Walbröl, U. (2008) Vorstellung von *Rhampholeon (Rhinodigitum) acuminatus*,

Tilbury C.R., Tolley K.A. (2015) Contributions to the herpetofauna of the Albertine Rift: Two new species of chameleon (Sauria: Chamaeleonidae) from an isolated montane forest, south eastern Democratic Republic of Congo. Zootaxa 3905:345–364.

Tilbury C. (2010) Chameleons of Africa – An Atlas including the chameleons of Europe, the Middle East and Asia. Edition Chimaira, Frankfurt.

Tolley K. (2014) *Rieppeleon kerstenii*. The IUCN Red List of Threatened Species 2014: e.T172535A1344556.

Tolley K., Menegon M. (2014) *Rhampholeon temporalis*. The IUCN Red List of Threatened Species 2014: e.T172529A1344396.

Tolley K., Menegon M. (2014) *Rhampholeon uluguruensis*. The IUCN Red List of Threatened Species 2014: e.T172555A1345291.

Tolley K., Menegon M. (2014) *Rieppeleon brevicaudatus*. The IUCN Red List of Threatened Species 2014: e.T172520A1344134.

Tolley K., Menegon M., Plumptre, A. (2014a) *Rhampholeon viridis*. The IUCN Red List of Threatened Species 2014: e.T42760305A42760312.

Tolley K., Menegon M., Plumptre A. (2014b) *Rhampholeon acuminatus*. The IUCN Red List of Threatened Species 2014: e.T172524A1344202.

US Fish and Wildlife Service, LEMIS Trade Database (2015) US import data for *Rhampholeon* and *Rieppeleon* species (Citation from Cop17 Prop.)

http://www.chameleonforums.com

http://www.backwaterreptiles.com

http://undergroundreptiles.com

http://www.firstchoicereptiles.com

http://snakesatsunset.com

http://www.exotic-pets.co.uk

Review of proposal 33 CoP17, *Shinisaurus crocodilurus*.

1. Review of listing proposal under CITES

Uplisting of the Chinese crocodile lizard (*Shinisaurus crocodilurus*) from CITES Appendix II to Appendix I in accordance with criteria A i), ii) iv) and v); criteria B i) iii) and iv); criteria C i) and ii) of Res. 9.24 (Rev. CoP16) under Annex 1. The uplisting is proposed by the People's Republic of China, the Socialist Republic of Vietnam and the European Union and its Member States.

Species name: *Shinisaurus crocodilurus* Ahl, 1930. Common names: Chinese crocodile lizard, Chinese xenosaur. Norwegian name: Kinesisk krokodilleøgle.

Distribution: *S. crocodilurus* is endemic to China and Vietnam. In China, it is estimated that only 456 km^2 of suitable habitat remains (Huang et al., 2008) and in Vietnam the extent of occurrence is estimated at 1500km^2. Within these areas *S. crocodilurus* has an extremely patchy distribution among several localities, however it is believed to have recently become extinct in five locations (Huang et al., 2008).

Population trend: Declining. The total population is currently estimated to be approximately 1000 individuals, however, the subpopulations in which they occur are much smaller than this: Chinese subpopulations are estimated to contain between 10–350 individuals (Huang et al., 2008), and in Vietnam are thought to range from 17–22 individuals (van Schingen et al., 2014a). Between 1978 and 2004, three survey populations were recorded to decrease by 70%, 80% and 90%. Since the listing of *S. crocodilurus* under CITES Appendix II, the population has continued to decline (van Shingen et al., 2015); in Vietnam van Schingen et al. (2015) recorded a 73% decrease in encounter rates at one site between 2013–2014, while several sub-populations have recently become extinct in China (Huang et al., 2008).

Habitat status: Increasingly fragmented. Habitat in both China and Vietnam is continuously declining as a result of human activities. Tourism and expansion of religious sites has meant that once-remote subpopulations have been made more accessible (i.e. due to road building; van Schingen et al., 2015). In Vietnam, cultivated land surrounds sub-populations, meaning that these fragments are isolated from each other with little migration (van Schingen et al., 2014a).

Describe known/suspected level of trade: Illegal international and national trade is considered the biggest threat to *S. crocodilurus* (Huang et al., 2008; van Schingen et al., 2014, 2015). Since the CITES Appendix II listing of the species in 1990, legal trade of approximately 39 ± 87 live specimens per year are recorded, and of 850 recorded animals, 97% were traded for commercial purposes (CITES database cited in proposal). No legal pet trade has yet been reported from Vietnam. It is thought that illegal trade is carried out in much higher volumes, with a survey of Chinese villagers showing that 72% of men hunted the lizard, with 28% of these doing so "frequently" (Huang et al., 2008). Although since their CITES listing the international trade in this species has switched to allegedly "captive-bred" animals, it is likely that illegal trade is ongoing, and it is common for wild-caught animals to be sold mislabelled as "captive-bred" (van Schingen et al., 2015).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

S. crocodilurus is listed as Endangered by IUCN (Nguyen et al., 2014). The species is currently listed under CITES Appendix II (CoP7 1989). It is listed under the EU Wildlife Trade Regulations, Annex B. There are no quotas or suspensions currently in place.

3. Evaluation of trade data.

Since their listing under CITES Appendix II in 1990, 97% of international trade has switched to supposedly "captive-bred" animals. In non-range States, demand exceeds supply, and even experienced traders are having difficulties obtaining animals (van Schingen et al., 2015). Of 850 animals recorded in CITES reports, 97% were traded for commercial purposes, while the remaining 3% was made up by "personal" and "zoos" (CITES database cited in proposal). Between 2010–2013 trade to and from the USA constantly increased from 0–32 specimens. *S. crocodilurus* specimens can fetch $230-560 in Europe and $650–1125 in the USA (table compiled in CoP17 proposal). Although no official records exist for illegal trade, it is thought that illegal trade is carried out in much higher volumes, with a survey of Chinese villagers showing that 72% of men hunted the lizard, with 28% of these doing so "frequently" (Huang et al, 2008). Locally, a single specimen can fetch 10–1,000 RMB, and given that 200 RMB is equivalent to 2 months' salary in surveyed areas, there is a very high incentive to collect (Huang et al., 2008; Nguyen et al., 2014).

4. Potential other information by CITES reviews and on nature management issues in range states

The distribution of *S. crocodilurus* is restricted to small and fragmented sites, most of which are unmanaged and fall within unprotected areas. Li et al. (2012) predicts that all suitable habitat for this species will disappear by 2100 as a result of climate change. Although it is illegal to hunt or trap animals in protected areas, niche modelling suggests that very little (less than 2% in China and 0.15% in Vietnam) suitable habitat occurs in protected areas (van Schingen et al., 2014b), while Huang et al. (2008) states that at least 50% of localities in which *S. crocodilurus* is found are situated outside protected areas. *S. crocodilurus* is on the *List of the Protected Species of Wildlife of China* (Huang et al., 2008), and is currently under review for protection in Vietnam. In China, *S. crocodilurus* is also under threat from hunting for traditional medicine and food. Furthermore, both in China and Vietnam, habitat destruction is continually increasing due to logging, agriculture and the building of roads, and the streams they are tightly associated with are also affected by water-pollution from mining activities, dam construction and electro-fishing (Huang et al., 2008; van Schingen et al., 20154a). In addition to these extrinsic factors, the wild population is vulnerable as a result of intrinsic factors such as specialised niche requirements, high age at maturity, and low mobility and migration (Huang et al., 2008; van Schingen et al., 2014a, 2014b, 2015).

5. Recommendations

Since *S. crocodilurus'* listing under CITES II the population has continued to decline, which is largely attributed to collecting activities as well as habitat loss, and several sub-populations have become extinct. Van Schingen et al. (2015) reported that between 2013 and 2014, encounter rates had dropped by about 73% at some Vietnamese sites. The major pressures from trade are currently thought to be from illegal harvesting and domestic use rather than from legal export regulated by CITES. The extremely restricted distribution of the species to small, isolated patches makes *S. crocodilurus* vulnerable to other potential factors associated with erosion of genetic diversity if the population continues to decline. In addition to collection for trade itself, collection techniques degrade the natural habitat of the species, and habitat degradation represents an immediate and significant threat to the persistence of the remaining population. Without further management for the species and its habitat, continued trade is likely to be highly detrimental.

6. References

Huang C.M., Yu H., Wu Z., Li Y.B., Wei F.W., Gong M.H. (2008) Population and conservation strategies for the Chinese crocodile lizard (*Shinisaurus crocodilurus*) in China. Animal Biodiversity and Conservation 31:63–70.

Nguyen T.Q., Hamilton P., Ziegler T. (2014) *Shinisaurus crocodilurus*. The IUCN Red List of Threatened Species 2014: e.T57287221A57287235. http://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T57287221A57287235.en.

van Schingen M., Pham C.T., Thi A.H. Bernardes M. Hecht V. Nguyen T.Q. Bonkowski M., Ziegler T. (2014a) Current status of the Crocodile Lizard *Shinisaurus crocodilurus* Ahl, 1930 in Viet Nam with implications for conservation measures. Revue Suisse de Zoologie 121:1–15.

van Schingen M., Ihlow F., Nguyen T.Q., Ziegler T., Bonkowski M., Wu Z., Rödder, D. (2014a) Potential distribution plus effectiveness of the protected area network for the crocodile lizard, *Shinisaurus crocodilurus* (Reptilia: Squamata: Sauria). Salamandra 50:71-76.

van Schingen M., Schepp U., Pham C.T., Nguyen T.Q., Ziegler, T. (2015) Last chance to see? Review on the threats and use of the Crocodile Lizard. TRAFFIC Bulletin 27:19–26.

Review of proposal 29 CoP17, *Cnemaspis psychedelica*.

1. Review of listing proposal under CITES

Inclusion of *Cnemaspis psychedelica* in Appendix I, in accordance with Article II, paragraph 1 of the Convention. The proposal is put forward by the Socialist Republic of Vietnam and the European Union and its Member States, stating that the species satisfies Criteria B i) in Annex 1 of Resolution Conf. 9.24 (Rev. CoP16).

Species name: *Cnemaspis psychedelica* Grismer et al., 2010. Common name: Psychedelic rock gecko.

Distribution: The species is endemic to Hon Khoai Island in Ca Mau Province of southern Vietnam. It is a small island with a total area of only 8 km^2. The estimated extent of occurrence of this species is less than 6 km^2, and given that the species only appears to occur on granite outcrops on the island, its available habitat is considered very limited (Grismer et al., 2010).

Population trend: Population trend is unknown, however based on surveys in 2015–2016, it was estimated that a total of 732 individuals exist on the island, with an effective population size of around 507 individuals (CoP17 Prop. 29). The species was only described in 2010, so no information on longer-term trends is available.

Habitat status: The species occurs only on Hon Khoai Island on granite outcrops surrounded by dense vegetation, with an extent of occurrence of ~6 km^2, suggesting very limited habitat.

Describe known/suspected level of trade: Both males and females have bright colouration (Grismer et al., 2010), making them popular in the pet trade. Nguyen et al. (2015a; cited in CoP 17 Prop. 29) suggested that trade is increasing, with the species having been regularly on offer in small numbers online in Europe and Russia since 2013. No imports of *C. psychedelica* have been recorded into the USA.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

C. psychedelica is not currently listed under CITES or EU Wildlife Trade Regulations. The species has not yet been assessed by the IUCN. Hon Khoai Island is not a protected reserve (UNEP-WCMC 2015), however in accordance with the Law on Forest Protection and Development No. 29/2004/QH11, collection of forest animals requires permission from state authorities (Nguyen et al., 2015a; cited in CoP 17 Prop. 29).

3. Evaluation of trade data.

No official trade records are available for this species. The species has been offered online in Russia for €3500 a pair (Grismer et al., 2014), and 9 pairs were advertised to be sold at the Hamm Terraristika reptile trade fair, with market prices reportedly €2500–3500 a pair (Altherr, 2014; The Guardian 2015). One German vendor was offering a breeding pair for $2300 including shipping to USA (Altherr, 2014). Although the species has been offered for sale throughout Europe, it appears that the majority of trade is through Russia. There is insufficient data to determine whether current harvest is sustainable, however the biology of the species with its low population numbers and low reproduction rate would likely limit its resilience to overharvesting (Nguyen et al., 2015a; cited in CoP 17 Prop. 29).

4. Potential other information by CITES reviews and on nature management issues in range states

According to UNEP-WCMC (2015) and Nguyen et al. (2015a), illegal collection of *C. psychedelica* is a major threat to the species. Due to its small population size and low reproductive rate, Nguyen et al. (2015b) suggest that *C. psychedelica* may find it hard to recover from overharvesting. Furthermore, given its specialised microhabitat, the species may be highly sensitive to alteration and fragmentation of its habitat, which may become a reality due to proposed ecotourism developments for the island involving alteration and destruction of the rock habitats in which these lizards dwell (Nguyen et al., 2015b; cited in CoP 17 Prop. 29). Public access to Hon Khoai Island is restricted (Altherr, 2014), however, despite this, illegal poaching and sale of specimens continues (Grismer et al., 2014). There are no measures in place to conserve *C. psychedelica's* habitat, or protect the species, however, according to UNEP-WCMC (2015; cited in CoP 17 Prop. 29), the Forest Protection Department of Ca Mau Province may consider a biodiversity assessment for the island to begin a conservation programme for Hon Khoai. In addition to illegal harvest for the pet trade, macaques introduced to Hon Khoai island have also become a predatory threat to *C. psychedelica*. In response to this, Wildlife at Risk (WAR), the Institute of Ecology and Biological Resources (IEBR) and Cologne Zoo have built a gecko house to establish a reserve population, and potentially a conservational breeding program for *C. psychedelica* (Ziegler et al., 2016). Although it is early days, this may also prove valuable in alleviating pressure from over-harvesting.

5. Recommendations

Currently the main threats to biodiversity on Hon Khoai Island are exploitation of forest products and fires. It has been reported that Ca Mau provincial Department of Fisheries are to construct a fishing port on Hon Khoai Island, which could lead to increased human presence and disturbance (CoP17 Prop. 29). With regard to *C. psychedelica*, trade is considered a major threat to the species. Additionally, the illegal introduction of macaques to Hon Khoai island poses a further novel threat to the species, as they have been observed eating the lizards and their eggs (Grismer et al., 2010). Given the extremely small extent of occurrence (~6 km^2) on one small island, its habitat specificity and small population (estimated to be less than 1000 individuals), *C. psychedelica* seems highly vulnerable to other potential factors associated with erosion of genetic diversity, whether or not the population continues to decline. Given that this is the only known population of this species, its protection is paramount. Without appropriate management for the species and its habitat, continued unregulated collection and trade is likely to be detrimental.

6. References (Literature list and reference to relevant webpages)

Altherr S. (2014) Stolen Wildlife - Why the EU needs to tackle smuggling of nationally protected species. Report by Pro Wildlife. Munich, Germany. 32 pp.

Grismer L.L., Wood P.L., Anuar S., Riyanto A., Ahmad N., Muin M.A., Sumontha M., Grismer J.L., Onn C.K., Quah E.S.H. et al. (2014) Systematics and natural history of Southeast Asian Rock Geckos (genus *Cnemaspis* Strauch, 1887) with descriptions of eight new species from Malaysia, Thailand, and Indonesia. Zootaxa 3880:1–147.

Grismer L.L., Ngo, V.T., Grismer J.L. (2010) A colorful new species of insular rock gecko (*Cnemaspis* Strauch 1887) from southern Vietnam. Zootaxa 58:46–58.

The Guardian. 2015. Article: Lizard traffickers exploit legal loopholes to trade at world's biggest fair. https://www.theguardian.com/environment/2015/nov/11/lizard-traffickers-exploit-legal-loopholes-to-trade-at-worlds-biggest-fair

Nguyen T.Q., Ngo H.N., Pham C.T., van Schingen M., Nguyen K. V, Rauhaus, A., Ziegler T. (2015a) Population assessment, natural history and threat evaluation of the Psychedelic rock gecko (Cnemaspis psychedelica). Part I: trade analysis, literature survey, own data; October 2015. Unpublished report for the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, Division Species Protection, Bonn, Germany and for the Species Programme, UNEP World Conservation Monitoring Centre, Cambridge, UK, 1–18. (Cited in CoP17 proposal)

Nguyen T.Q., Ngo H.N., Nguyen T. V., van Schingen M. Ziegler T. (2015b) Population assessment, natural history and threat evaluation of the Psychedelic Rock Gecko (Cnemaspis psychedelica). Part II: Preliminary data on population status, natural history and threats; December 2015. Unpublished report for the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, Division Species Protection, Bonn, Germany and for the Species Programme, UNEP World Conservation Monitoring Centre, Cambridge, UK., 1–6. (Cited in CoP17 proposal)

UNEP-WCMC (2015) Review of species which may warrant further consideration in preparation CoP17. UNEP-WCMC, Cambridge, UK.
Ziegler T., Rauhaus A., Nguyen K.V., Nguyen T.Q (2016) Building of a Conservation Breeding Facility for the Psychedelic Rock Gecko (*Cnemaspis psychedelica*) in Southern Vietnam. Available online doi:10.1016/j.zoolgart.2016.05.002

Review of CoP17 proposal 26, *Abronia* spp.

1. Review of listing proposal under CITES

Mexico proposes to include the 29 species of the genus Abronia, Alligator lizards because of their low reproduction potential, their populations need of protection and due to their popularity in international commercial trade. The proponent points to Appendix II, Annex 2a A of Res. Conf. 9.24 (Rev. CoP16).

Species names: *Abronia anzuetoi* Campbell & Frost, 1993. Common name: Arboreal Alligator Lizard. *Abronia aurita* (Cope, 1869). Common name: Cope's Arboreal Alligator Lizard. *Abronia bogerti* Tihen, 1954. Common name: Bogert's Arboreal Alligator Lizard. *Abronia campbelli* Brodie & Savage, 1993. Common name: Campbell's Alligator Lizard. *Abronia cuetzpali* (Campbell, 2016). *Abronia chiszari* Smith & Smith, 1981. Common name: Chiszar's Arboreal Alligator Lizard. *Abronia deppii* (Wiegmann, 1828), *Abronia fimbriata* Cope 1884, *Abronia frosti* Campbell et al., 1998. Common name: Frost's Arboreal Alligator Lizard. *Abronia fuscolabialis* (Tihen, 1944). Common name: Mount Zempoaltepec Alligator Lizard. *Abronia gaiophantasma* Campbell and Frost, 1993. Common name: Brilliant Arboreal Alligator Lizard. *Abronia gramínea* (Cope, 1864). Common name: Terrestrial Arboreal Alligator Lizard. *Abronia leurolepis* Campbell & Frost, 1993. Common name: Smoothback Arboreal Alligator Lizard. *Abronia lythrochila* Smith & Alvarez del Toro, 1963. Common name: Red-lipped Arboreal Alligator Lizard. *Abronia martindelcampoi* Flores Villela & Sánchez, H., 2003. *Abronia matudai* (Hartweg and Tihen, 1946). Common name: Matuda's Arboreal Alligator Lizard. *Abronia meledona* Campbell & Brodie, 1999. *Abronia mitchelli* Campbell, 1982. *Abronia mixteca* Bogert and Porter, 1967. Common name: Mixtecan Arboreal Alligator Lizard. *Abronia montecristoi.* Hidalgo,1983. Common name: MonteCristo Arboreal Alligator Lizard. *Abronia oaxacae* (Günther, 1885). Common name: Oaxaca Arboreal Alligator Lizard. *Abronia ochoterenai* (Martin del Campo, 1939). Common name: Northern Chiapas Arboreal Alligator Lizard. *Abronia ornelasi* Campbell, 1984. Common name: Cerro Baul Alligator Lizard. *Abronia ramirezi* Campbell, 1994. Common name: Ramirez's Alligator Lizard. *Abronia reidi* Werler & Shannon, 1961. Common name: Reid's Arboreal Alligator Lizard. *Abronia salvadorensis* Hidalgo, 1983. Common name: Salvador Arboreal Alligator Lizard. *Abronia smithi* Campbell and Frost, 1993. Common name: Smith's Arboreal Alligator Lizard. *Abronia taeniata* (Wiegmann, 1828). Common name: Bromeliad Arboreal Alligator Lizard. *Abronia vasconcelosii* (Bocourt 1871). Norwegian name: Alligatorøgler.

Distribution:

Guatemala: A. anzuetoi: endemic to the southern slopes of Volcán de Agua in south-central Guatemala (Köhler, 2003), It is known only from the type series, collected in the 1960s and 1970s, and possibly as early as the 1940s (Campbell and Frost, 1993). A. aurita endemic to the highlands of the Sierra de Xucaneb in the *A. Campbelli* is endemic to one location in eastern Guatemala. Department of Alta Verapaz, Guatemala (Köhler, 2003). *A fimbriata* is endemic to the mountains of central-eastern Guatemala. *A frosti* is endemic to the northwestern mountains of Guatemala. *A. gaiophantasma* is endemic to the mountains of central-eastern Guatemala. *A. meledona* is endemic to the mountains of southeastern Guatemala. *A. vasconcelosii* is the most common species of the genus in Guatemala.

Honduras: *A. salvadorensis* is found in two localities.

Mexico: *A. bogerti:* The species is known only from a single record collected more than 50 years ago in Oaxaca, Mexico (Campbell, 2007a). *A. Cuetzpali:* The species is known from three specimens collected in Oaxaca, Mexico (Campbell et al., 2016). *A. Chiszari* is restricted to Santa Marta Volcano, Mexico. *A. deppii* is known from several mantaneous localities in Mexico. *A. fuscolabialis*: known from five specimens collected in Mexico. *A. gramínea* i is endemic to two highlenad areas. *A. leurolepis* is known only from the type locality in eastern Chiapas, Mexico. *A. lythrochila. A.*

martindelcampoi is found in one area. *A. mitchelli* is only known from the type collection in Oaxaca, Mexico. *A. mixteca* is found in one area. *A. oaxacae* is found in Oaxace. *A. ochoterenai* is known from two specimens collected in the 1930s (Campbell and Muñoz-Alonso, 2013b). *A. ornelasi* known from one locality. *A. ramirezi* is only known from the type collection. *A. reidi* is known from a few specimen from one area. *A. smithi. A. taeniata* is found in eastern Mexico.
Guatemala and Mexico: *A. matudai*.
A. montecristoi occurs in the Montecristo National Park at the border of El Salvador-Honduras-Guatemala and at Quebrada Grande in western Honduras (Köhler, 2003).

Population trend:
Decreasing: *A. Campbelli:* The total estimated population size is approximately 500 individuals and is decreasing (Ariano-Sánchez et al., 2013a). *A. Chiszari* (Lopez-Luna et al., 2007). A. Deppii (Flores-Villela and Santos-Barrera, 2007a), *A. frosti* (Ariano-Sánchez et al., 2013b). *A. fuscolabialis* (Campbell, 2007b). *A. gramínea* (Flores-Villela and Santos-Barrera, 2007b), *A. martindelcampoi* (Canseco-Márquez et al., 2007a), *A. mixteca* (Canseco-Márquez et al., 2007b), *A. montecristoi* (Townsend and Köhler, 2013), *A. oaxacae* (Campbell, 2007d), *A. salvadorensis* (Wilson et al., 2013), *A. taeniata* (Canseco-Márquez and Mendoza-Quijano, 2007)and *A. vasconcelosii* (Acevedo et al., 2013a).
Unknown: A. anzuetoi, *A fimbriata, A. gaiophantasma, Abronia leurolepis* (Campbell and Muñoz-Alonso, 2007a). *A. matudai* (Campbell and Muñoz-Alonso, 2013a). *A. meledona* (Ariano-Sánchez et al., 2013c), *Abronia mitchelli* (Campbell, 2007), *A. ochoterenai, A. ornelasi* (Campbell, 2007e), *A. ramirezi* (Campbell and Muñoz-Alonso, 2007a), *A. reidi* (Flores-Villela and Lopez-Luna, 2007),
Stable: *A. lythrochila* and *A. smithi* (Campbell and Muñoz-Alonso, 2007c)

Habitat status: The forest habitats of most of these species are heavily degraded and fragmented due to agricultural development.

Known/suspected level of trade: All species in the genus are under pressure from the pet trade, with the exception of: *A. matudai*, *A. montecristoi, A. ochoterenai, A. salvadorensis* for which there is no known trade. In 2010, 47 individuals of *A. Campbelli* were rescued from illegal pet trade.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.
IUCN Critically Endangered: *A. Campbelli, A frosti.*
IUCN Endangered: *A. Aurita, A. Chiszari, A. Deppii, A fimbriata, A. fuscolabialis, A. gaiophantasma, A. gramínea, A. martindelcampoi, A. meledona, A. montecristoi, A. salvadorensis.*
IUCN Vulnerable: *A. anzuetoi, A. mixteca, A. oaxacae, A. taeniata.*
IUCN Least Consern: *A. lythrochila, A. smithi.*
IUCN Data Deficient: *A. Bogerti, A. leurolepis, Abronia mitchelli, A. ochoterenai, A. ornelasi, A. ramirezi, A. reidi.*
Not assessed by IUCN: *A. Cuetzpali.*
None of these species are currently protected under CITES.

3. Evaluation of trade data.
The arboreal alligator lizards are popular pets and can easily be found for sale at websites. Illegal trade is known to occur, but the magnitude is not known.

4. Potential other information by CITES reviews and on nature management issues in range states
A. anzuetoi is not present in any protected area, but is in Appendix 1 of the Guatemalan Endangered Species List (Ariano-Sánchez et al., 2014a). The following species are presented in protected areas: *A. gaiophantasma* (Ariano-Sánchez et al., 2014b), *A. gramínea, A. martindelcampoi, A. meledona* (one area), *A. montecristoi, A. smithi.* Not presented in protected areas: *A. Aurita* (Acevedo et al., 2013a) *A. ramirezi, A. salvadorensis.*
A. campbelli is not present in any protected area, but some of the population is found within a private reserve and there are ongoing education programs for the conservation of this species, as

well as captive breeding (Ariano-Sánchez et al., 2013). *A. Chiszari, A.* deppii, *A. lythrochila, A. matudai, Abronia mitchelli, A. mixteca, A. reidi*, *A. taeniata* are present within protected areas and are protected by Mexican law under the category Pr (Special Protection). *A fimbriata* is present in several protected areas and private reserves. *A. frosti* is not present in protected areas but, there are ongoing education programs with local villagers to protect this species. *A. fuscolabialis*, *A. oaxacae, A. ochoterenai*, *A. ornelasi* are protected by Mexican law under the category Pr (Special Protection), but they are not known to occur within any protected areas.

5. Recommendations

The majority of the species within the genus *Arbonia* are found in very restricted ranges and are threatened by habitat destruction. There is a considerable international trade with these species, also those that are endangered and if not regulated this will most likely be detrimental to their survival. Most of the species of arboreal alligator lizards clearly satisfy the biological criteria of Annex 2a A.

6. References

Acevedo M., Ariano-Sánchez D. & Johnson J. (2013a) *Abronia aurita*. The IUCN Red List of Threatened Species 2013: e.T203013A2758576.

Acevedo M., Ariano-Sánchez D. & Johnson, J. (2013b) *Abronia vasconcelosii*. The IUCN Red List of Threatened Species 2013: e.T203019A2758618.

Ariano-Sánchez D., Johnson J. & Acevedo M. (2013a) *Abronia campbelli*. The IUCN Red List of Threatened Species 2013: e.T203014A2758583).

Ariano-Sánchez D., Acevedo M. & Johnson J. (2013b) *Abronia frosti*. The IUCN Red List of Threatened Species 2013: e.T29479A2790394.

Ariano-Sánchez D., Acevedo M., Johnson J. (2013c). *Abronia meledona*. The IUCN Red List of Threatened Species 2013: e.T203017A2758604.

Ariano-Sánchez D., Acevedo,M., Johnson J. (2014a) *Abronia anzuetoi*. The IUCN Red List of Threatened Species 2014: e.T203012A2758569.

Ariano-Sánchez D., Acevedo M., Johnson J. (2014b) *Abronia gaiophantasma*. The IUCN Red List of Threatened Species 2014: e.T203016A2758597.

Campbell, J.A. (2007a) *Abronia bogerti*. The IUCN Red List of Threatened Species 2007: e.T63674A12706148.

Campbell J.A. (2007b) *Abronia fuscolabialis*. The IUCN Red List of Threatened Species 2007: e.T63677A12706446.

Campbell J.A. (2007c) *Abronia mitchelli*. The IUCN Red List of Threatened Species 2007: e.T63683A12696624.

Campbell J.A. (2007d) *Abronia oaxacae*. The IUCN Red List of Threatened Species 2007: e.T63685A12697055.

Campbell J.A. (2007e) *Abronia ornelasi*. The IUCN Red List of Threatened Species 2007: e.T63687A12697494.

Campbell J.A., Muñoz-Alonso A. (2007a) *Abronia leurolepis*. The IUCN Red List of Threatened Species 2007: e.T63679A12695716.

Campbell J.A., Muñoz-Alonso A. (2007b) *Abronia ramirezi*. The IUCN Red List of Threatened Species 2007: e.T63688A12697720.

Campbell J.A., Muñoz-Alonso A. (2007c) *Abronia smithi*. The IUCN Red List of Threatened Species 2007: e.T63690A12698131.

Campbell J.A., Muñoz-Alonso A. (2013a) *Abronia matudai*. The IUCN Red List of Threatened Species 2013: e.T63682A3128085.

Campbell J.A., Muñoz-Alonso A. (2013b) *Abronia ochoterenai*. The IUCN Red List of Threatened Species 2013: e.T63686A3128159.

Campbell J.A., Solano-Zavaleta I., Flores-Villela O., Caviedes-Solis I.W., Frost. D.R. (2016) Journal of Herpetology 50(1):149-156.

Campbell J.A., Frost D.R. (1993) Anguid lizards of the genus *Abronia*: revisionary notes, descriptions of four new species, a phylogenetic analysis, and key. Bulletin of the American Museum of Natural History 216: 1-121.

Canseco-Márquez L., Mendoza-Quijano F. (2007) *Abronia taeniata*. The IUCN Red List of Threatened Species 2007: e.T63691A12698332.

Canseco-Márquez L., Campbell J.A., Ponce-Campos P., Muñoz-Alonso A., García Aguayo A. (2007a) *Abronia martindelcampoi*. The IUCN Red List of Threatened Species 2007: e.T63681A12696144.
Canseco-Márquez L., Campbell, J.A. Ponce-Campos P., Muñoz-Alonso A., García Aguayo A. (2007b) *Abronia mixteca*. The IUCN Red List of Threatened Species 2007: e.T63684A12696815.
Flores-Villela O., Lopez-Luna M.A. (2007) *Abronia reidi*. The IUCN Red List of Threatened Species 2007: e.T63689A12697921.
Flores-Villela O., Santos-Barrera G. (2007a) *Abronia deppii*. The IUCN Red List of Threatened Species 2007: e.T63676A12706337.
Flores-Villela O., Santos-Barrera G. (2007b) *Abronia graminea*. The IUCN Red List of Threatened Species 2007: e.T63678A12695490.
Köhler G. (2003) *Reptiles of Central America*. Herpeton, Germany.
Lopez-Luna M.A., Flores-Villela O., Frost D.R. (2007) *Abronia chiszari*. The IUCN Red List of Threatened Species 2007: e.T63675A12706244.
Townsend J.H., Köhler G. (2013) *Abronia montecristoi*. The IUCN Red List of Threatened Species 2013: e.T20A2774433.
Wilson L.D., Townsend J.H., Luque I. (2013) *Abronia salvadorensis*. The IUCN Red List of Threatened Species 2013: e.T203018A2758611.

Review of proposal 30 CoP17, *Lygodactylus williamsi.*

1. Review of listing proposal under CITES

Inclusion of the turquoise dwarf gecko (*Lygodactylus williamsi*) in Appendix I without annotation in accordance with Resolution Conf. 9.24 (Rev. CoP16). The inclusion of *L. williamsi* is proposed by United Republic of Tanzania and the European Union and its member states, with the species satisfying Criteria B i) and iv) in Annex 1.

Species name: *Lygodactylus williamsi* Loveridge, 1952. Common name: Turquoise Dwarf Gecko. Also known as *Lygodactylus picturatus williamsi* and William's Dwarf Gecko. It is reported that traders deliberately mislabel and export this species under the names *Lygodactylus spp.* and *L. capensis*, although the species do not resemble each other. It is also known by the trade name "Electric Blue Gecko".

Distribution: The extent of the distribution of the turquoise dwarf gecko is restricted to approximately 20 km^2 in the Uluguru Mountains in eastern Tanzania. However, within this area the species is patchily distributed, and is thought to only occupy a total area of 8 km^2. The majority of the species is thought to be found within the Kimboza and Ruvu Forest Reserves, with two isolated and small sub populations also reported in Muhalama and Mbagalala (although the latter two localities do not significantly contribute to the total population; Flecks et al., 2012b). The turquoise dwarf gecko relies entirely on one tree species (*Pandanus rabaiensis*) as habitat, which is often partly or completely cut down to collect the geckos.

Population trend: Declining (Flecks et al., 2012b). The subpopulation for which data are available is estimated to have declined by one third since 2004 (Flecks et al., 2012b), and between 2004 and 2009 at least 15% of the population in Kimboza Forest was collected (Flecks et al., 2012a).

Habitat status: Fragmented (isolated fragments). Next to collection for trade, habitat fragmentation and degradation are considered the next major threats to persistence of the turquoise dwarf gecko (Flecks et al., 2012a). The species is known from only four localities, which are isolated from each other by intervening unsuitable habitat.

Describe known/suspected level of trade: Collection for the international pet trade is considered the single major threat to this species. The striking blue colour of the turquoise dwarf gecko makes it a very popular species for the pet trade, fetching $150-200 a specimen (e.g http://www.blackjungleterrariumsupply.com; http://snakesatsunset.com). Although there are no import or export figures officially recorded for this lizard, estimates based on interviewing local

people sit around 32,310-42,610 individuals collected between Dec 2004 and July 2009 (approx. 15% of the estimated population in Kimboza Forest; Flecks et al., 2012a; Flecks et al., 2012b).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

The turquoise dwarf gecko is listed as Critically Endangered by IUCN (2012). The species is not currently listed under any of the CITES Appendices, nor are there any quotas or suspensions currently in place. It is listed under the EU Wildlife Trade Regulations, Annex B.

3. Evaluation of trade data.

The collection and export of the turquoise dwarf gecko has never been licensed in Tanzania (Flecks et al., 2012a), thus all known trade in this species is illegal. Since trade in Europe reportedly began in 2007, the availability of the turquoise dwarf gecko has increased, although this is attributed to wild-sourced specimens being more readily available rather than successful breeding in captivity (Schneider, 2012 - cited in proposal, although unverified as the source is in German). No trade information is available from CITES.

4. Potential other information by CITES reviews and on nature management issues in range states

Although the species occurs almost exclusively in protected areas, illegal logging and clearing of vegetation remains a threat to the species in addition to collection for trade, and no specific management of the species exists. In 2010 the Department of Zoology and Wildlife Conservation at the University of Dar es Salaam held a workshop to raise awareness of the plight of the turquoise dwarf gecko and to train Tanzanian duty staff to detect exports of the species (Flecks et al., 2012a). Suggestions have been made to establish captive breeding programs in Europe to alleviate the trade pressure on wild specimens (Flecks et al., 2012a; Maisch, 2013), however it is not clear whether this is occurring.

5. Recommendations

It is possible that the species may be able to buffer some collection pressure due to their high, year-round reproductive output, however this turnover has not been sufficiently quantified (Flecks et al., 2012a). Given the estimated decline of the species: 15% of the population in four and a half years due to collection, it is likely that trade is significantly impacting the turquoise dwarf gecko. The extremely restricted distribution of the species to several small, isolated patches makes them vulnerable to other potential factors associated with erosion of genetic diversity if the population continues to decline. In addition to collection for trade itself, collection techniques degrade the natural habitat of the species, as the *Pandanus* plants on which they exclusively dwell are often damaged or cut down to access the lizards (Flecks et al., 2012a; Flecks et al., 2012b). This in itself represents an immediate and significant threat to the persistence of the remaining population. Without appropriate management for the species and its habitat, continued trade is likely to be detrimental.

6. References

Flecks M., Weinsheimer, F., Böhme, W., Chenga, J., Lötters, S., Rödder D. (2012a). Watching extinction happen: the dramatic population decline of the critically endangered Tanzanian turquoise dwarf gecko, *Lygodactylus williamsi*. Salamandra 48:12–20.

Flecks M., Weinsheimer F., Böhme W., Chenga J., Lötters S., Rödder D., Schepp U., Schneider H. (2012b). *Lygodactylus williamsi.* The IUCN Red List of Threatened Species 2012: e.T14665363A14665385. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T14665363A14665385.en

Maisch H. (2013) Reasons to feel blue. Zooquaria 83:24–25.

http://www.blackjungleterrariumsupply.com

http://snakesatsunset.com

Review of proposal 34 CoP17, *Atheris desaixi.*

1. Review of listing proposal under CITES

Inclusion of Ashe's bush viper (*Atheris desaixi*) in Appendix II without annotation in accordance with Resolution Conf. 9.24 (Rev. CoP16). The inclusion of *A. desaixi* is proposed by Kenya, with the species satisfying criteria under Article II, paragraph 2 (a) in Annex 2a.

Species name: *Atheris desaixi* Ashe, 1968. Common names: Ashe's bush viper, Mt Kenya bush viper.

Distribution: The species is endemic to Kenya. It is known from two main isolated populations: one in the northern Nyambeni range around Igembe, and one to the southeast of Mt Kenya at Chuka (Spawls et al., 2002).

Population trend: There have been no published population studies on this species, and as such the population trend is unknown, but researchers believe it to be rare and declining (CITES CoP17 Prop. 34). IUCN assessment is underway, but not published. The proponents cite a Master's Thesis (Ngwava, 2010) which appears to be unavailable online, but state that the study failed to find *A. desaixi* specimens at historically recorded sites, which does indicate a population decline. Habitat status: Unclear from the literature, however the high level of habitat degradation due to logging and agricultural expansion coupled with the species' estimated restriction to two isolated populations suggests that the habitat may be increasingly fragmented.

Describe known/suspected level of trade: Illegal trade is reported, with the proponents citing it as a primary threat to the species (CITES CoP17 Prop.34), however no official trade data exists. A report to the International Fund for Animal Welfare (Reeve, 2002, cited in CITES CoP Prop. 34; SSN 2004) found that *A. desaixi* was the 3rd most frequently traded snake – in a seizure of 38 reptiles in 1999, 17 were *A. desaixi*.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

A. desaixi is not currently listed under IUCN (although an assessment is underway). There is no listing under any of the CITES appendices, nor are there any quotas or suspensions currently in place. A CoP13 proposal for listing *A. desaixi* under CITES Appendix II (CITES CoP 13 Prop. 30) was withdrawn. The species is not listed under the EU Wildlife Trade Regulations, however, it is protected by the Kenya Wildlife Conservation and Management Act, no. 47 (Republic of Kenya 2013).

3. Evaluation of trade data.

There are no official trade records, and the proponents state that all trade is illegal (CITES CoP17 Prop. 34). *A. desaixi* is said to be difficult to breed in captivity and as such, the majority of specimens are thought to be wild-collected, however, Meidinger (1998) has reportedly successfully bred them in captivity. Between 1997 and 2000 fraudulent permits were used to ship several *Atheris* species to the USA: Kenyan documentation seized suggested 27 *A. desaixi* individuals were exported, yet US import data only recorded 4 unspecified individuals imported during this time. This suggests that trade may be higher than reported. Seven specimens were offered for sale on Fauna Classifieds (http://www.faunaclassifieds.com/) from a single vendor without price information in 2013.

4. Potential other information by CITES reviews and on nature management issues in range states

A. desaixi is listed as Nationally Vulnerable in the Wildlife Conservation and Management Act, no. 47 (Republic of Kenya 2013) and as such, any activities involving specimens require a permit. It is unclear as to whether this is suitably enforced. One of the known populations of *A. desaixi* occurs in a protected area (Ngaya), but the other locality in which they are found remains unprotected.

5. Recommendations

Although there is not a large amount of trade data on this species, large-scale habitat destruction through logging and agricultural expansion within *A. desaixi's* distribution is likely to exacerbate pressures imposed by collecting. The extremely restricted distribution of the species to several small, isolated patches makes them vulnerable to other potential factors associated with erosion of genetic diversity if the population continues to decline. However, little information is available into the population size and trend of this species to begin with.

Without appropriate management for the species and its habitat, continued trade could be detrimental to the persistence of this species, however until more detailed population data are available, it is difficult to make a recommendation.

6. References

Ashe J. (1968) A new Bush Viper. Journal of East African Natural History 27:53–59.

Republic of Kenya (2013) Kenya Wildlife Conservation and Management Act, No. 47 of 2013.

Reeve R. (2002) The reptile trade in Kenya. A report prepared for the International Fund for Animal Welfare (IFAW). September 2002.

SSN (Species Survival Network) (2004) CoP 13 Kenyan snake proposal fact sheet http://www.ssn.org/Meetings/cop/cop13/cites_cop13_EN.htm

Spawls S., Howell K., Drewes R., Ashe J. (2002) A Field Guide to the Reptiles of East Africa: Kenya, Tanzania, Uganda, Rwanda and Burundi, Academic Press.

http://www.faunaclassifieds.com

Review of proposal 35 CoP 17, *Bitis worthingtoni*.

1. Review of listing proposal under CITES

Inclusion of the Kenya horned viper (*Bitis worthingtoni*) in Appendix II, in accordance with Article II, paragraph 2(a) of the convention, and Annex 2(a) of Res. Conf. 9.24 (Rev. CoP16). The listing is proposed by Kenya.

Species name: *Bitis worthingtoni* Parker, 1932. Common name: Kenya horned viper, Worthington's viper. Scientific synonym is *Keniabitis worthingtoni*.

Distribution: Endemic to the high central Rift Valley in Kenya. The type location is adjacent to Lake Naivasha, and it is also reported in Uasin Gishu and Kinangop plateaus (Spawls et al., 2002, cited in CoP17 Prop.35).

Population trend: No official information is available on the population trends of this species, and estimates are difficult because it is rarely encountered. The proponents state that increased land use suggests historical populations are depleted, and that the species is no longer found in areas where they were once commonly collected (SSN 2004), however, no further evidence is available.

Habitat status: Its habitat is within areas highly used for livestock and other agricultural activities, which suggests a high level of habitat degradation, however, no further information is available.

Describe known/suspected level of trade: No official records of legal or illegal trade exist, however the proposal states that illegal collection is a threat to the species.

UNEP-WCMC (2015) report states that there are some reports of people keeping the species as pets; a captive-bred specimen was offered for sale in Germany for €1000, and captive juveniles may fetch €500–700. According to SSN (2004) fact sheet, a study conducted in 2001–2002 found that *B. worthingtoni* was the most frequently exported snake, and fraudulent permits were used to export 37 specimens internationally between November 1999 and May 2000.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

B. worthingtoni is not listed under CITES, nor is it protected by EU Wildlife Trade Regulations. It is currently under review for IUCN listing (CoP17 Prop. 35). Local protection is not given to this species, as it is not listed on the schedule of the Wildlife Act of Kenya (Republic of Kenya 2013). The CoP17 proposal, however, states that it is protected under this act.

3. Evaluation of trade data.
SSN (2004) fact sheet states that many imports into US go unreported, and thus trade may be higher than reported. The same source reports that between May and October 1999, 19 Kenya horned vipers were illegally imported into Germany. In Kenya, there are no captive breeding facilities, and thus the proponents state that all specimens in international trade are wild-caught (CoP17 Prop. 35). Despite this, several animals that are at least claimed to be captive-bred have been available in trade (UNEP-WCMC 2015).

4. Potential other information by CITES reviews and on nature management issues in range states
It is thought that *B. worthingtoni* is present in Hell's Gate National Park-Naivasha, as well as Lake Nakuru National Park. If this is the case, some protection may be in place due to their presence in reserves. No other information appears to be available.

5. Recommendations
Very little information is available on this species in terms of population and habitat trends, or on trade. If the species is as rare as the proponents state, and that indeed animals are being harvested for trade, trade could be detrimental to the species, however without further information on population trends, it is difficult to say. It seems as though there is little monitoring of this species, both in the wild and in trade, and perhaps some regulation would allow the species to be appropriately monitored to ensure sustainability.

6. References
Republic of Kenya (2013) Kenya Wildlife Conservation and Management Act, No. 47 of 2013.
UNEP-WCMC (2015) Review of species which may warrant further consideration in preparation CoP17. UNEP-WCMC, Cambridge, UK.
SSN (Species Survival Network) (2004) CoP 13 Kenyan snake proposal fact sheet http://www.ssn.org/Meetings/cop/cop13/cites_cop13_EN.htm

Review of proposal 23 CoP17, *Crocodylus niloticus*.

1. Review of listing proposal under CITES
Madagascar proposes to maintain the Malagasy population of Nile Crocodile (*Crocodylus niloticus*) following Appendix II, Resolution Conf. 9.24 (Rev. CoP16) Annex 2(a), paragraph B), rather than following Resolution Conf. 11.16 (Rev. CoP15; Ranching and trade in ranched specimens of species transferred from Appendix I to Appendix II). The following five annotations are proposed: 1) No skins or products within the artisanal industry from wild *C. niloticus* less than 1 m or greater than 2.5 m total length will be permitted for national or international trade. 2) An initial wild harvest ceiling of 3000 animals per year for the artisanal industry will be imposed for the first three years of operation (2017-2019). 3) No export of raw or processed skins harvested from the wild will be permitted for the first 3 years. 4) Farm production shall be restricted to ranching and/or captive breeding, with national skin production quotas. 5) Management, wild harvest ceiling and national skin production quotas will be audited and reviewed annually by international experts for the first three years to ensure sustainability.

Species name: *Crocodylus niloticus* Laurenti, 1768. Common names: Nile crocodile, African crocodile. Norwegian name: Nilkrokodille.

Distribution: Algeria (extinct), Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Israel (extinct), Kenya, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe. The Nile crocodile is widely distributed in Madagascar.

Population trend: After a population decline around the middle of the century due to over-hunting, legal protection has resulted in significant recoveries in several areas, but no reliable

estimate of the global population exists. According to the proponent the total wild population of *C. niloticus* in Madagascar has increased since 1988 and is estimated at 30,000 to 40,000 non-hatchlings.

Habitat status: Little updated information is available. According to the proponent the main threat to *C. niloticus* in Madagascar is habitat degradation and loss.

Describe known/suspected level of trade: A substantial international trade of skins and leather products from wild Malagasy crocodiles took place up till 2012, in addition to trade with captive animals (trade.cites.org). Madagascar has long tradition for artisanal leather industry that mostly utilizes wild crocodiles. I addition collection of eggs that are sold to crocodile ranches is a source of income for the rural human population. The proponent reports that some seizures of illegally sized skins have occurred in the last few years. Madagascar's goal is to keep a sustainable trade of skins and leather products from wild and captive crocodiles.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

C. niloticus is listed as Lower Risk/Least Concern by IUCN (1996). It is listed on CITES Appendix I (except the populations of Botswana, Egypt that are subject to a zero quota for wild specimens traded for commercial purposes), Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Namibia, South Africa, Uganda, the United Republic of Tanzania (subject to an annual export quota of no more than 1,600 wild specimens including hunting trophies, in addition to ranched specimens), Zambia and Zimbabwe, which are included in Appendix II]. The EU Wildlife Trade Regulations divide the countries in the same way between Annex A and Annex B (since 2014).

3. Evaluation of trade data.

The numbers of specimens traded for commercial purposes given in the proposal for the period 2002-2015 differ from those found in the CITES trade database. There are also many discrepancies between the numbers reported by the exporter (Madagascar) and the importing countries. The proponent claims that no trade took place between 2010 and 2014, but according to import reports both skins and leather products from wild crocodiles with Malagasy origin were traded during this period of ban (e.g. 50 skins to Japan in 2010 and 58 leather products to the US in 2011, of which 8 were seized).

4. Potential other information by CITES reviews and on nature management issues in range states

Based on serious concerns raised about the trade, the CITES Standing Committee recommended Parties to suspend trade in *C.niloticus* from Madagascar in 2010 (See Notification to the Parties No. 2010/015 and SC63 Doc. 13). The suspension was lifted in 2014 (See Notification to the Parties No. 2014/064). According to the proposal Madagascar has a range of legislation that relates to the conservation and management of crocodiles and their habitats.

5. Recommendations

There is lack of updated information on the status of the *C. niloticus* population and its habitat. According to IUCN, that last assessed the species in 1996 it needs updating. Reliable population estimates for the Malagasy population does not exist and the regulation of trade has been insufficient, even during the period of suspension. It is difficult to see how the proponent should be able to ensure sustainable harvesting without proper population estimates and regulation of trade.

6. References

Crocodile Specialist Group (1996) *Crocodylus niloticus*. The IUCN Red List of Threatened Species 1996: e.T46590A11064465. http://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T46590A11064465.en.

Review of proposal 24 CoP17, *Crocodylus porosus*.

1. Review of listing proposal under CITES

Transfer of the saltwater crocodile (*Crocodylus porosus*) in Malaysia from Appendix I to Appendix II, with wild harvest restricted to the State of Sarawak and a zero quota for wild specimens for the other States of Malaysia (Sabah and Peninsular Malaysia), with no change in the zero quota unless approved by the Parties. Proposed by Malaysia.

Species name: *Crocodylus porosus*, Schneider, 1801. Common names: Salt-water Crocodile, Estuarine Crocodile, "saltie". Norwegian names: Saltvannskrokodille, deltakrokodille.

Distribution: Australia, Bangladesh, Brunei Darussalam, Cambodia, Cocos Islands, Fiji, Hong Kong, India, Indonesia, Malaysia, Micronesia, Myanmar, Palau, Papa New Guinea, Philippines, Singapore (extinct), Solomon Islands, Sri Lanka, Thailand (possibly extinct), Vanuatu, Viet Nam. The crocodiles are widely distributed in Malaysia and occur in the 22 major river basins of Sarawak.

Population trend: No updated population estimates of the species can be found. In 1985 low densities were reported for Sarawak (Cox and Gombek, 1985). The proponent refers to two surveys conducted by the Sarawak Forestry Corporation and Sarawak Forest Department in the period 2012-2014 that estimated the population of non-hatchlings at 13,507 and 12,000 individuals respectively. The same studies report increase in the population density (number of sightings).

Habitat status: Little updated information is available.

Describe known/suspected level of trade: *C. porosus* has the most valuable hides of all crocodile species and the commercial trade, in particular of leather products, is immense (trade.cites.org). In 2012 a total of 73,263 skins were exported from the range States, 1807 from Malaysia (Caldwell, 2015). Most of the trade involves animals bred in captivity. In 2016 the CITES quota for Indonesia is for 7,500 skins or skin products. No animals with Malaysian origin have been traded legally for commercial purposes since 1998 (with the exception of 25 kg meat exported to Japan in 2013). Malaysia proposes to open for a low level of harvesting of wild crocodiles. There are no records available on illegal trad.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

C. porosus is listed as Lower Risk/Least Concern by IUCN (1996). It is listed on CITES Appendix I and EU Annex A, except the populations of Australia, Indonesia and Papua New Guinea, which are included in Appendix II and EU Annex B.

3. Evaluation of trade data.

It has been reported that the trade data from Malaysian Management Authorities correlates poorly with data given by importing countries (Caldwell, 2015).

4. Potential other information by CITES reviews and on nature management issues in range states

C. porosus is regionally protected by the Wild Life Protection Ordinance for Sarawak. The frequency of crocodile attacks on humans and livestock has increased in Sarawak leading to intensified human-crocodile conflict and culling operations by the authorities (Webb et al., 2010).

5. Recommendations

There is lack of updated information on the status of the *C. porosus* population and its habitat. According to IUCN, that last assessed the species in 1996 it needs updating. At present it is difficult to predict the consequences of trade.

6. References

Caldwell J. (2015). World Trade in Crocodilian Skins, 2011-2013. UNEP-WCMC: Cambridge.
Cox J., Gombek F. (1985) A preliminary survey of the crocodile resource in Sarawak, East Malaysia. IUCN/WWF Project No. MAL 74/85. World Wildlife Fund Malaysia, Kuala Lumpur.
Crocodile Specialist Group (1996) *Crocodylus porosus*. The IUCN Red List of Threatened Species 1996: e.T5668A11503588. http://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T5668A11503588.en.
Webb G.J.W., Manolis S.C., Brien M.L. (2010). Saltwater Crocodile *Crocodylus porosus*. Pp. 99-113 in Crocodiles. Status Survey and Conservation Ac tion Plan. Third Edition, ed. by S.C. Manolis and C. Stevenson. Crocodile Specialist Group: Darwin, Australia.

Review of proposal 32 CoP17, *Lanthanotus borneensis*.

1. Review of listing proposal under CITES

Inclusion of earless monitors, *Lanthanotus borneensis*, in Appendix I, with species meeting Criterion B) of Annex 1 of Res. Conf. 9.24 (Rev. CoP16). The listing is proposed by Malaysia.

Species name: *Lanthanotus borneensis* (Steindachnew, 1878). Common name: Earless monitor lizard. In Brunei it is known as Kukang, in Indonesia it is called Biawak Kalimantan, and in Malaysia (Sarawak), it is called Cicak purba. It is the only member of the family Lanthanotidae.

Distribution: *L. borneensis* is endemic to the island of Borneo. Specifically, they have only been found in Sarawak (Malaysia), and West and East Kalimantan (Indonesia).

Population trend: The species is rarely encountered, with only 12 specimens recorded between its discovery in 1877 and 1961, when the first papers were published on them. It is a subterranean species with a very restricted distribution, and as such the species is virtually unknown, with no reliable population data.

Habitat status: Very little is known about the habitat of the species, though it is reported as semi-aquatic, occurring in the lowlands of Borneo. The area of West Kalimantan where the species was discovered by Yaap et al. (2012), is known for environmental degradation for palm oil plantations and other agricultural activities. The lowlands of Borneo, too, are experiencing rapid forest loss and degradation from forest fires and agro-industry and plantations. This loss is generally considered a huge threat to Borneo's biodiversity. The fact that *L. borneensis* is known from so few locations in areas with continuing habitat loss suggests that fragmentation may be an issue.

Describe known/suspected level of trade: After Yaap et al. (2012) published photographs and location data of earless monitor lizards in West Kalimantan, interest from international collectors increased, and the species began to appear on trade websites. According to Nijman and Stoner (2014), in spring 2014 more than 40 individuals were collected for the European market and given the rarity of the species, this level of offtake may have a significant impact on the wild population. Historically, trade in Earless Monitor Lizards has been fairly limited, however in more recent years it has become prevalent, with collection suggested to be focused on West Kalimantan. Data from US Fish and Wildlife Service show imports of 7 shipments of 28 live *L. borneensis* into US since 2013 (Leuteritz, 2015, pers. comm. cited in CoP17 Prop. 32).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

L. borneensis is the sister group to all other monitor lizards (Varanidae), all of which are currently protected under CITES. Of the monitors, it is the only unprotected species.

It has not yet been assessed for an IUCN listing, and so little information is available on its status, however based on it's very restricted range, fragmented distribution from less than 10 known localities, and because of ongoing habitat degradation, it is likely that the species meets the criteria for a listing as Vulnerable or Endangered (Nijman and Stoner, 2014). *L. borneensis* is only known from Indonesia and Malaysia, and is protected in both of these range States. It is also protected in Brunei, which is a possible, but not confirmed range State. Trade is not permitted within any of these countries. The recent and growing interest for international trade is of concern, as there are no international trade regulations currently in place. TRAFFIC recommend CITES I listing to bar any cross-border trade worldwide, however currently the species is not listed under CITES or EU Wildlife Trade Regulations. In Sarawak's First Schedule [Section 2(1)], Part 1, of the Wildlife Protection Ordinance of 1998, *L. borneensis* are included as "totally protected species", with fines ranging from US$1600–8600, and jail sentences of 1–5 years across the range States.

3. Evaluation of trade data.

Although some Indonesian institutions are allowed to export set quotas of protected species for captive breeding, earless monitors have never been included on these lists, and as such any captive-bred animals, or animals available in trade are likely illegally sourced (Nijman and Stoner, 2014). Between 1877, when the Earless Monitor Lizard was first described, and the end of the last century only some 100 or so specimens were reportedly collected. Since Yaap et al.'s (2012) documentation of the species in West Kalimantan, the lizard showed up in social forums online, and there has been a spike in illegal collection, with the species available for sale online in Asia and Europe (Nijman and Stoner, 2014). A TRAFFIC report released in 2014 states that earless monitor lizards found outside range States have all been obtained illegally. Parent stock has been illegally obtained, and by extension, the offspring of these animals are illegally sourced (Nijman and Stoner, 2014). Social media and online groups have enabled much illegal trade online, occurring within trust-based, closed networks limiting access and knowledge of the true level of trade. Considered the "Holy Grail" of the reptile-collecting world, specimens can fetch €5000–8000 a pair, and in the USA, the average price ranges from US$7500–9000 per individual (The Guardian 2015; CoP17 Prop. 32).

4. Potential other information by CITES reviews and on nature management issues in range states

Protection laws are in place for this species in all of its known and potential range States of Malaysia, Indonesia and Brunei. So little is known of *L. borneensis'* habits and population/habitat status that management measures cannot be specified. There is no current international protection of the species. No known captive breeding programs are in place for *L. borneensis*, although a Japanese zoo reported that it had successfully bred the species in captivity in July 2014. Given that earless monitor lizards cannot be legally collected, the source of the parent stock in this case was questionable (Nijman and Stoner, 2014; CoP17 Prop. 32)

5. Recommendations

It is clear that despite local protection with severe penalties, collection and trade in this species endures. The proponents suggest an Appendix I listing to make it clear to all parties that international trade is not permitted. Given the incredibly rare nature of the species, its occurrence in less than 10 known locations, and the well-known state of habitat degradation in Borneo, the species may also be vulnerable to other potential factors associated with erosion of genetic diversity. Without appropriate management for the species and its habitat, it is highly likely that unregulated trade in this species is detrimental.

6. References

The Guardian. (2015) Article: Lizard traffickers exploit legal loopholes to trade at world's biggest fair. https://www.theguardian.com/environment/2015/nov/11/lizard-traffickers-exploit-legal-loopholes-to-trade-at-worlds-biggest-fair

Nijman V., Stoner, S.S (2014) Keeping an ear to the ground: monitoring the trade in Earless Monitor Lizards. TRAFFIC, Petaling Jaya, Selangor, Malaysia.

Yaap B., Paoli G.D., Angki A., Wells PL., Wahyudi D., Auliya M (2012) First record of the Borneo Earless Monitor *Lanthanotus borneensis* (Steindachner, 1877) (Reptilia: Lanthanotidae) in West Kalimantan (Indonesian Borneo). Journal of Threatened Taxa 4:3067–3074.

Review of proposal 40 CoP17, *Telmatobius coleus.*

1. Review of listing proposal under CITES

Inclusion of the Titicaca water frog (*Telmatobius culeus*) in Appendix I is proposed by the Viceministerio de Medio Ambiente, Biodiversidad y Cambios Climáticos y de Gestión y Desarrollo Forestal, Bolivia, in accordance with Annex 1 of Res. Conf. 9.24 (Rev. CoP16).

Species name: *Telmatobius culeus* (Garman, 1876). Common name: Titicaca water frog. In 2002, *Telmatobius albiventris* and *Telmatobius crawfordi* were synonymized with this species (Benavides et al., 2002).

Distribution: This species is endemic to the Lake Titicaca basin on the border of Peru and Bolivia.

Population trend: IUCN states that the population is declining, and the listing is based on an estimated population decline of more than 80% over the last three generations (approximately 15 years; Icochea et al., 2004; Batko, 2014). The Ministry of Environment and Water in Bolivia estimated that at the Minor Lake of Titicaca, the population fell by 39% between 1999 and 2008 (cited in CoP17 Prop). Between April and May 2015, there was 100% mortality of the local population of *T. culeus* in the Minor Lake in Cohana Bay, thought to be caused by an algal bloom due to increased nutrients from contaminants (CoP17 Prop).

Habitat status: Runoff from industry and agriculture in the surrounding area is thought to have led to water pollution in the lakes that comprise *T. culeus* habitat. Furthermore, introduced trout in Lake Titicaca has proved a serious threat by predation of tadpoles, and water extraction is a common activity. Thus the habitat quality is in decline (Icochea et al., 2004; Batko, 2014).

Describe known/suspected level of trade: This species is primarily harvested for consumption and medicinal purposes in Peru and Bolivia. Detailed information on trade volumes is not available, however Icochea et al. (2004) state that all specimens that can be captured are taken, and Altherr et al. (2011) suggest that seizures containing thousands of frogs indicate an intense and likely unsustainable trade. Angulo (2008) interviewed one market vendor who was placing orders for 1200–2400 *Telmatobius* individuals per week in Peru, though it is unclear how many of these are specifically *T. culeus*. Although it seems that the majority of trade is domestic, there is evidence of international trade within South America, and with Europe (Reading et al., 2011). In March 2016, 6 specimens were confiscated in Equador on their way to Europe (Pers. Comm. cited in CoP17 Prop).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

5. *T. culeus* is listed as Critically Endangered on the IUCN Redlist. It is not currently protected under CITES or the EU Wildlife Trade Regulations. As a threatened species, it is protected by legislation which bans collection and sale of threatened species (Angulo, 2008), however in practice, there does not seem to be much enforcement of this, and many frog vendors in Peru seem oblivious to the bans (Angulo, 2008).

3. Evaluation of trade data.

All known trade is of wild-caught animals, however no international regulation in trade exists for this species. As a Threatened species, *T. culeus* is protected under national legislation, and as such collection and trade is illegal. Despite this, many local vendors are oblivious to the bans, and harvest of frogs is high (Angulo, 2008), being largely consumed dried, in soups or shakes as food, or for medicinal purposes. In 2005, about 4,400 *T. culeus* individuals were confiscated from illegal traders at a large market in Lima (Angulo, 2008). The proponents suggest that trade for consumption occurs both locally and across national borders (especially between Bolivia and Peru). There is a suggestion that *T. culeus* is also available on the international pet-trade, however little further information is available (CoP17 Prop).

4. Potential other information by CITES reviews and on nature management issues in range states

There is currently no management in place for *T. culeus* populations, although Lake Titicaca is a nationally protected reserve, however measures are needed to protect the aquatic habitat from agricultural pollution and water extraction. Population monitoring has found the population to be very small, despite previously being very common. As a Threatened species, *T. culeus* is protected under national legislation, and as such collection and trade is illegal. Authorities carry out inspections at local markets to detect illegal trade. The Dorbigny Museum in Bolivia has been carrying out a pilot project for captive breeding of the species, and captive breeding programs have had varied success (Icochea et al., 2008; Batko, 2014). There is a national awareness campaign to reduce the consumption of the species, though it is unknown how effective this is (www.amphibianark.org/).

5. Recommendations

Given the drastic population decline of the species in the last few generations, harvest is the most immediate threat to this species. Local consumption of *T. culeus* appears unsustainable; it is unclear as to how much international trade is occurring, although it would seem that it is a regular occurrence across the border of Bolivia and Peru. Coupled with the threats of habitat degradation: water contamination due to agricultural runoff, predation of tadpoles by introduced trout, water extraction and climate warming (Icochea et al., 2008, Batko, 2014), continued unregulated trade of this species is likely to be highly detrimental, especially considering that demand for this species is continually growing (Angulo, 2008).

6. References

Altherr S., Goyenechea A. Schubert D. (2011) Canapés to extinction—the international trade in frogs' legs and its ecological impact. A report by Pro Wildlife, Defenders of Wildlife and Animal Welfare Institute (eds.), Munich (Germany), Washington, DC (USA).

Angulo A. (2008) Consumption of Andean frogs of the genus *Telmatobius* in Cusco, Peru: recommendations for their conservation. TRAFFIC Bulletin 21:95–97.

Batko K. 2014. "*Telmatobius culeus*" (On-line), Animal Diversity Web. Accessed June 25, 2016 at http://animaldiversity.org/accounts/Telmatobius_culeus/

Benavides E., Ortiz J.C., Sites Jr, J.W. (2002) Species boundaries among the *Telmatobius* (Anura: Leptodactylidae) of the Lake Titicaca basin: allozyme and morphological evidence. Herpetologica 58:31–55.

Icochea J., Reichle S., De la Riva I., Sinsch U., Köhler J. (2004) *Telmatobius culeus*. The IUCN Red List of Threatened Species 2004: e.T57334A11623098.http://dx.doi.org/10.2305/IUCN.UK.2004.RLTS.T57334A11623098.en.

Ministerio de Medio Ambiente y Agua (2009) Libro rojo de la fauna silvestre de vertebrados de Bolivia. Ministerio de Medio Ambiente y Agua, La Paz, Bolivia 571 pp. (cited in Cop 17 Prop)

Reading R.R., Weaver T.J., Garcia J.R., EliasPiperis R., Herbert M.T., Cortez C., Muñoz A., Rodríguez J.E., Matamoros, Y. (Eds.) (2011) Lake Titicaca's Frog (Telmatobius culeus) Conservation Strategy Workshop. Conservation Breeding Specialist Group, Peru. http://www.amphibianark.org/telmatobius-culeus/

Review of proposal 41 CoP17, *Paramesotriton hongkongensis.*

1. Review of listing proposal under CITES
Inclusion of the Hong Kong warty newt (*Paramesotriton hongkongensis*) in Appendix II, with species meeting Criterion B) Annex 2(a) of Res. Conf. 9.24 (Rev. CoP16). The proposal is put forward by the People's Republic of China.

Species name: *Paramesotriton hongkongensis* (Myers and Leviton, 1962). Common names: Hong Kong warty newt, Hong Kong newt or giant fire-bellied newt. Scientific synonyms include *Trituroides hongkongensis* and the sub-species *Paramesotriton chinensis hongkongensis*. Thorn and Raffaelli (2001) classified this as a full species distinct from *Paramesotriton chinensis*, however the two are often confused, or still synonymised by naturalists (Lau and Chan, 2004).

Distribution: The species is endemic to China, with populations found in isolated locations throughout a restricted distribution in Hong Kong, and the coastal Guangdong province (Lau and Chan, 2004; Zhang et al., 2011). It is thought that the extent of occurrence is less than 20,000 km^2.

Population trend: Although considered a common species in its declining habitat, the population is considered to be decreasing (Lau and Chan, 2004). This decline is primarily attributed to collection for the pet trade (Lau and Chan, 2004).

Habitat status: *P. hongkongensis* is highly reliant on a high-quality environment, and is sensitive to habitat degradation. The extent and quality of its habitat is probably declining but not severely fragmented, according to IUCN (Lau and Chan, 2004), with the proponents citing the construction of hydropower stations, tourism and water channelising and pollution in natural parks as threats to their habitat (also see Zhang et al., 2011).

Describe known/suspected level of trade: *Paramesotriton* is a popular species for the pet trade because of its colourful markings. It is one of the four most common salamander genera imported into the USA. Kolby et al, (2014) reported 223,924 imported into the USA from Hong Kong between 2006 and 2010. It is thought that this figure may in reality exceed 300,000 specimens because the species was also found mixed with shipments of *Cynops* salamanders. Trade is mainly in live adults, and despite the fact that they readily breed in captivity it is thought that traded specimens are mostly captured from the wild.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.
P. hongkongensis is listed as Near Threatened by the IUCN (Lau and Chan, 2004), but the assessment states that it is close to qualifying as Vulnerable due to over collection for the pet trade, and possible habitat degradation. The species is not protected under CITES currently, but has been listed under Annex D of the EU Wildlife Trade Regulations since 2014.
The species has been protected under the Wild Animals Protection Ordinance (Cap.170) in Hong Kong since 1997. China's Regulations on Nature Reserves ban harvest of animals within reserves.

3. Evaluation of trade data.
Because of its bright colour patterns, *P. hongkongensis* is extremely popular for the international pet trade (Zhang et al., 2011), the collection for which is the most significant threat to the persistence of the species. Various domestic and international research institutions also collect the species for scientific research, although it is not clear in what volume this occurs. CITES trade data lists more than 1,000 individual *P. chinensis* as being traded between 2009 and 2013, which may include some *P. hongkongensis*, as the latter is still considered by some a subspecies of the former. Between 2006 and 2010, Kolby et al. (2014) reported that 223,924 *P. hongkongensis* individuals were exported from Hong Kong into the USA alone, with the figure possibly being even higher (the species is sometimes mixed with other newt species and goes unidentified in shipments).

4. Potential other information by CITES reviews and on nature management issues in range states

Rowley et al. (2016) state that the international pet trade is the primary threat to all Southeast Asian newts, and recommend listing all species on CITES in an effort to monitor trade, curb illegal harvesting and safeguard wild populations. *P. hongkongensis* is a protected species under the Wild Animals Protection Ordinance (Cap.170) in Hong Kong (Lau and Chan, 2004; Zhang et al., 2011), and it is an offence to collect or disturb them or their eggs. *P. hongkongensis* is also under state protection in China, as its main distribution falls within protected areas, and in Hong Kong it is protected under local legislation (Lau and Chan, 2004). In January 2016, *P. hongkongensis* was one of 201 salamander species added to the list of injurious wildlife species as a result of the incidence of chytrid fungus in Asian traded amphibians (DIFWS 2016). Unregulated trade of these species may pose a serious threat to amphibians native to importing countries if individuals are infected (Martel et al., 2014).

5. Recommendations

P. hongkongensis require high-quality aquatic conditions to survive, and are highly sensitive to environmental change. This alone means that they are likely to be vulnerable to habitat degradation from human activities, though this hasn't been conclusively reported as a specific threat to this species. The single biggest threat to *P. hongkongensis* (and Southeast Asian newts generally) is collection for the wildlife trade (Lau and Chan, 2004; Rowley et al., 2016). Unregulated trade is likely to be detrimental, particularly given the high numbers reportedly exported from Hong Kong (Kolby et al., 2014), and the fact that these figures may be conservative. Furthermore, the incidence of chytrid fungus in Southeast Asian newts makes it seem pertinent to monitor trade of these species more closely to protect native wildlife internationally (Kolby et al., 2014; Martel et al., 2014; DIFWS, 2016)

6. References

DIFWS (Department of the interior Fish and Wildlife Service) (2016) Injurious wildlife species; listing salamanders due to risk of salamander chytrid fungus. Federal Register 81:1534-1556.

Kolby J.E., Smith K.M., Berger L., Karesh W.B., Preston A., Pessier A.P., Skerratt L.F. (2014) First evidence of amphibian chytrid fungus (*Batrachochytrium dendrobatidis*) and rana virus in Hong Kong amphibian trade. PLoS ONE 9:e90750. doi:10.1371/journal.pone.0090750

Lau M.W.N., Chan B. (2004) *Paramesotriton hongkongensis*. The IUCN Red List of Threatened Species 2004: e.T59460A11945539.http://dx.doi.org/10.2305/IUCN.UK.2004.RLTS.T59460A11945539.en.Martel A., Blooi M., Adriaensen C., Van Rooij P., Beukema W., Fisher M. C., Farrer R.A., Schmidt B.R., Tobler U., Goka K., Lips K. R., Muletz C., Zamudio K.R., Bosch J., Lötters S., Wombwell E., Garner T.W.J., Cunningham A.A., Spitzen-van der Sluijs A., Salvidio S., Ducatelle R., Nishikawa K., Nguyen T.T., Kolby J.E., Van Bocxlaer I., Bossuyt F., Pasmans F. (2014) Recent introduction of a chytrid fungus endangers Western Palearctic salamanders. Science 346:630–631.

Rowley J.J.L., Shepherd C.R., Stuart B.L., Nguyen T.Q., Hoang H.D., Cutajar T.P., Wogan G.O.U., Phimmachak S. (2016) Estimating the global trade in Southeast Asian newts. Biological Conservation 199:96–100.

Thorn R., Raffaëlli J. (2001) *Les Salamanders de L'Ancien Monde*. Societé Nouvelle des Editions Boubée, Paris.

Zhang Y.X., He C.Z., Dudgeon D., Zhang Z.Y., Wang G.M. (2011) Mountain ridge and sea: Geographic-barrier effects on genetic diversity and differentiation of the Hong Kong newt (*Paramesotriton hongkongensis*) revealed by AFLP. Annales Botanici Fennici 48:119–127.

Review of CoP17 proposal 39, *Scaphiophryne* spp.

1. Review of listing proposal under CITES

Inclusion of three species of burrowing frog, *Scaphiophryne marmorata, S. boribory* and *S. spinosa* in Appendix II. *Scaphiophryne marmorata* and *S. boribory* are to be listed according to Article II, paragraph 2(a) of the Convention, satisfying Criterion A) Annex 2(a) of Res. Conf. 9.24 (Rev. CoP16), and *S. spinosa* to be listed in accordance with Article II, paragraph 2(b) of the Convention.

Species name: *Scaphiophryne marmorata* Boulenger, 1882. *Scaphiophryne boribory* Vences et al., 2003*. Scaphiophryne spinosa* Steindachner, 1882. Common names: All three species are similar in morphology and are often referred to as green marbled burrowing frogs. Burrowing frog and marbled rain frog are also names used.

Distribution: All three species are endemic to Madagascar. *S. marmorata* occurs from Zahamena south to Andasibe in east-central Madagascar with its extent of occurrence estimated at less than 20,000 km^2 (Vences and Glaw 2008). *S. boribory* is found in eastern Madagascar, with its extent of occurrence extending less than 5000 km ^{2}. Within this area it is known from only 5 localities (Vences et al., 2008). *Scaphiophryne spinosa* has a wide yet patchy distribution throughout eastern Madagascar.

Population trend: According to IUCN, both *S. marmorata* and *S. boribory* are locally abundant, but found in few localities and the populations of both are decreasing (Vences and Glaw, 2008; Vences et al., 2008). The population trend of *S. spinosa* is currently unknown, though Vallan et al. (2008) suggest that it is not common.

Habitat status: The forest habitats in which all of these species live are disappearing due to agriculture, grazing, urbanisation, as well as harvesting for timber and charcoal (Vallan et al., 2008; Vences and Glaw, 2008; Vences et al., 2008). There is no information as to the extent of fragmentation of the habitat of each species, however, the extent of forest loss in these areas suggest that fragmentation is quite probable.

Describe known/suspected level of trade: *S. marmorata* is a popular species for terrarium keepers (Mattioli *et al* 2006; available for sale at ~US$45 e.g www.freshmarine.com), however Vences and Glaw (2008) say that the numbers of this species in the pet trade are relatively small and not likely to be at a high enough level to have a highly negative impact. The IUCN suggests that over-collecting for the international pet trade may be a threat to *S. boribory* (Vences et al., 2008), however no further information appears to be available. No information was found on trade for *S. spinosa.*

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

Under the IUCN, *S. marmorata* is listed as Vulnerable (Vences and Glaw, 2008), *S. boribory* is listed as Endangered (Vences et al., 2008), and *S. spinosa* is listed as Least Concern (Vallan et al., 2008). None of the species are currently listed under CITES, or protected under EU Wildlife Trade Regulations.

3. Evaluation of trade data.

Very little data on trade of any of these species are available, and no illegal trade is known. The proponents state that harvesting of *S. marmorata* and *S. boribory* for the pet trade occurs in the same locality, however, it is not clear whether current harvesting levels are sustainable or not (CoP 17 Prop. 39). Mattioli et al. (2006) suggest that *S. marmorata* is suited to intensive captive breeding, and suggest that market demand could possibly be fully met with captive-bred animals as a conservation management strategy. The proponents provide data showing that 245, 40 and180 specimens of *S. marmorata, S. boribory* and *S. spinosa* respectively were exported from Madagascar internationally between 2012 and 2015. They also present US import data showing a total of 697 *S. marmorata* and 303 unidentified *Scaphiophryne spp.* were brought into the USA between 2012 and 2014. There is a discrepancy between export and import estimates, suggesting that trade may be higher than records currently suggest.

4. Potential other information by CITES reviews and on nature management issues in range states

None of these species are currently protected under CITES. Nationally, all species are protected, with collection of any wildlife requiring permits (CoP17 Prop. 39). There are no management measures currently in place for any of the species. All three species are bred in captivity, both at zoological institutions and by private breeders (CoP 17 Prop. 39; Mattioli et al., 2006). *S.*

marmorata occurs has known populations in protected areas, as does *S. spinosa* and *S. boribory,* however, is not known from any protected areas.

5. Recommendations

S. marmorata and *S. boribory* are threatened species recommended for listing under CITES II. The third species in the proposal, *S. spinosa*, is not considered threatened, but is proposed for listing due to its previous synonymy with *S. marmorata* and similar morphology, which may impede accurate identification and thus monitoring of species trade. It appears that demand for these species is relatively low, however discrepancies in trade data suggest that trade may be higher than currently estimated. Additionally, unregulated trade makes it difficult to monitor whether harvesting is sustainable. Given the small extent of occurrence for the two threatened species, and the fact that the habitat of all three is continually being lost to agriculture and other human activities, it is possible that if trade were to increase, this would exacerbate the threats already imposed on the species. More information on these species, monitoring of wild populations and their habitat, as well as better records and monitoring of trade seem pertinent to protecting these species.

6. References

Mattioli F., Gili C., Andreone F. (2006) Economics of captive breeding applied to the conservation of selected amphibian and reptile species from Madagascar. Natura Societa Italiana di Scienze Naturale e Museo Civico di Storia Naturale Milan 95:67–80.

Vallan D., Cadle J., Glaw F. (2008) *Scaphiophryne spinosa*. The IUCN Red List of Threatened Species 2008: e.T58002A11711350.http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T58002A11711350.en.

Vences M., Glaw F. (2008) *Scaphiophryne marmorata*. The IUCN Red List of Threatened Species 2008: e.T58000A11710662.http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T58000A11710662.en.

Vences M., Raxworthy C.J., Glaw F. (2008) *Scaphiophryne boribory*. The IUCN Red List of Threatened Species 2008: e.T57995A11704237.http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T57995A11704237.enhttp://www.freshmarine.com

Review of CoP17 proposal 38, *Dyscophus* spp.

1. Review of listing proposal under CITES

Inclusion of *Dyscophus guineti* and *Dyscophus insularis* in Appendix II, in accordance with Article II, Paragraph 2(a) of the Convention, with species meeting Criterion A) Annex 2(a) of Res. Conf. 9.24 (Rev. CoP16). The proposal is put forward by Madagascar.

Species name: *Dyscophus guineti* (Grandidieri 1875) and *Dyscophus insularis* Grandidieri, 1872. Common names: Both are known as false tomato frog or tomato frog. *D. guineti* is also referred to as Sambava tomato frog, while *D. insularis* is also called Antsouhy tomato frog.

Distribution: Both species are endemic to Madagascar. *D. guineti* occurs along the eastern rainforests of Madagascar. Although widely distributed, records are patchy. Since its description, it has not been seen again in its northernmost locality of Sambava, and most records come from east-central Madagascar and down into the southeast (Nussbaum et al., 2008). *D. insularis* is widespread throughout northwestern and western Madagascar (Glaw and Vences, 2008).
Population trend: The population trends of both species are unknown, however *D. insularis* is considered common, while *D. guineti*'s abundance varies from "extremely common to very rare" (Glaw and Vences, 2008; Nussbaum et al., 2008).

Habitat status: Both species live in forests, with *D. insularis* occupying more dry-tropical forest and savannahs, and moister forest in the north. *D. guineti* is found in wetter swamp forests and primary rainforest. Neither species is known from disturbed or degraded habitats, indicating that they do not cope well with habitat disturbance. In Madagascar, forest habitats are receding due to human activities including agriculture and grazing, harvesting for timber and charcoal, as well as human infrastructure. Continued disturbances in the areas separating habitats could increase fragmentation.

Describe known/suspected level of trade: *D. guineti* is the more heavily exploited of the two species, presumably because of its brighter colouration. According to the export database of Madagascar (cited in CoP17 Prop), a total of 2,852 *D. guineti* and 982 *D. insularis* were exported between 2012 and 2015, with a sharp increase in 2015 (9 and 6-fold, respectively). USA import data from 2012 to 2014 (cited in Cop17 Prop) shows imports of 1,919 and 1,178 *D. guineti* and *D. insularis* specimens, respectively. It is thought that since their sister species, *D. antongilii*, was listed under CITES I, exploitation has increased for *D. guineti* and *D. insularis* (*D. guineti* in particular; Nussbaum et al**.,** 2008).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

Neither species is currently listed under CITES or EU Wildlife Trade Regulations. Both are listed on the IUCN Redlist as Least Concern (Glaw and Vences, 2008; Nussbaum et al., 2008).

3. Evaluation of trade data.

All trade in both *D. guineti* and *D. insularis* is legal. A total of 2,852 *D. guineti* and 982 *D. insularis* were exported between 2012 and 2015 (Malagasy export data cited in Cop17 Prop), however the majority of these were traded in 2015, which saw a sharp spike in exports. For example, 270 *D. guineti* were reportedly exported from Madagascar in 2014, and 2390 were exported in 2015. Similarly, 150 *D. insularis* were exported in 2014, and 720 reportedly left the country in 2015. There is a discrepancy in the numbers of animals reportedly exported from Madagascar to the USA (according to Malagasy export records) and those imported into the USA (according to USA import records), which could indicate either 1) actual trade is higher than reported, or 2) international retailers and captive breeders are contributing to international trade. Although they are legal to trade, *D. guineti* has been found within other confiscated shipments of Malagasy species (CoP17 Prop). It is suggested that *D. guineti* trade in particular has increased since its sister species, *D. antongilii*, was listed under CITES I. Both are bright red-orange in colour (*D. antongilii* moreso), which makes them popular pets, while *D. insularis* is tan or brown coloured. Both *D. guineti* and *D. insularis* are regularly available for sale online, fetching US$20–45 each (e.g www.backwaterreptiles.com; www.undergroundreptiles.com; www.bigappleherp.com; www.reptilecity.com).

4. Potential other information by CITES reviews and on nature management issues in range states

There are no management measures in place for either species, and very little is known about their ecology. No population monitoring or assessments have been carried out. Permits are required from the Ministère de l'Environnement, de l'Ecologie, de la Mer et des Forêts for the commercial collection of wildlife. *D. guineti* is regularly bred in captivity, mostly at zolological institutions, but occasionally commercially by private breeders (Li Vigni, 2013; cited in CoP17 Prop, but not verified as the source is in French). Mattioli et al. (2006) found that *D. guineti* is suited to intensive commercial breeding in captivity, and concluded that commercial demand could be fully met with captive-bred animals. There are reports that *D. insularis* has also been bred in captivity, but these are unverified. *D. guineti* is not found in any protected areas (Nussbaum et al., 2008). Some populations are found within the newly-protected Ankeniheny-Zahamena Forest Corridor (CoP17 Prop). *D. insularis* occurs in several protected areas (Glaw and Vences, 2008). The proponents state that despite legal protection, the forest is under heavy use in many of these areas.

5. Recommendations

Habitat loss and degradation through agriculture, grazing, harvesting for timber and charcoal, and urbanization are the primary threats to both of these species. Although they are regularly found on the international pet trade, IUCN listings for both species state that trade is not likely to be at a level that seriously threatens populations (Glaw and Vences, 2008; Nussbaum et al., 2008). This should be treated with caution, however, as no studies have been carried out on the population trends of either species, and one of them (*D. guineti*) is supposedly very rare in some areas it inhabits (Nussbaum et al., 2008). Mattioli et al**.** (2006) determined that trade in *D. guineti* could be met with captive-bred animals, and if such a practice was established, this would likely alleviate harvesting pressure from wild populations. Some regulation through a quota system or better monitoring of exports and imports would at least ensure sustainable trade.

Until more is known about the population trends in this species, it is difficult to say whether or not trade is currently detrimental.

6. References

Glaw F., Vences M. (2008) *Dyscophus insularis*. The IUCN Red List of Threatened Species 2008: e.T57806A11684505.http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T57806A11684505.en.
Mattioli F., Gili C., Andreone F. (2006) Economics of captive breeding applied to the conservation of selected amphibian and reptile species from Madagascar. Natura Societa Italiana di Scienze Naturale e Museo Civico di Storia Naturale Milan 95:67–80.
Nussbaum R., Vences M., Cadle J. (2008) *Dyscophus guineti*. The IUCN Red List of Threatened Species 2008: e.T57805A11684170.http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T57805A11684170.en.
http://www.backwaterreptiles.com/frogs/tomato-frog-for-sale.html
http://www.bigappleherp.com/Tomato-Frogs-Captive-Bred-Babies
http://www.reptilecity.com/Merchant2/merchant.mvc?Screen=PROD&Product_Code=TFL&Category_Code=FROGS
http://undergroundreptiles.com/shop/baby-tomato-frog/

Review of CoP17 proposal 37, *Dyscophus antongilii.*

1. Review of listing proposal under CITES

Madagascar proposes downlisting of *Dyscophus antongilii* from CITES Appendix I to Appendix II

Species name: *Dyscophus antongilii* Grandidier, 1877. Common name: Tomato Frog. The genus Dyscophus contains *D. antongilii*, *D. guineti* and *D. insularis*, the tomato frogs. While the taxonomy and division of these species has been debated, recent molecular data support the division of *D. antongilii* and *D. guineti* as separate species (Orozco-terWengel et al., 2013)

Distribution: The species is endemic to Madagascar, with specific records from around Atongila Bay, Fizoana, Laraka, Maroansetra, Rantabe and Voloina (Glaw and Vences, 2007).

Population trend:
IUCN status: Near Threatened (Raxworthy et al., 2008). Population seems to have declined during recent years (Andreone et al., 2012).

Habitat status: The tomato frog lives in primary rainforest, coastal forest, secondary vegetation, degraded scrub, and highly disturbed urban areas. It is a very adaptable species, but possible declines in Maroansetra indicate that there might be a limit to the extent that it can persist in urbanized habitats (Raxorthy et al., 2008)

Known/suspected level of trade:
All international commercial trade of *D. antongilii* has been illegal since 1987, the date of its insertion into Appendix I. However, a search in the CITES Trade database (for trade between 2000 and 2015) reveals that between 2000 and 2007, 572 (importer reported) and 471 (exporter reported) specimens were traded for use in zoos, and for commercial, medical and scientific purposes. While many of these specimens were reported as captive bred, more than half were reported as wild caught. According to the proponent, only the closely related *D. guineti (*proposed to be listed under CITES Appendix II at the Cop17) has been confiscated within Malagasy smuggling shipments. However, Traffic reports that it was indeed *D. antongilii* that was confiscated from two Malagasy women in Kuala Lumpur (47 specimen) (Traffic, 2010).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

D. antongilii is currently listed under EU wildlife trade regulations Appendix A and in CITES Appendix I since 1987. IUCN 2008: Near Threatened. Justification: because its extent of occurrence is probably less than 20,000 km2, but the species is adaptable and survives well in disturbed habitats (Raxworthy et al., 2008).

3. Evaluation of trade data.
While there has been a complete trade ban since 1987, the CITES trade database still reveals that there has been trade in this species. The total ban of trade in *D. antongilii* has apparently led to the collection and export of the very similar *D. guineti* in high numbers (Andreone et al., 2006). Moreover, the difficulties in telling the two species apart will pose a challenge for regulating trade. For example, among the websites resulting from a google search on "*Dyscophus antongilii for sale"* http://www.petsolutions.com/C/Live-Frogs/I/Tomato-Frog.aspx claims to sell *D. antongilii,* while the frog depicted on the website`s photo seem to be *D. guineti* (not as bright red).

4. Potential other information by CITES reviews and on nature management issues in range states
While the species is under complete protection in Madagascar, there are, according to the proponent, currently no management measures in place for this species. Moreover, there are no population monitoring programs carried out for this species. This statement is supported in Andreone et al. (2006), in a discussion regarding the lack of general biology data, conservation measures, taxonomic status (in regard to the relatedness with *D.guineti*) and distributional data for *D. antongilii*. Furthermore, Andreone et al. (2012) mentions that Madagascar is regularly challenged by CITES to defend its export quota for highly threatened species and improved population data for wild frogs subjected to commercial collecting are needed.

5. Recommendations
According to Anderone et al. (2006), the current system of quota definitions for the amphibians of Madagascar is based mainly on personal opinions and/or consensus arrived by the scientific community (generally based on scarce data). Given the poor data underlying the amendment proposal, it seems difficult to establish whether the proposal to amend *D. antongilii* from CITES I to CITES II is in accordance with the precautionary measures set out in Annex 4 of Resolution Conf. 9.24 (Rev. CoP16). For example, how will sustainable trade quotas be set without reliable population size data? To conclude, unless trade quotas are set based on reliable population data, trade may be detrimental to *D. antongilii.*

6. References
Raxworthy C.J., Vences M., Andreone F., Nussbaum R. (2008) *Dyscophus antongilii*. The IUCN Red List of Threatened Species 2008: e.T6937A12817377.
http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T6937A12817377.en
http://www.traffic.org/home/2010/7/16/hundreds-of-malagasy-tortoises-seized-in-malaysia.html
Glaw F., Vences M. (2007) A Fieldguide to the Amphibians and Reptiles of Madagascar. Third Edition. Vences & Glaw Verlag, Cologne, Germany.
Andreonea F., Carpenter A.I., Copseyc J., Crottinid A., Garciac G., Jenkinse R.K.B., Köhlerg J., Rabibisoah N.H.C., Randriamahazoi H., Raxworthy C.J. (2012) Saving the diverse Malagasy amphibian fauna: where are we four years after implementation of the Sahonagasy Action Plan? Alytes, 2012, 29 (1¢4): 44-58.
Orozco-terWengel P., Andreone F., Louis E., Vences, M. (2013), Mitochondrial introgressive hybridization following a demographic expansion in the tomato frogs of Madagascar, genus *Dyscophus*. Mol Ecol, 22: 6074–6090. doi:10.1111/mec.12558

Review of CoP17 proposal 49, *Polymita spp.*

1. Review of listing proposal under CITES
Listing the land snail genera *Polymita* in Appendix I is proposed by Cuba. Cuba argues that the listing is in accordance with criteria B and C given in Annex I of Resolution Conf. 9.24 (Rev. CoP16) for the species *Polymita picta, P. muscarum, P. venusta, P. sulphurosa, P. brocheri* and *P. versicolor.* Cuba argues that the spectacular appearance of the snails makes them target for collectors and handicrafts, and thus an international marked. Combined with habitat destruction, land use changes, fragmentation and competition from invasive species, the pressure from trade has caused a decrease in the populations of *Polymita* land snails.

Species name: *Polymita* Beck, 1837. Common name: Cuban land snails. The genus includes six species: *Polymita picta* (Born, 1780), *P. muscarum* (Lea, 1834), *P. venusta* (Gmelin, 1792), *P. sulphurosa* (Morelet, 1849), *P. brocheri* (Gutiérrez and Pfeiffer, 1864) and *P. versicolor* (Born,

1780). Many subspecies have been described. The shells of *Polymita* snails are very colorful and diverse.

Distribution: The genus *Polymita* is endemic to the oriental region of Cuba from the province Camagüey to Guantánamo. Each species have a more strict distribution within this region given in detail in the proposal.

Population trend: For the genus *Polymita* in general, the populations are decreasing but the degree of decrease varies among the species.

Habitat status: According to the proponents, the distribution area of the genus has been reduced by more than 56%. Habitat reductions for each species are given in the proposal based on a possible historical distribution and current distribution after surveys.

Known/suspected level of trade: The shells are still used to make 'artisanales' locally. During the last 20 years, only two incidences of legal export have been registered. Several illegal attempts to bring shells out of Cuba have been registered between 2012 and 2016 (numbering up to 23,400 shells). They can also be bought online.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

The genus is not evaluated by IUCN, but according to the proponents, the species of *Polymita* will be given the category Critically Endangered (CR) on the national red list. The species are given the status "Especies de Especial Significación de la República de Cuba" in Resolución 160 from 2011 by del Ministerio de Ciencia, Tecnología y Medio Ambiente. For a complete bibliography of Cuban terrestrial Mollusca, including *Polymita*, see Breure and González Guillén (2010).

3. Evaluation of trade data.

Since no trade data is registered in CITES, information about trade has to be found in literature and from Cuban officials data as given in the proposal presented by the proponents.

4. Potential other information by CITES reviews and on nature management issues in range states

All export of these species from Cuba was banned in 1943 (el Decreto Ley No. 932). Further, they are given the status "Especies de Especial Significación de la República de Cuba" in Resolución 160 from 2011 by del Ministerio de Ciencia, Tecnología y Medio Ambiente. Both regulations prohibit domestic and international trade without licenses (allowed only for scientific or conservation purposes), even though illegal trade continued according to the proponents. In the recent years, surveys gathering information on these species have been conducted, as well as programs educating people involved in the trade of these species (e.g. Hernández, 2013, 2015).

5. Recommendations

The six different species within *Polymita* vary in distribution range and vulnerability. However, the fact that they all are endemic to the oriental region in Cuba, and are experiencing habitat loss and fragmentation, makes them vulnerable for overexploitation and trade.

6. References

Breure A.S.H., González A.G. (2010) Bibliography of Cuban terrestrial Mollusca, including related and biohistorical papers on Cuban malacology. NCB Naturalis Technical Bulletin 12: 1-35.

Hernández N. (2013) Updating geographic distribution and habitat conservation status of the land snail endemic species *Polymita picta* and *Polymita brocheri*, Guantánamo, Cuba. The Rufford Small Grants Foundation Final Report. 11481-1.
http://www.rufford.org/rsg/projects/norvis_hern%C3%A1ndez_herm%C3%A1ndez

Hernández N. (2015) Conservation and Management of the Endemic and Threatened Species *Polymita versicolor* and *Polymita sulphurosa*, Guantánamo and Holguín, Cuba. The Rufford Small Grants Foundation Project Update: December 2015.
http://www.rufford.org/projects/norvis_hern%C3%A1ndez_herm%C3%A1ndez

Review of CoP17 proposal 57, *Pterocarpus erinaceus.*

1. Review of listing proposal under CITES

Transfer of *Pterocarpus erinaceus* from Appendix III to Appendix II, without annotation specifying the types of specimens to be included, in order to include all readily recognizable parts and derivatives in accordance with Resolution Conf. 11.21 (Rev. CoP16). The transfer of *P. erinaceus* from the Appendix III to the Appendix II is proposed by Senegal and is co-sponsored by seven range States, namely Benin, Burkina Faso, Guinea, Guinea Bissau, Mali, Nigeria, Togo, as well with one extra State, namely Chad CITES listing criteria as outlined in Res. Conf. 9.24.

Species name: *Pterocarpus erinaceus* Poir. (GBIF, 2013). Common names: kosso, African rosewood, Gambia gum, African kino, Senegal rosewood, African teak, molompi wood tree, kino tree, African gum, lancewood, African teak, cornwood (CABI, 2013).

Distribution: *P. erinaceus* is a rosewood species native to the semi-arid Sudan-Guinea savanna forests of West Africa: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo. The species has presumably not been introduced outside its native region (Winrock, 1999; WWF, 2015).

Population trend: There is no quantitative information available on the total population of the species or other indices of population abundance. There are no firm data on either the total area of relevant habitat or the average density of stems per hectare. Suggestions of increasing scarcity even prior to the recent boom in harvesting for international trade. All harvesting of the species is from wild specimens. Usage of branches, leaves, bark and resin for fodder, firewood, handicrafts or medicine, if carried out correctly, is potentially sustainable, since the species recovers well from coppicing (Orwa 2009).

Habitat status: Surveys suggest that over 65 % of the original wildlife habitat in Africa's dry forests and woodlands has been lost (Kiss, 1990, Chidumayo and Gumbo, 2010). *P. erinaceus* is a multi-use species in West Africa: it is a keystone fire-resistant nitrogen-fixing species within fragile semi-arid habitats, an important source of livestock fodder for traditional pastoral communities across its range, and it is an important element of the rural communities' pharmacopeia. Unless rapidly checked, unsustainable exploitation of the species for international trade is therefore likely to have serious negative impacts on the environment and human population of the West African savanna. In the past, the main threat to the species has been overharvesting of branches for animal fodder (Winrock, 1999). In recent years, uncontrolled and illegal harvesting and trade of the species for its valuable timber have become the principal threat.

Known/suspected level of trade: Most illegal and unsustainable international trade is currently of logs and sawn timber (CITES). Considerable share of the international trade in *P. erinaceus* is of illegal origin. It is estimated that import of the species logs into China have risen more than 2,000-fold, between the third quarter 2009 and the third quarter 2015, from 70 m^3 to approximately 149,000 m^3. The recent seizure of more than $216 million US dollars in illegally harvested rosewood, principally *P. erinaceus* and other timber species, took place in nine West African countries: Benin, Burkina Faso, Cote d'Ivoire, Gambia, Ghana, Mali, Mauritania, Senegal and Togo, demonstrates the regional scale of the issue. The operation, led by Interpol, resulted in the arrest of 44 individuals involved in national or regional timber traffic, especially *P. erinaceus* (Interpol, 2015).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

This species is not currently listed in the EU Wildlife Trade Regulations. This taxon has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life: *P. erinaceus* Poir. Near Threatened (IUCN 3.1). Literature and websites listed below (under point 6) yield extensive documentation on the importance of *P. erinaceus* as a multi-use species in West Africa and of its great significance to

the West African savanna ecosystem. Hence, the species has importance beyond its own distribution and maintenance.

3. Evaluation of trade data

There is no information on *P. erinaceus* in: trade.cites.org, Species+, or TRAFFIC.
The CoP17 proposal contains good data on trade, providing evidence of a rapidly expanding Chinese marked, and significantly higher outtake of the species from these African nations in recent years. All harvesting of the species is from wild specimens.

4. Potential other information by CITES reviews and on nature management issues in range states

None.

5. Recommendations

P. erinaceus constitutes a dark wood, much like *Dahlbergia* sp., and by listing this species it will be easier to control trade in dark wood in general. International trade is likely to have serious negative impacts on the *P. erinaceus* itself, the ecology of the West African dry forests and the human populations who depend on them. It is known, or can be inferred or projected, that regulation of trade in the species is required to ensure that the harvest of specimens from the wild is not reducing the wild population to a level at which its survival might be threatened by continued harvesting or other influences.

6. References

CABI (2013) CABI Encyclopedia of Forest Trees, September 2013, 536pp.
Chidumayo E. N., Gumbo D.J. (eds) (2010) The Dry Forests and Woodlands of Africa. Managing for Products and Services. Earthscan, London/Washington DC, UK/USA.
CITES Secretariat (2016) Notification of the Parties No. 2016/008.
https://cites.org/sites/default/files/notif/E-Notif-2016-008.pdf
Global Biodiversity Information Facility (GBIF) Secretariat (2013) GBIF Backbone Taxonomy, 1st July 2013 - *Pterocarpus erinaceus* Poir. Georeferenced data, http://www.gbif.org/species/5349317
Kiss A. (ed) (1990) Living with wildlife: Wildlife resource management with local participation in Africa, World Bank Technical Paper 130.
Orwa C., Mutua A., Kindt R., Jamnadass R., Anthony S. (2009) Agroforestree Database: a tree reference and selection guide, version 4.0. available at
http://www.worldagroforestry.org/treedb/AFTPDFS/Pterocarpus_erinaceus.PDF
Winrock (1999) A quick guide to multipurpose trees from around the world: *Pterocarpus erinaceus*: an important legume tree in African savannas. Forest, Farm and Community Tree Network (FACT Net) FACT Sheet, FACT 99-03, June 1999. Available at
http://factnet.winrock.org/fnrm/factnet/factpub/FACTSH/P_erinaceus.html
WWF (2015) Western Africa: Stretching from Nigeria to Senegal. Ecoregion profile, available online at http://www.worldwildlife.org/ecoregions/at0707

Review of CoP17 proposal 56, *Guibourtia spp*.

1. Review of listing proposal under CITES

Inclusion of *Guibourtia tessmannii* in Appendix II of CITES in accordance with Article II, paragraph 2 a) of the Convention, and Resolution Conf. 9.24 (Rev. CoP16), Annex 2 a), paragraph B. Inclusion of *Guibourtia pellegriniana* in Appendix II of CITES in accordance with Article II, paragraph 2 a) of the Convention, and Resolution Conf. 9.24 (Rev. CoP16), Annex 2 a, paragraph B. Inclusion of *Guibourtia demeusei* in Appendix II of CITES for reasons of similarity in accordance with Article II, paragraph 2 b) of the Convention, and Resolution Conf. 9.24 (Rev. CoP16), Annex 2 b, section A. Annotation (1) # 4 All parts and derivatives, except: a) seeds (including seedpods of Orchidaceae), spores and pollen (including pollinia). The exemption does not apply to seeds from *Cactaceae* spp. exported from Mexico, and to seeds from *Beccariophoenix madagascariensis* and *Neodypsis decaryi* exported from Madagascar; b) seedling or tissue cultures obtained in vitro, in solid or liquid media, transported in sterile containers; c) cut flowers of artificially propagated plants; d) fruits and parts and derivatives thereof of naturalized or artificially propagated plants of the genus Vanilla (Orchidaceae) and of the family Cactaceae; e) stems, flowers, and parts and derivatives thereof of naturalized or artificially propagated plants of the genera *Opuntia subgenus Opuntia* and

Selenicereus (Cactaceae); and f) finished products of *Euphorbia antisyphilitica* packaged and ready for retail trade. The proponets are Gabon and the European Union.

Species name: *Guibourtia tessmannii* (Harms) J Léonard*, Guibourtia pellegriniana*J Léonard*, Guibourtia demeusei* (Harms) J Léonard. Synonyms: *Copaifera tessmannii* Harms (1910) = *Guibourtia tessmannii, Copaifera coleosperma* Benth (1865) = *Guibourtia pellegriniana, Copaifera demeusei* Harms (1897) = *Copaifera larentii* De Wild (1907) = *Guibourtia demeusei.* Common names: Bubinga, Kevazingo.

Distribution: Of the three species, *G. tessmannii* and *G.pellegriniana* are characterized by remarkable morphological similarities that complicate the differentiation of trees of both species and their wood. Their populations are scattered in relatively low densities (generally less than 0.05 feet / ha) in narrow ranges overlapping through three Central African countries; Gabon, Cameroon (South, Central and East), and Equatorial Guinea. *G. demeusei* is more subservient to floodplain forests, ranging wider and extends to the Congo Basin, where it can form small stands.

Population trend: Population trends of *G. tessmannii* and *G. pellegriniana* are difficult to ascertain. On the one hand, the size of their populations is not known, on the other hand, the influence of these populations regeneration capacity have not been sufficiently assessed. Partly due to the incomplete knowledge on stand dynamics, phenology and dispersal patterns of these species. However, it is assumed that their regeneration potential is limited, regardless of their use for the production of timber, especially because of their low densities and changing population dispersers of seeds. The regeneration of these species is very clearly deficit in many parts of their range (Precious Woods, 2014; Tosso et al., 2015a).

Habitat status: Deteriorating due to land-use change

Known/suspected level of trade: Over the past four years, the value of timber of Bubinga/Kevazingo rose in international markets due to increased Chinese demand. The prices of these precious woods, which were already among the highest, have experienced growth of the order of 300% to 500% depending on the qualities and specifications. Bubinga wood / Kevazingo is today by far the most expensive wood from tropical rain forests of Central Africa. This surge in the value led to the development of illegal networks of harvest and export of the species concerned in all countries of the ranges. By not respecting the codes of forest sustainability requirements in force in these countries, further weakens the populations of these species and may quickly lead to their disappearances at the local level.

2. Literature review of biological status and conservation status, including information status in other relevant conventions

Due to the low density of their populations, their regeneration difficulties, exploitation of *G. tessmannii* and *G. pellegriniana* outside of regulatory restrictions imposed by forest code range (legality of permits, compliance with minimum diameters cup, sustainable development in the case of industrial concessions) is detrimental to the maintenance of these species and may contribute to their disappearance at the local level. If strong measures are not taken quickly to prevent the supply of the international market through illegal channels sampling, population *G. tessmannii* and *G. pellegriniana* will dwindle further, and species will disappear regions their range where their situation is currently the most precarious.

3. Evaluation of trade data

In Cameroon, the increase in cases of illegality in the exploitation and trade of Bubinga proved for several years (Betti, 2012 (pages 72-78); TRAFFIC 2015 (page 14)). The cases of illegality are also documented by several recent official sources. See in particular (i) the reports of the independent observer to the forest control and monitoring of forest crimes (including the reports 61, 63, 65, 70, 71 published by AGRECO-CEW), (ii) the government of the 2013 report on the state of the fight against corruption in Cameroon (CONAC 2013), and (iii) the bed of forest offenses updated in September 2015 (which identifies fifteen litigation relating to the exploitation and trade of Bubinga (MINFOF 2015).

4. Potential other information by CITES reviews and on nature management issues in range states

These wood species are not yet listed in the CITES Appendices or on the IUCN Red List of Threatened Species

5. Recommendations

Legal, as well as illegal trade is affecting these species negatively.

6. References

AGRECO-CEW (2013-2014) *Rapports de mission* (various), Observateur indépendant au contrôle forestier et au suivi des infractions forestières au Cameroun, Contrat EuropeAid/128055/D/SER/CM, Yaoundé, Cameroon.

Betti J.L. (2012) Background information on the conservation status of Bubinga and Wenge tree species in African Countries, report prepared for ITTO, Douala, June 2012, 110 pages.

CONAC (Commission Nationale Anti Corruption) (2014) Rapport sur l'état de lutte contre la corruption au Cameroun en 2013, Présidence de la République du Cameroun, Yaoundé, 2014, 204 pages.

CTFT (Centre Technique Forestier Tropical). (1977) Fiches techniques: Bubinga. Bois et Forêts des Tropiques 173:23-35.

MINFOF (2015) République du Cameroun, Communiqué n°0137/C/MINFOF/ CAB/BNC/C du 18 septembre 2015, Informations relatives à la situation des contentieux en matière de forêts et de faune pour le compte du 2ème trimestre 2015.

Tosso F., Cherchye G., Lognay G., Doucet J-L. (2015b) Etude des disperseurs et prédateurs de Guibourtia tessmannii : Quelle influence sur le potentiel de régénération de l'espèce ? Poster de présentation d'une recherche en cours, Gembloux

Tosso F., Daïnou K., Hardy O.J., Sinsi B., Doucet J.L. (2015a) Le genre Guibourtia Benn., un taxon à haute valeur commerciale et sociétale (synthèse bibliographique). Biotechnology, Agronomy, Society and Environment 19(1):71-88.

Review of CoP17 proposal 58, *Adansonia grandidieri.*

1. Review of listing proposal under CITES

Inclusion of *Adansonia grandidieri* in Appendix II of CITES is proposed by Madagascar. The proponent suggests that the registration is limited to seeds, fruits, oils and live plants and the registration to be annotated for this purpose.

Species name: *Adansonia grandidieri* Baillon. Common names: Baobab, bottletree, Renala, Reniala.

Distribution: *A. grandidieri* has very limited/localized distribution in two sectors of the Malagasy Southwest (Baum, 1995a,b; Baum, 1996; Razanameharizaka, 2009; Leong Pock Tsy, 2013).

Population trend: Grandidier's baobab is the biggest and most famous of Madagascar's six species of baobabs. Populations of this species are found in varying habitats ranging from dense forests with a semi-arid bioclimate and precipitation ranging from 400 to 600 mm/yr (Razanameharizaka, 2009). Local distribution is strongly influenced by water availability on alluvial soils. The majority of the populations are located in anthropic formations following deforestation near villages and fields. Stand density is 37.11 individuals per hectare in the reserve and 3.17 ind/ha outside the protected area (Ranjevasoa, 2003) while in Bekonazy, 1.24 ind/ha in the protected site and 0.98 ind/ha in not yet protected site (Fanamby, 2008).

Habitat status: Deteriorating due to land-use change; the habitat of *Adansonia grandidieri* is threatened by its conversion into agricultural land and by slash and burn or "hatsake" a traditional practice long used in the western part of Madagascar.

Known/suspected level of trade: The species is still subject to exploitation and products are marketed domestically and internationally. Fruits and seeds are most popular. The growth in market

demand makes the species seriously endangered by the abuse and destruction of its habitat. No data on illegal trade is presented in the application.

2. Literature review of biological status and conservation status, including information status in other relevant conventions

A. grandidieri is the most heavily exploited of all the Malagasy baobabs. The feet of the tree serve as host plants and refuges for animals such as bats and small nocturnal lemurs (Baum, 1995b). Their disappearance could result in the disappearance of these pollinators in the species' range. The greatest threat to the species seems to come from the transformation of its forest habitat into agricultural land. Within these disturbed habitats, there is a noticeable lack of young trees. Fires, seed predation, competition from weeds, and an altered physical environment might be affecting the ability of the Madagascar baobab to reproduce which may have devastating consequences for its survival. In 2003 the President of Madagascar vowed to triple the number of protected areas, a measure that may benefit the Grandidier's baobab.

3. Evaluation of trade data

There is a lack of trade data for this species. The only lawful registered export request was 150ml seed oil made by the RENALA company in 2014.

4. Potential other information by CITES reviews and on nature management issues in range states

A. grandidieri is not yet listed in the CITES Appendices, but it is enlisted in IUCN as Endangered (IUCN 2.3).

5. Recommendations

This tree is endemic to the island of Madagascar, where it is an endangered species threatened by the encroachment of agricultural land and to some extent trade.

6. References

Baum D.A. (1995a) A systematic revision of *Adansonia* (Bombacaceae). Annals of the Missouri Botanical Garden 82: 440-470.

Baum D.A. (1995b) The comparative pollination and floral biology of baobabs (*Adansonia*-Bombacaceae). Annals of the Missouri Botanical Garden 82: 322-348.

Baum D.A. (1996) The ecology and conservation of the Baobabs of Madagascar, Pp, 311--327. In Ganzhorn J.U., Sorg J.P. (eds.) "Ecology and economy of a tropical Dry forest in Madagascar". Primate report. 46-1.

Leong Pock Tsy J-M., Lumaret R., Flaven-Noguier E., Sauve M., Dubois M.P., Danthu, P. (2013) Nuclear microsatellite variation in Malagasy baobabs (Adansonia, Bombacoideae, Malvaceae) reveals past hybridization and introgression. Annals of Botany 112: 1759-1773.

Ranjevasoa B.N. (2003) Etudes de quelques espèces menacées (*Adansonia grandidieri* Baill., *A. rubrostipa*)

Razanameharizaka J. H. N. (2009) Régénération, démographie, physiologie de la graine et des plantules du genre *Adansonia* à Madagascar. Thèse de Doctorat. Faculté des Sciences. Université d'Antananarivo. 170p.

Razanameharizaka J. H. N., Grouzis M., Ravelomanana, D., Danthu, P. (2006) Seed storage and seed germination in African and Malagasy baobabs (*Adansonia* species). Seed Sciences Research 16:83-88.

Review of CoP17 proposal 61, *Siphonochilus aethiopicus.*

1. Review of listing proposal under CITES

South Africa is proposing the inclusion of *Siphonochilus aethiopicus* on Appendix II in accordance with Article II 2 (a) of the Convention and based on criteria A and B in Annex 2 a) of Resolution Conf. 9.24 (Rev. CoP16). South Africa argues that despite the fact that *S. aethiopicus* has a wide distribution from tropical Africa to southern Africa, it is under threat from trade in several southern African countries and is Critically Endangered (CR A4acd) in South Africa and Endangered (EN A1d) in Swaziland. Further arguments put forward by the proponent: Listing the *S. aethiopicus*

populations of South Africa, Swaziland, Mozambique and Zimbabwe on CITES Appendix II would help regulate the herbal medicines trade into South Africa through cross-border trade from Swaziland, Mozambique and Zimbabwe, which is having a negative impact on the species in the southern African region.

Species name: *S. aethiopicus* (Schweinf.) B.L. Burtt (1982). Common names: Natal ginger, wild ginger. Norwegian name: Afrikansk ingefær.

Distribution: *S. aethiopicus* is widespread across seasonally dry woodlands in tropical and sub-tropical Africa. The range States in which it is recorded are: Angola, Benin, Cameroon, Cote d'Ivoire, Ethiopia, Gambia, Ghana, Kenya, Malawi, Mali, Mozambique, Niger, Nigeria, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, the United Republic of Tanzania, Uganda, Zambia and Zimbabwe. The species is extinct over much of its former South African range (including the subpopulations in KwaZulu-Natal) and the Extent of Occurrence (EOO) has declined by more than 90% over the last 100 years

Population trend: *S. aethiopicus* is currently considered to be Critically Endangered in South Africa and Endangered in Swaziland, but the status of this species in other African range States is unknown.

Habitat status: The only quantitative data for *S. aethiopicus* habitat trends are from South Africa, where habitat loss has been reported.

Known/suspected level of trade: The influence of habitat destruction on the conservation status of wild ginger is relatively small compared to the threat of ongoing harvesting for the *muthi trade* (a term for traditional medicine in Southern Africa; Crouch et al., 2000). The harvesting of underground rhizomes for medicinal purposes has caused extensive decline in this species since the early 1900s, to such an extent that it is now considered to occur only in critically low numbers in the wild (Lötter et al., 2006). According to the proponent, large quantities of wild harvested *S. aethiopicus* rhizomes are imported into South Africa from Zimbabwe, with smaller quantities from Swaziland and Mozambique.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

S. aethiopicus has not yet been assessed for the IUCN Red List. It is currently considered to be Critically Endangered (CR A4acd) in South Africa (Lötter et al., 2006) and Endangered (EN A1d) in Swaziland. The Nagoya protocol has been ratified by many of the *S. aethiopicus* range States and is therefore relevant. Several "conservation through cultivation" initiatives have been implemented in South Africa, most notably through the Silverglen Nursery in KwaZulu-Natal. Commercial cultivation has been attempted on a small scale.

3. Evaluation of trade data.

S. aethiopicus is one of the most important and most popular of all traditional medicinal plants of southern Africa (van Wyk, 2008 and references therein; Moeng and Potgieter, 2011). There is insufficient data available to quantify the level of international trade. In the absence of a species-specific tariff code, obtaining data on legal export / import trade is difficult to impossible. There is also insufficient data available to quantify the level of illegal international trade.

4. Potential other information by CITES reviews and on nature management issues in range states

In southern Africa, where there is a low diversity of other *Siphonochilus* species, *S. aethiopicus* rhizomes are fairly distinctive compared to other rhizomes sold in traditional medicine markets, but the possibility that *S. kirkii* is traded needs to be taken into account. If doubt exists, they can be cultivated to confirm identification from fertile material. According to van Wyk (2008) the plant is exceptionally easy to propagate and cultivate, and small-scale cultivation is already underway. It is protected in the South African province of Limpopo according to The Limpopo Environmental Management Act (LEMA) (Moeng and Potgieter, 2011).

5. Recommendations

Based on over a century of field observation, plus recent quantitative assessments of decline in *S. aethiopicus* populations in South Africa, there is little doubt that the cross-border trade in *S. aethiopicus* rhizomes from Swaziland and Zimbabwe to South Africa will contribute to continued population declines in both of those countries. Although habitat loss is a factor, large-scale commercial exploitation of *S. aethiopicus* from wild populations to supply the herbal medicine trade in southern Africa is the most significant threat to this species.

6. References

Crouch N., Lotter M., Krynauw S., Pottas Bircher, C. (2000) *Siphonochilus aethiopicus* (Zingiberaceae), the prized Indungulu of the Zulu: an overview. Herbertia 55(89):115-129.
Lötter M., Burrows J., von Staden L. (2006) *Siphonochilus aethiopicus* (Schweinf.) B.L.Burtt.. [Online] Available at: http://redlist.sanbi.org/species.php?species=2061-1 [Accessed 1 June 2016].
Moeng E.T., Potgieter M.J. (2011) The trade of medicinal plants by muthi shops and street vendors in the Limpopo Province, South Africa. Journal of Medicinal Plants Research 5(4): 558-564. Available online at http://www.academicjournals.org/JMPR.
van Wyk B.-E. (2008) A broad review of commercially important southern African medicinal plants. Journal of Ethnopharmacology 119:342–355.

Review of CoP17 proposal 52, *Sclerocactus* spp.

1. Review of listing proposal under CITES

The United States of America is proposing the transfer of fishhook cacti *Sclerocactus blainei* (CITES-listed as *Sclerocactus spinosior* ssp. *blainei*), *Sclerocactus cloverae* (CITES-listed synonym of *Sclerocactus parviflorus*), and *Sclerocactus sileri* from Appendix II to Appendix I in accordance with Resolution Conf. 9.24 (Rev. CoP16), Annex 1, paragraph B iii. USA also suggests a nomenclature amendment to the Appendix-I listing of *Sclerocactus glaucus*, formerly treated as a complex, to three distinct species: *Sclerocactus glaucus* (K. Schumann), *Sclerocactus brevispinus*, and *Sclerocactus wetlandicus* (the last two are CITES-listed synonyms of *S. glaucus*), with all three species three species continuing to meet the criteria for Appendix I in accordance with Resolution Conf. 9.24 (Rev. CoP16), Annex 1, paragraph B iii. USA argues that the six species are narrow endemics with small population sizes that are threatened by international trade, particularly the seeds of these species, and that amending the CITES nomenclature for *S. blainei, S. brevispinus, S. cloverae, S. glaucus, and S. wetlandicus* and transferring *S. blainei, S. cloverae*, and *S. sileri* to Appendix-I would strengthen the regulation of the species from over-exploitation for international trade.

Species name: *Sclerocactus blainei* S.L. Welsh and K.H. Thorne, 1985. Common names: Blaine's pincushion, Blaine's barrel cactus. *Sclerocactus cloverae* K.D. Heil and J.M. Porter, 1994. Common name: New Mexico fishhook cactus. *Sclerocactus sileri* (L.D. Benson) K.D. Heil and J.M. Porter, 1994. Common name: Siler's fishhook cactus. *Sclerocactus glaucus* (K. Schumann) L.D. Benson, 1966. Common name: Colorado hookless cactus. *Sclerocactus brevispinus* K.D. Heil and J.M. Porter, 1994. Common name: Pariette cactus. *Sclerocactus wetlandicus* F. Hochstätter, 1989. Common name: Unita Basin hookless cactus. The proponent argues that the taxonomic status of the taxon *Sclerocactus* has been resolved and officially recognized by the range States based on Porter et al. (2000), Heil and Porter (2004), Porter et al. (2012) and Butterworth (2015), and that the Checklist of CITES Species and Species+ will require amending to reflect the accepted nomenclature for these species. Identification of *Sclerocactus* species can be difficult for non-experts as taxa can be confused with other members within the genus and closely related genera.

Distribution: The range of *Sclerocactus* is southwestern United States of America and northern Mexico, with the majority of species endemic to the United States America, including the species covered under this proposal. *S. blainei* is known from 3 occurrences in the States of Nevada and Utah. *S. cloverae* is known from 21 to 80 occurrences in the States of Colorado and New Mexico, and the Navajo Nation in New Mexico. *S. sileri* is known from 10-12 occurrences in the State of Arizona.

Population trend: The declining rainfall and prolonged drought conditions in southwestern United States have impacted seedling recruitment and adult survivorship of *Sclerocactus*. *S. sileri* exhibits a decreasing population trend with an estimated 25% population reduction in the last eight years, and is very likely to reach 30% in the next four years if the threats continue to affect the population in the same manner (Butterworth and Porter, 2013). There is no information available concerning population trends of *S. blainei* and *S. cloverae*.

Habitat status: Habitats for the three species are subjects to livestock grazing by cattle and sheep, and recreational off-road vehicle use (Porter and Prince, 2011). They are also threatened by invasive species and the habitats are vulnerable to prolonged drought and the effects of climate change. There is limited protection of habitats on State, Federal, and the Navajo Nation lands were populations are known to occur.

Known/suspected level of trade: These species are desirable for the international horticultural market, and are sought after by collectors (e.g. Porter and Prince, 2011; Butterworth and Porter, 2013). According to the proponent the populations are adversely affected by unauthorized and illegal harvest of plants and seeds with the seeds being particularly vulnerable to harvest because they are easy to carry and transport, and not regulated under the CITES Appendix-II listing annotation. There is an active market for seeds of rare cacti, including these species, on the Internet.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

According to Porter (2013), *S. parviflorus* (= *S. cloverae*) has a wide range, is abundant, the threats are not major, and it occurs within protected areas. Hence, it is listed as Least Concern by IUCN. *S. blainei* is by IUCN treated as a subspecies of *S. spinosior* and listed as Least Concern (Butterworth and Porter, 2013). *S. sileri* is listed by IUCN as Vulnerable (Butterworth and Porter, 2013). The genus *Sclerocactus*, under the family listing of Cactaceae, has been listed in the CITES Appendices since 1975.

3. Evaluation of trade data.

Trade data are given in the proposal, many of artificially propagated live plants. It is important to note, that trade in seeds of Appendix-II cacti, except cacti native to Mexico, are not regulated under CITES, whereas seeds of Appendix-I cacti are regulated under CITES. As an example, from 2000 to 2014, the United States exported 368,568 seeds of Appendix-I *Sclerocactus* species.

4. Potential other information by CITES reviews and on nature management issues in range states

The three species are not protected under the U.S. Endangered Species Act of 1973. The species are subjected to varying regulations, management measures and status (eg. "Special Status Sensitive Species") in different States, but according to the proponent, the existing regulatory mechanisms are not sufficient to reduce the impacts from wild-harvest of specimens and to regulate the international trade of seeds of the three species.

5. Recommendations

According to the proponent, the harvest of seeds for international trade may adversely affect the populations' reproductive potential and perhaps long-term survival of the three species. Appendix-I listing would strengthen the regulation of the three species from over-exploitation for international trade. It is difficult to evaluate the actual status of these species as the IUCN uses a different nomenclature than CITES. Using the nomenclature proposed by the proponent, the previous complex of species would possibly consist of species with threats that are more specific and a more narrow distribution. Identification of *Sclerocactus* species would also be more difficult for non-experts.

6. References

Butterworth C.A., Porter J. M. (2013) *Sclerocactus*. IUCN Red List of Threatened Species. Version 2015.2. On-line at: www.iucnredlist.org.
Butterworth C.A. (2015) Integrated Taxonomic Information System (ITIS). On-line at: http://www.itis.gov/.
Heil K. D., Porter J.M. (1994) *Sclerocactus* (Cactaceae): A Revision. Haseltonia 2: 20-46.

Porter J. M., Kinney M. S., Heil, K. D. (2000) Relationships between *Sclerocactus* and *Toumeya* (Cactaceae) based on chloroplast trnL–trnF sequences. Haseltonia 7: 8–23.
Porter J. M., Prince, L. M. (2011) Report on the evidence supporting generic and species circumscription in the genus *Sclerocactus* with recommendations for a biologically justified taxonomy that will be stable into the future; and biological assessments of species of concern. Division of Scientific Authority, U.S. Fish and Wildlife Service. Unpublished report.
Porter J. M., Cruse-Sanders J., Prince L., Robert L. (2012) Species status of *Sclerocactus brevispinus*, *S. wetlandicus*, and *S. glaucus*: Inferences from Morphology, Chloroplast DNA Sequences, and AFLP Markers. Aliso: A Journal of Systematic and Evolutionary Botany 30(2): Article 2. On-line at: http://scholarship.claremont.edu/aliso/vol30/iss2/2
Porter J.M. (2013) *Sclerocactus parviflorus*. The IUCN Red List of Threatened Species 2013: e.T152298A620586. http://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T152298A620586.en.

Review of CoP17 proposal 60, *Aquilaria* spp. and *Gyrinops* spp.

1. Review of listing proposal under CITES

Amendment of the listings of *Aquilaria* spp. and *Gyrinops* spp. in Appendix II. Amend Annotation #14 with the underlined text: "All parts and derivatives except: a) seeds and pollen; b) seedling or tissue cultures obtained in vitro, in solid or liquid media, transported in sterile containers; c) fruits; d) leaves; e) exhausted agarwood powder, including compressed powder in all shapes; and f) finished products packaged and ready for retail trade, this exemption does not apply to wood chips, beads, prayer beads and carvings." Proposed by the United States of America.

Species name: *Aquilaria* spp. and *Gyrinops* spp. (Order: Myrtales Family: Thymelaeaceae)**.** Common names: a-ga-ru, agarwood, agur, alim, aloewood, Bois d'aigle, calambac, eaglewood, gaharu, halim, karas, kareh, kritsanaa, lign-aloes, madera de Agar, mai hom.

Distribution: There are 15 tree species in the Indomalesian genus Aquilaria, family Thymelaeaceae: Bangladesh, Bhutan, India, Indonesia, Iran (Islamic Republic of), Malaysia, Myanmar, Philippines, Singapore, Thailand.
Population trend: Exploitation of the diseased wood for the perfume industry has resulted in population declines exceeding 80% over recent years. There is a strong indication that the same losses are occurring in the rest of Indo-China. No population estimates are known for any range State.

Habitat status: It is a large evergreen tree growing up to 40 m tall and 1.5-2.5 m in diameter, found typically in mixed forest habitat at altitudes between 0 and 1000 m above sea level. Primary and secondary forest. The wood is in high demand for medicine, incense and perfume across Asia and the Middle East (Chamling, 1996; Gupta, 1999; Soehartono, 1997). Exporters: Bhutan, India, Indonesia, Lao PDR, Malaysia, Myanmar, Singapore, Thailand, Viet Nam. Re-export: China (including Hong Kong SAR and the province of Taiwan). Mainly dried, resinaceous, cut heartwood of variable shape and size (crude drug) or the same minutely cut (cut drug); in addition powdered wood and essential oil; different grades are distinguished according to the resin content which may have different names in different languages (e.g. gaharu and kemedangan in Indonesia). Other parts of the plant are also widely used: the roots for incense, cosmetics and medicines and the bark for fibre.

Known/suspected level of trade: Today, hundreds of tonnes of agarwood are traded each year, involving at least 18 countries. Half of the declared volume in international trade in 2005 originated from Malaysia. Hong Kong S.A.R. and India also play important roles as re-exporting and consuming States. Taiwan (Province of China) is the most important final destination market for *A. malaccensis*, and its Customs data reveal that it is also a substantial importer of agarwood from other *Aquilaria* spp. Other significant final destination markets include United Arab Emirates (UAE), Saudi Arabia and Japan.

2. Literature review of biological status and conservation status, including information status in other relevant conventions

A. crassna is Critically Endangered A1cd (Nghia (IUCN) 1998). The Red List category is largely based on the situation in Viet Nam, where the species is distributed sparsely but widely throughout the country. International trade in agarwood is regulated through a system of permits by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Barden et al. 2000, CITES). There is no CITES Standard Reference for this species.

3. Evaluation of trade data

Information from: http://trade.cites.org, Species+, TRAFFIC (http://www.traffic.org/) and potentially NGO CoP analysis.

4. Potential other information by CITES reviews and on nature management issues in range states

CITES export quota of 5,000 kg for Indonesia.

5. Recommendations

The major threat to wild populations is unregulated and often illegal harvest and trade. International trade is likely to have serious negative impacts on these species.

6. References

Barden A., Awang Anak N., Mulliken T., Song T. (2000) Heart of the matter. Agarwood use and trade and CITES implementation for *Aquilaria malaccensis*. – viii+52 pp., Traffic International, Cambridge, UK.

Nghia N.H. (1998) *Aquilaria crassna*. The IUCN Red List of Threatened Species 1998: e.T32814A9731504. http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T32814A9731504.en.

Chamling K.D. (1996) Traditional paper, essential oils, rosin and turpentine. In: Anon. (1996). Nonwood forest product of Bhutan. FAO Regional Office for Asia and the Pacific, Bangkok, Thailand. PC14 Doc. 9.2.2 – p. 70

Gupta A. K. (1999) Assessing the Implementation of the CITES Appendix-II Listing of *Aquilaria malaccensis*. Unpublished report prepared for TRAFFIC India, cited in Barden et al. (2000).

Hilton-Taylor C. (compiler) (2002) 2002 IUCN Red List of Threatened Species. IUCN, Gland, Switzerland and Cambridge, UK.

Soehartono T. (1997) Overview of trade in gaharu in Indonesia. In: Report of the Third Regional Workshop of the Conservation and Sustainable Management of Trees. Hanoi, Vietnam. WCMC IUCN/SSC.

Review of CoP17 proposal 50, *Beaucarnea* spp.

1. Review of listing proposal under CITES

Include the genus *Beaucarnea* (Lemaire, 1861) in Appendix II of CITES, as follows: Under Article II 2a) of the text of the Convention and criterion B of Annex 2a) of Resolution Conf 9.24 (Rev. CoP16), to: 1) *Beaucarnea recurvate.* And, under Article II 2b) of the text of the Convention, and the criterion A of Annex 2b of Resolution Conf 9.24 (Rev. CoP16) to: 2) compact *Beaucarnea, 3) Beaucarnea goldmanii, 4) Beaucarnea gracilis, 5) Beaucarnea guatemalensis, 6) Beaucarnea hiriartiae, 7) Beaucarnea inermis, 8) Beaucarnea pliabilis, 9) Beaucarnea purpusii, 10) Beaucarnea sanctomariana, 11) Beaucarnea stricta.* Proposed by Mexico.

Species name: *Beaucarnea* spp. Common names: Ponytail palm, elephant foot tree, nun palm. Norwegian name: Elefantfot.

Distribution: The range of natural distribution of the genus *Beaucarnea* is south of Tamaulipas (Mexico) to Honduras, and probably northern Nicaragua and Central America. Wild populations of species of this genus are small, are in environmentally restricted and very slow growth rates areas (Hernandez-Sandoval, 1993). Specifically, *B. recurvata* is a species endemic to the States of Veracruz and Oaxaca (Osorio, et al., In press).

Population trend: According to a sampling by Hernandez-Sandoval et al. (2012a,b) on a site with 161 individuals, 59% of individuals were adults, 20% and 21% young seedlings. No updated

demographic information charting the population trends, but Osorio et al. (2011) and Hernandez-Sandoval et al. (2012) suggest a decreasing trend. Specifically, the habitats of the populations in Veracruz present a clear fragmentation (focused on the middle part of the basins of the rivers Actopan and Antigua; Osorio-Rosales et al., 2011). This has resulted in damage to the structure (population and sex ratio) and natural processes of regeneration of wild populations of the species (Hernandez-Sandoval et al., 2010). It is necessary to perform a representative study of wild populations.

Habitat status: *B. recurvata* inhabits steep slopes of deciduous forest at altitudes of between 350 to 420 masl, with rocky soils on cliffs or steep mountains where the temperature is generally greater than 20°C and precipitation ranges from 800-1200 mm, with an annual dry period of 7 or 8 months (Osorio-Rosales et al., 2011; Hernandez-Sandoval et al., 2012). The characteristic habitat of *B. recurvata* is under pressure from change in land use (by the establishment of pastures for cattle, or for temporary farmland and irrigation). Although the number of forest patches tripled between 1973 and 2000, the average area of each forest patch decreased almost by 80% during the same period.

Known/suspected level of trade: Based on an analysis of online trading *B. recurvata* and the responses received from the consultation of the Scientific Authority of Mexico from July 9, 2015 to the CITES Authorities of Parties identified as trading of the species (the regions Asia, Europe, North America and Oceania), at least 81 companies from 15 countries or nurseries that sell (offer) to the online species. The main specimens in trade are: live plants (including seedlings) and seeds. Live plants are offered in heights of 0.4 to 7.5 m. Illegal trade; According to the Federal Attorney for Environmental Protection (PROFEPA; Authority CITES Enforcement Act in Mexico) on Insurance and *B. recurvata* seizures for the period 2004-2014, 171 inspections were conducted specimens B*. recurvata* in 25 States across the country that resulted in seizures of a total of 446,520 units (individuals), of which: 73.4% came from inspections in the State of Morelos; 12.4% of Colima; 7.4% of Veracruz. The remaining percentage of confiscated specimens (6.8%) is distributed among the remaining 22 States where inspections were carried out by PROFEPA. As for the 2004-2015 period seizures, these totalled 2,113 specimens from most of the States of San Luis Potosi (29%); Tabasco (15%); and Baja California Sur, Guerrero and Zacatecas (each with 10%).

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

B. recurvata was identified by the "Review to identify relevant Mexican species in the framework of international trade" (Mosig and Reuter 2013) as a species at risk with high international trade that could meet the criteria listed in Appendix II of CITES. The genus *Beaucarnea* comprises eleven species, which can be grouped themselves according to their commercial importance as follows: a) Group 1 (frequent trading). *B. inermis, B. recurvata, B. goldmanii, B. pliabilis (syn ameliae B. and B. petenensis), B. hiriartiae, B. guatemalensis,* b) Group 2 (not so common*): B. gracilis, B. stricta, B. sanctomariana* (seeds, mainly), c) Group 3 (no trade): *B. purpusii and B. compacta*. Over-collection of wild specimens for ornamental purposes has detrimental effects on the viability of wild populations of *B. recurvata*.

3. Evaluation of trade data.

None of the species are listed in the CITES Appendices.

4. Potential other information by CITES reviews and on nature management issues in range states

There are no current quotas in place for these species.

5. Recommendations

The major threat to wild populations is unregulated and often illegal harvest and trade. International trade is likely to have serious negative impacts on these species.

6. References

CITES (2013) *Inclusión de Yucca queretaroensis en el Apéndice II.* [En línea] Available at: http://www.cites.org/sites/default/files/esp/cop/16/prop/S-CoP16-Prop-50.pdf

Hernández-Sandoval L. et al. (2012a) Colecta, caracterización, conservación y uso de las beaucarneas. In: *Resúmenes Ejecutivos: Ejercicio Fiscal 2010.* s.l: SNICS-SAGARPA.

Hernández-Sandoval L. et al. (2012b) *Manejo y conservación de las especies con valor comercial de pata de elefante (Beaucarnea).* Querétaro: Universidad Autónoma de Querétaro.
Mosig, P., Reuter, A. (2013) *Examen para identificar especies mexicanas relevantes en el marco del comercio internacional.* México D.F.: CONABIO-TRAFFIC North America.
Osorio M. L., Contreras A., Equihua M., Benítez G. (In press) Conserving biodiversity while producing a threatened endemic Mexican species (Beaucarnea recurvata) from tropical deciduous forest in central of Veracruz. Society for Conservation Biology.
Osorio-Rosales M. L., Contreras-Hernández A. (2013) Environmental policy for sustainable development and biodiversity conservation: a case study involving the exploitation of Beaucarnea recurvata. In: A. Yáñez-Arancibia & R. Dávalos-Sotelo, eds. Ecological dimensions for sustainable socio economic development. Great Britain: WIT Press, pp. 209-222.
Osorio-Rosales M. L., Contreras-Hernández A., Equihua-Zamora M., Benítez, G. (2011) *Conservación y aprovechamiento de la palma monja, Beaucarnea recurvata (Lemaire), especie forestal no maderable.* s.l.: CONAFOR-INECOL.

Review of CoP17 proposal 62, *Bulnesia sarmientoi.*

1. Review of listing proposal under CITES

Amendment of the listing of *Bulnesia sarmientoi* in Appendix II. Amend Annotation #11 with the underlined text: Logs, sawn wood, veneer sheets, plywood, powder and extracts. Finished products containing such extracts as ingredients, including fragrances, are not considered to be covered by this annotation. Proposed by the United States of America.

Species name: *Bulnesia sarmientoi* Lorentz and Griseb. Common name: Holy wood.
Distribution: Argentina, Bolivia (Plurinational State of), Brazil and Paraguay. *B. sarmientoi* is a large, slow-growing tree, endemic to the Gran Chaco region of central South America (Mereles and Pérez de Molas, 2008; Argentine Republic, 2010).

Population trend: Unknown

Habitat status: Threatened by land-use change

Known/suspected level of trade: Highly significant international trade. Primarily traded as logs, sawn wood, oils and extracts.

2. Literature review of biological status and conservation status, including information status in other relevant conventions

IUCN RED LIST: Lower risk/conservation dependent. Historical declines were reportedly driven by land-use change, rather than by harvest for international trade (IUCN and TRAFFIC, 2010).

3. Evaluation of trade data

This wood species is in CITES Appendix II, and is on the IUCN Red List as conservation dependent. The species is under EU Wildlife Trade Regulations, Appendix B. Cessation of any current conservation programs would likely result in a vulnerable or endangered status.

4. Potential other information by CITES reviews and on nature management issues in range states

There are no current quotas in place for this species.

5. Recommendations

The major threat to wild populations is unregulated and often illegal harvest and trade. International trade is likely to have serious negative impacts.

6. References

UNEP-WCMC (2011) Review of *Bulnesia sarmientoi* from Paraguay. UNEP-WCMC, Cambridge.
Argentine Republic (2010) Inclusion of *Bulnesia sarmientoi* in Appendix II, in compliance with the provisions of Article II, paragraph 2 (a), of the text of the Convention, and Resolution Conf. 9.24 (Rev. CoP14), Annex 2 a, paragraph A. Consideration of proposals for amendment of Appendices I and II. Fifteenth meeting of the CITES Conference of the Parties, Doha, Qatar, 13-25 March 2010. CoP15 Prop. 42.

Catterson T.M., Fragano F.V. (2004) Tropical forestry and biodiversity conservation in Paraguay: final report of a section 118/119 assessment EPIQ II Task Order NO. 1. USAID, Asunción, Paraguay.
IUCN and TRAFFIC (2010) *Inclusion of Palo Santo Bulnesia sarmientoi in Appendix II with annotation #11 Designates logs, sawn wood, veneer sheets, plywood, powder and extracts.* IUCN/TRAFFIC analyses of the proposals to amend the CITES appendices. Prepared by IUCN Species Programme, SSC and TRAFFIC for the Fifteenth Meeting of the Conference of the Parties to CITES. The International Union for the Conservation of Nature, Gland, Swizerland. 236 pp.
Mereles F. (2006) *Status of the genus Bulnesia spp. with a view to its inclusion in CITES Appendix II.* Sixteenth meeting of the Plants Committee. Lima (Peru). PC16 Doc. 21.2 (Rev 1).
TRAFFIC (2010) Seizures and prosecutions. TRAFFIC Bulletin 22 (3):129-140.

Review of CoP17 proposal 53, *Dalbergia cochinchinensis.*

1. Review of listing proposal under CITES

Amendment of the annotation to the listings of *Dalbergia cochinchinensis*: Delete the current annotation #5: Logs, sawn wood and veneer sheets. Replace it with annotation #4: All parts and derivatives, except: a) seeds (including seedpods of Orchidaceae), spores and pollen (including pollinia). The exemption does not apply to seeds from *Cactaceae* spp. exported from Mexico, and to seeds from *Beccariophoenix madagascariensis* and *Neodypsis decaryi* exported from Madagascar; b) seedling or tissue cultures obtained in vitro, in solid or liquid media, transported in sterile containers; c) cut flowers of artificially propagated plants; d) fruits, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genus Vanilla (Orchidaceae) and of the family Cactaceae; e) stems, flowers, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genera *Opuntia* subgenus *Opuntia* and *Selenicereus* (Cactaceae); and f) finished products of *Euphorbia antisyphilitica* packaged and ready for retail trade. Proposed by Thailand.

Species name: *Dalbergia cochinchinensis* Pierre, 1898. Common names: Rosewood, Siamese rosewood, Thailand rosewood, Vietnamese rosewood or Trắc wood, Trade name: "Redwood", "Hongmu" (Chinese) or "Cẩm Lai" (Vietnamese). Synonym: *Dalbergia cambodiana*).

Distribution: Cambodia, Lao People's Democratic Republic, Thailand, Viet Nam

Population trend: Population reduction of over 20% in the past three generations, caused by a decline in its natural range, and exploitation.

Habitat status: Grows in open semi-deciduous forests. Declining habitat due to logging (Cinh et al., 1996, Oldfield et al., 1998)

Known/suspected level of trade: Illegal harvesting in Thailand; The felled timber is cut into rough planks, carried to the edge of the forest and loaded into vehicles, often adapted with hidden compartments, to be smuggled back across the border and ultimately to China. Between October 2012 and September 2013, there were 1,619 cases regarding the illegal trade of *D. cochinchinensis* with a quantity of 1,116 cubic metres. Furthermore, between October 2013 and September 2014, there were 2,767 cases of illegal trade of this species with a quantity of 1,858.60 cubic metres. These seizures reflect the large scale of the illegal trade in *D. cochinchinensis*. A large portion of the trade in "rosewood" species is currently in the form of secondary processed products, particularly furniture. The traders can crudely process the timber in the source country and then export it as furniture to circumvent the control.

2. Literature review of biological status and conservation status, including information status in other relevant conventions

Siamese rosewood had been listed as "vulnerable" by the International Union for Conservation of Nature since 1998.

3.Evaluation of trade data
CITES Secretariat 2014. CITES Notification No 2014/061: Implementation of the Convention for trade in specimens of *Dalbergia cochinchinensis* under the synonym *Dalbergia cambodiana*

4. Potential other information by CITES reviews and on nature management issues in range states
IUCN category "Vulnerable" (VU).

5. Recommendations
The major threat to wild populations is unregulated and illegal harvest and trade. International trade is likely to have serious negative impacts on this species.

6. References
The IUCN Red List of Threatened Species (1998) e.T32625A9719096. http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T32625A9719096.en.
Chinh N.N., Chung C.T., Can V.V., Dung N.X., Dung V.V., Dao N.K., Hop T., Oanh T.T., Quynh N.B., Thin N.N. (1996) Vietnam forest trees. Forest Inventory and Planning Institute, Agricultural Publishing House, Hanoi, Vietnam.
Oldfield S., Lusty C., MacKinven A. (compilers) (1998) The World List of Threatened Trees. World Conservation Press, Cambridge, UK.

Review of CoP17 proposal 55, *Dalbergia* spp.

1. Review of listing proposal under CITES
Inclusion of the genus *Dalbergia* in CITES Appendix II with exception to the species included in Appendix I. The UNEP-WCMC assessed the *Dalbergia* species of Latin America and concluded: "… all populations of *Dalbergia* spp. from South and Central America appear to meet the criteria for listing in CITES Appendix II" (UNEP-WCMC, 2015). Including the whole genus in Appendix II will be essential for the control of international trade by liminating the arduous task of enforcement and customs officers of differentiating between the hundreds of *Dalbergia* species listed and not listed in CITES. The inclusion will help ensure that legal trade does not become a direct cause of the extinction of these highly threatened species and will help curb illegal trade. Considering that CITES Appendix II must include all species, which although not necessarily now threatened with extinction may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with their survival, it is important to include the genus *Dalbergia* in CITES Appendix II. Proposed by Guatemala.

Species name: *Dalbergia* L.f. (Grandtner 2005, 2013). Common names: Rosewood, Palisander. Synonyms: According to GRIN (2014) the following genera are accepted as synonyms for *Dalbergia: Amerimnon* P. Browne, *Coroya* Pierre, *Ecastaphyllum* P. Browne, *Miscolobium* Vogel, *Triptolemea* Mart.

Distribution: The genus includes trees, shrubs and vines, approximately 250 species in the tropics (Mabberley, 2008) and 304 species worldwide (The Plant List, 2013). The genus *Dalbergia* is native to the tropical regions of Central and South America, Africa, Madagascar and southern Asia.

Population trend: Many species populations are in decline mainly due to the loss of forest coverage by human induced disturbances (e.g. non-sustainable agricultural practices, population growth, fires, legal and illegal logging). Several timber tree species of *Dalbergia* produce fine timbers of high economic value, generally known as "rosewood", so renowned for its fragrances and colours, used in musical instruments and expensive furniture.

Habitat status: In general, the rate and extent of deforestation in the range States is very high. FAO (2005) reported that the annual rates of forest cover change between -0.4% (Colombia) and -4.6% (El Salvador) for the range States between 1990 and 2000. Between 2006 and 2010 in Guatemala, there was a loss in forest cover of 500,210 hectares with a

deforestation rate estimated at 1% per year. The main areas affected by deforestation for illegal logging were Verapaz, Petén, Quiché and the central regions Chimaltenago, Guatemala and Santa Rosa which includes the distribution areas of *D. stevensonii, D. retusa, D. tucurensis* and *D. calycina* (INAB, CONAP, UVG and URL 2012).

Known/suspected level of trade: Trade in timber products of *Dalbergia* has increased exponentially in the past few years as seen by log imports to Asian markets for the Hongmu (Red Wood) trade that is based on 33 species of tropical hardwood trees of 9 which 16 species are *Dalbergia* (EIA, 2016). Of these 16 *Dalbergia* species, 7 come from Asia (*D. odorifera, D. cultrata, D. fusca, D. latifolia, D. bariensis, D. cochinchinensis, D. oliveri*), 2 from Africa *(D. melanoxylon, D. louvelli*) and 7 from Latin America (*D. nigra, D. spruceana, D. stevensonii, D. cearensis, D. frutescens, D. granadillo, D. retusa*) (EIA, 2016). Only *D. cochinchinensis, D. louvelli, D. nigra, D. stevensonii, D. granadillo and D. retusa* are regulated by CITES. Far more *Dalbergia* species are presently traded than those CITES-listed. However, information on trade flows is not easily available.

2. Literature review of biological status and conservation status, including information status in other relevant conventions

Dalbergia species have a relative low regeneration rate and the absence of certain diameter classes (70-100 cm) and the low density of population of certain diameter classes (20-30, 40-50) further disturbs the health of regeneration. Wastage may be as high as 70- 80% as only the finest straight grain logs are used in making bars for marimbas and xylophones (Kline 1980). The trees are slow in forming heartwood, so even large logs lose much of their volume when the sapwood is removed (NAS, 1979). The cutting of exploitable individuals in the wild is the main cause of this disturbance; harvesting for exportation could slow natural regeneration and the international trade has therefore promoted cutting of great many *Dalbergia* spp., leading to the decline of populations inside and outside protected areas.

3. Evaluation of trade data.

According to the CITES Trade Database, a total of 28,288.45 m3 of *Dalbergia* wood products and 140 tonnes were traded between 2005 and 2014 (UNEP-WCMC, 2016a).

4. Potential other information by CITES reviews and on nature management issues in range states

The IUCN Red List has assessed the genus *Dalbergia* and has classified 83 of the 304 known species of *Dalbergia* (IUCN, 2016): 1 species as Critically Endangered *(D. intibucana*); 29 species as Endangered (*D. abrahamii, D.andapensis, D. annamensis, D. bariensis, D. bathiei, D. bojeri, D. brachystachya, D. cambodiana, D. capuronii, D.congesta, D. davidii, D. delphinensis, D. erubescens, D. glaucocarpa, D. gloveri, D. hirticalyx, D. humberti, D. intibucana, D. louvelii, D. mammosa, D. maritima, D. normandii, D. oliveri, D. peishaensis, D. setifera, D.suarensis, D. tsaratanensis, D. tsiandalana, D. urschii, D. xerophila*); 26 species as Vulnerable (*D. acariiantha, D.aurea, D. balansae, D. baronii, D. catipenoni, D. chlorocarpa, D. cochichinensis, D. glaberrima, D. hildebrantii, D.latifolia, D. lemurica, D. madagascarensis, D. monticola, D. neoperrieri, D. nigra, D. odorifera, D. orientalis, D.pseudobaronii, D. purpurascens, D. retusa, D. simposonii, D. tonkinensis, D. tricolor, D. vaccinifolia, D. viguieri*); 3 species as Near Threatened (*D. chapelieri, D. cultrate, D. eremicola*); 5 species as Lower Risk/NearThreatened (*D. bracteolata, D. emirnensis, D. greveana, D. mollis, D. pervillei*); 12 species as Least Concern (*D.arbutifolia, D. assamica, D. calycina, D. cana, D. louisii, D. monetaria, D. oligophylla, D. ovata, D. parviflora, D. peltieri, D. reniformis, D. rimosa*); 1 species as Lower Risk/Least Concern (*D. thrichocarpa*); 6 species as Data Deficient (*D. boniana, D. ealaensis, D. entadoides, D. funera, D. menoeides, D. sambesiaca).*

5. Recommendations

Domestic and international experience has indicated that enforcement and customs officers who encountered specimens of *Dalbergia* products are unlikely to be able to reliably distinguish between the various species.

6. References

CITES COP16 Prop. 60. Dalbergia cochinchinensis (Palo de rosa de Tailandia) - Inclusión en Apéndice II

CITES COP16 Prop. 63. Dalbergia spp. (Palo de rosa de Madagascar) - Inclusión de las poblaciones de Madagascar en Apéndice II CONAP (Consejo Nacional de Areas Protegidas). 2014. Manual de Procedimientos para el Comercio Internacional de Especies de Flora Maderable Contenidas en los Apéndices II y III de la CITES (Swietenia macrophylla King, Swietenia humilis Zuccarini, Cedrela odorata L, Dalbergia retusa Hemsl y Dalbergia stevensonii Standl). Consejo Nacional de Áreas Protegidas. Guatemala. 73 p.

EIA (Environmental Investigation Agency) (2016) The Hongmu Challenge: A briefing for the 66th meeting of the CITES Standing Committee, January 2016.

FAO (2005) State of the World's forests. 6th edition. Food and Agriculture Organisation of the United Nations, Rome.

FAUSAC-FNPV (2015) ITTO-CITES Project: "Establishment of a forensic laboratory for identification and description of woods for its application to legal processes and to the systems of traceability of the products included in CITES".

Grandtner M.M. (2005) Elsevier's Dictionary of Trees. Volume 1 North America. Elsevier Science.

Grandtner M.M., Chevrette (2013) Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press.

GRIN (2014) Germplasm Resource Information Network. U.S. Department of Agriculture /Agricultural Research Services National Plant Germplasm System. https://npgsweb.ars-grin.gov/gringlobal/taxonomygenus.aspx?id=3367

INAB, CONAP, UVG and URL (2012) Mapa De Bosques y Uso de la Tierra 2012. Mapa de cambios en Uso de la Tierra 2001-2010 para estimacion de emisiones de gases de efecto invernadero. Documento informativo. Pp. 16.

INAB, CONAP, UVG and URL (2012) Mapa de Cobertura Forestal de Guatemala 2010 y Dinámica de la Cobertura Forestal 2006-2010. Guatemala. pp.114.

Kline M. (1980) Dalbergia stevensonii Honduras Rosewood. In Flynn, J.H. A guide to useful woods of the world. King Philip Publishing Co, Portland, Maine, USA, pp.135-136.

Mabberley D.J. (2008) Mabberley's plant book. A portable dictionary of plants, their classifications and uses. 3 Edition, University of Washington Botanic Gardes. Seattle.

NAS/NRC (1979) Tropical Legumes: resources for the future. Report by an ad hoc advisor panel of the advisory.

Committee on Technology Innovation, Board on science and technology for International Development, Commission on International Relations, National Academy of Sciences and the National Research Council, Washington DC, USA.

The Plant List (2013) Version 1.1. Published on the Internet; http://www.theplantlist.org/.

UNEP-WCMC (2015) Overview of Dalbergia spp. from South and Central America- a basic review. SRG 74/7/3. UNEPWCMC, Cambridge, UK.

Vaglica V. (2014) Dalbergia spp. A case for CITES listing? Thesis submitted in partial fulfilment of the requirements to obtain the Master's Degree in Management and Conservation of Species in Trade: The International Framework
(11th Edition). Universidad Internacional de Andalucía, Sede Antonio Machado de Baeza, Spain.

4 Uncertainties

For many species and species groups, the available data on status, population size and trends are not based on reliable or up to date scientific sources. To confidently evaluate whether or not trade will be detrimental to the survival of a species is sometimes not possible due to lack of such information.

Moreover, the control of trade executed by the range States can be inadequate and/or the level of trade may be underreported to CITES. In several cases there are also gaps between the numbers provided by exporters and importers in the CITES trade database. Reliable assessments of trade impact should ideally be based on exact or close to exact trade numbers to ensure that trade is not going to be detrimental to a species´survival.

Given that only a small percentage of illegal trade is documented, there is significant uncertainty in the actual trade numbers and thus the assessment of trade impact on the species survival.

5 Data gaps

The illegal market in animal and plant species is massive, but only a fraction of trade is actually documented. The amount of illegal trade is estimated from seizure data, but again these only represent a proportion of actual illegal trade.

While searching for alternative databases and indicators of trade online (e.g. dramatic fluctuations in the price of derived products), it is evident that for many of the species evaluated in this report, the actual trade pressure is unknown.

For several species evaluated in this report the data on population size, trends, general biology and conservation status is very limited and this is noted, where appropriate.

6 References

Note that references are included for each of the species assessments in section 3 of this report.

Appendix 1

Appendix 1 contains Annex 1 and 2 to Terms of reference.

Annex 1 Reporting format for assessments of listing proposals for CoP17

Aspects and questions to be addressed by the assessments.

I. The introduction should present and review the document with the listing proposal, cf. Res. Conf. 9.24 (Rev. CoP16).
II. A review of existing literature and global/regional/national assessments on population and habitat status, covering known range states, and information by IUCN or TRAFFIC, the Convention on Migrating Species (CMS; including sub-agreements, www.cms.int) and The Bern Convention on the Conservation of European Wildlife and Natural Habitats (www.coe.int, under subheading 'Democracy'), and any prior listing proposals under the Conference of the Parties (CITES CoP)
III. Trade data by UNEP-WCMC: http://trade.cites.org/ and any other potential information and reports summarizing trade status, e.g. by IUCN-TRAFFIC, should be included and categorized as specified in annex 2.
IV. Other literature with relevant information, supporting or contradictory, not included in part I or II, should also be reviewed and commented on specifically.
V. Species that are morphological similar to listed species, i.e. lookalikes, are also evaluated under criteria given in Res. Conf. 9.24 (Rev. CoP16).
VI. Animal hybrids should be evaluated similarly as the parent taxa with the strictest regulations, cf. Res. Conf. 10.17. (Rev. CoP14), and shall generally be interpreted to refer to the previous forum generations of the lineage.

1. Review of listing proposal under CITES

Short summary of the listing proposal https://cites.org/eng/cop/17/prop/index.php

CITES listing criteria as outlined in Res. Conf. 9.24 https://cites.org/eng/res/09/09-24R16.php

- Species name: Scientific name incl. reference to author who described the species. English name and Norwegian name when available. Taxonomic uncertainties should be addressed if relevant. It is not necessary to list all synonyms, but names commonly used commercially should be mentioned specifically.
- Distribution: Description of area of natural distribution (+ any introduced populations) and list of range states.
- Population trend: If available from IUCN or other literature.
- Habitat status: Choose one of the following: fragmented/increasingly fragmented/not fragmented, + state any known evaluation.
- Describe known/suspected level of trade.

2. Literature review of biological status and conservation status, including information status in other relevant conventions.

Summarize briefly the content of relevant paper/s, in addition to IUCN red list category (year and use of criteria). Other listings by CMS, Bern and EU.

- Literature that contributes with additional data on trade or biological data
- Literature that documents deviations from the documentation presented for existing conservation status**.**

3. **Evaluation of trade data.**

- Describe if data on legal or illegal trade is not available
- Describe if trade is documented to be limited to specimens bred in captivity and shown not to be a relevant threat for the wild populations
- Describe if trade, legal and illegal, in wild specimens is considered to be detrimental
- Describe if no legal trade is documented, but illegal trade is documented to be substantial
- Describe if trade in captive bred or artificially cultivated specimens is considered to be detrimental for wild populations

Information from http://trade.cites.org, Species+, TRAFFIC (http://www.traffic.org/) and potentially NGO CoP analysis. If large amounts of info are available, select the most essential related to the proposal. *For some species it will be necessary to also search for additional information on legal and illegal trade through other sources (e.g. market prices, e-commerce).*

4. Potential other information by CITES reviews and on nature management issues in range states

Information on regulations on national level/s (if important) and relevant CITES reviews:

- Examples of wild populations threatened or possibly threatened by any legal or illegal trade, even if trade is currently not observed, are to be considered detriment. Acute population decrease indicates that measures to strengthen the protection of a species, including regulating international trade, should be implemented.
- Significant Trade Reviews and recommendations by the Standing Committee, Animals- or Plants committee, that indicate that conservation measures need to be implemented.

1. Review of listing proposal under CITES

Short summary of the listing proposal https://cites.org/eng/cop/17/prop/index.php

CITES listing criteria as outlined in Res. Conf. 9.24 https://cites.org/eng/res/09/09-24R16.php

- Species name: Scientific name incl. reference to author who described the species. English name and Norwegian name when available. Taxonomic uncertainties should be addressed if relevant. It is not necessary to list all synonyms, but names commonly used commercially should be mentioned specifically.
- Distribution: Description of area of natural distribution (+ any introduced populations) and list of range states.
- Population trend: If available from IUCN or other literature.
- Habitat status: Choose one of the following: fragmented/increasingly fragmented/not fragmented, + state any known evaluation.
- Describe known/suspected level of trade.

5. Recommendations

Short evaluation of why trade could be/not be detrimental on population status. Importantly, it is not our job to conclude with regard to listing status.

6. References (Literature list and reference to relevant webpages)

Alphabetically ordered reference list following the American Assoc. Agronomy format.

Annex 2 List of proposals

Johannesburg (South Africa), 24 September-05 October 2016

Provisional list of proposals for amendment of Appendices I and II

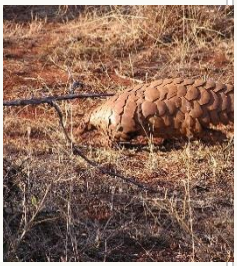
(all documents are provided here in PDF format)

Note: All proposals are presented in the languages and formats in which they were received. The current numbers are temporary and for the ease of reference only. The numbers will be changed when the proposals are reformatted and presented in taxonomic order at a later stage.

	Species covered by the Proposal	English common name	Proponents	Illustration[1]	Species/proposal		Posted/ updated on (dd/mm/yyyy)
MAMMALS							
1	*Puma concolor coryi* and	Florida Puma and	Canada		Transfer of *Puma concolor coryi* and *Puma concolor couguar*, from		02/05/16

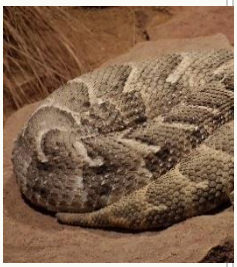
	Puma concolor couguar	Eastern Puma			Appendix I to Appendix II		
2	*Bison bison athabascae*	Wood Bison	Canada		Delete *Bison bison athabascae* from Appendix II		02/05/16
3	*Panthera leo*	Lion	Chad, Côte d'Ivoire, Gabon, Guinea, Mauritania, Niger, Nigeria and Togo		Transfert de toutes les populations d'Afrique de *Panthera leo* de I'Annexe II à I'Annexe I		02/05/16
4	*Capra caucasica*	Western Tur	European Union and Georgia		Inclusion of *Capra caucasica* in Appendix II, with a zero quota for wild-taken *Capra caucasica caucasica* exported for commercial purposes or as hunting trophies		02/05/16

5	*Macaca sylvanus*	Barbary Macaque	European Union and Morocco		Transfert de *Macaca sylvanus* de l'annexe II à l'annexe I		02/05/16
7	*Equus zebra zebra*	Cape Mountain Zebra	South Africa		South Africa proposes the transfer of the Cape mountain zebra, *Equus zebra zebra*, from Appendix I to Appendix II		02/05/16
12	*Manis crassicaudata*	Indian Pangolin	Bangladesh, India, Nepal, Sri Lanka and United States of America		Transfer *Manis crassicaudata* from CITES Appendix II to CITES Appendix I		02/05/16
13	*Manis tetradactyla*	Long-tailed Pangolin	Angola, Botswana, Central African Republic, Chad, Côte d'Ivoire		Transfer of *Manis tetradactyla*, *M. tricuspis*, *M. gigantea* and *M. temminckii*, from CITES Appendix II to Appendix I		02/05/16
	M. tricuspis	White-bellied Pangolin					

	M. gigantea	Giant Pangolin	, Gabon, Guinea, Liberia, Nigeria, Togo and United States of America				
	M. temminckii	South African Pangolin					
14	*Manis javanica*	Sunda Pangolin	India, United States of America and Viet Nam		Transfer of *Manis javanica* and *M. pentadactyla* from CITES Appendix II to Appenidix I		02/05/16
	M. pentadactyla	Chinese Pangolin					
15	*Manis culionensis*	Philippine Pangolin	Philippines and United States of America		Transfer of *Manis culionensis* from Appendix II to Appendix I		02/05/16
			Birds				
16	*Lichenostomus melanops cassidix*	Helmeted Honeyeater	Australia		Transfer of *Lichenostomus melanops cassidix* from Appendix I to Appendix II,		02/05/16

17	*Ninox novaeseelandiae undulata*	Norfolk Island Boobook Owl	Australia		Transfer *Ninox novaeseelandiae undulata* from Appendix I to Appendix II		02/05/16
18	*Falco peregrinus*	Peregrine Falcon	Canada		Transfer *Falco peregrinus* from Appendix I to Appendix II		02/05/16
19	*Psittacus erithacus*	African Grey Parrot	Angola, Chad, European Union, Gabon, Guinea, Nigeria, Senegal and Togo		Transfer of *Psittacus erithacus* from Appendix II to Appendix I		02/05/16
			Reptiles				
20	*Cyclanorbis elegans*	Nubian Flapshell Turtle	Burkina Faso, Chad, Gabon, Guinea, Liberia, Mauritania, Nigeria, Togo and United States of America		Inclusion of the following six species of the Family Trionychidae in Appendix II: *Cyclanorbis elegans*, *Cyclanorbis senegalensis*, *Cycloderma aubryi*, *Cycloderma frenatum*, *Trionyx*		02/05/16
	Cyclanorbis senegalensis	Senegal Flapshell Turtle					
	Cycloderma aubryi	Aubry's Soft-shelled Turtle					

	Cycloderma frenatum	Zambezi Flapshell Turtle			*triunguis*, and *Rafetus European Unionphraticus*		
	Trionyx triunguis	Nile Soft-shelled Turtle					
	Rafetus phraticus	[Soft-shell Turtle]					
21	*Rhampholeon* spp., *Rieppeleon spp.*	Pygmy Chameleons	Central African Republic, Chad, Gabon, Nigeria, Kenya and United States of America		Inclusion of the genera *Rhampholeon* spp. and *Rieppeleon* spp. in Appendix II		02/05/16
22	*Shinisaurus crocodilurus*	Chinese Crocodile Lizard	China, European Union and Viet Nam		Transfer of *Shinisaurus crocodilurus* Ahl, 1930 from Appendix II to Appendix I		02/05/16

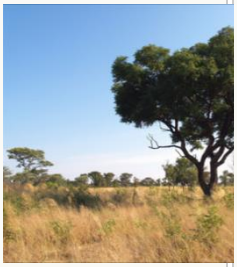
24	*Cnemaspis psychedelica*	Psychedelic Rock Gecko	European Union and Viet Nam		Inclusion of *Cnemaspis psychedelica* in Appendix I		02/05/16
26	Abronia spp.	Alligator Lizards	European Union and Mexico		Inclusión del género Abronia (29 especies) en el Apéndice II		02/05/16
28	*Lygodactylus williamsi*	Turquoise Dwarf Gecko	European Union and United Republic of Tanzania		Inclusion of *Lygodactylus williamsi* in Appendix I		02/05/16
29	*Atheris desaixi*	Ashe's Bush Viper	Kenya		Inclusion of *Atheris desaixi* in Appendix II		02/05/16
30	*Bitis worthingtoni*	Kenya Horned Viper	Kenya		Inclusion of *Bitis worthingtoni* in Appendix II		02/05/16

31	*Crocodylus niloticus*	Nile Crocodile	Madagascar		Maintenance of the Malagasy population of *Crocodylus niloticus* in Appendix II subject to the following annotations: 1. No skins or products within the artisanal industry from wild C. niloticus less than 1 m or greater than 2.5 m total length will be permitted for national or international trade 2. An initial wild harvest ceiling of 3000 animals per year for the artisanal industry will be imposed for the first three years of operation (2017-2019) 3. No export of raw or processed skins harvested from the wild will be permitted for		02/05/16

					the first 3 years 4. Farm production shall be restricted to ranching and/or captive breeding, with national skin production quotas 5. Management, wild harvest ceiling and national skin production quotas will be audited and reviewed annually by international experts for the first three years to ensure sustainability		
32	*Crocodylus porosus*	Salt-water Crocodile	Malaysia		Transfer of the Saltwater crocodile (*Crocodylus porosus*) in Malaysia from Appendix I to Appendix II, with wild harvest restricted to the State of Sarawak and a zero quota		02/05/16

					for wild specimens for the other States of Malaysia (Sabah and Peninsular Malaysia), with no change in the zero quota unless approved by the Parties		
33	Lanthanotidae spp.	Earless monitor lizard	Malaysia		Inclusion of Lanthanotidae spp. in Appendix I		02/05/16
AMPHIBIANS							
35	*Telmatobius culeus*	Titicaca water frog	Bolivia and Peru		Incluir *Telmatobius culeus* (Garman, 1876), en el Apéndice I		02/05/16
36	*Paramesotriton hongkongensis*	Hong Kong Warty Newt	China		Include *Paramesotriton hongkongensis* (Myers and Leviton, 1962) in Appendix II		02/05/16

37	*Scaphiophryne marmorata*	Green Burrowing Frog	Madagascar		Inclusion of *Scaphiophryne marmorata*, and *Scaphiophryne boribory* in Appendix II		02/05/16
	Scaphiophryne boribory	Burrowing Frog					
38	*Dyscophus guineti*	False Tomato Frog	Madagascar		Inclusion of *Dyscophus guineti* and *D. insularis* in Appendix II		02/05/16
39	*Dyscophus antongilii*	Tomato Frog	Madagascar		Downlisting of *Dyscophus antongilii* from Appendix I to Appendix II		02/05/16
INVERTEBRATES							
46	*Polymita* spp.	Cuban Landsnails	Cuba		Inclusión del género *Polymita* en el Apéndice I		02/05/16
FLORA							

49	*Pterocarpus erinaceus*	kosso, African rosewood	Benin, Burkina Faso, Chad, Côte d'Ivoire, European Union, Guinea, Guinea-Bissau, Nigeria, Senegal and Togo		Inclusion of *Pterocarpus erinaceus* in Appendix II, without annotation		02/05/16
50	*Guibourtia tessmannii*	Bubinga	European Union and Gabon		Inscription du *Guibourtia tessmannii* et *Guibourtia pellegriniana*, *Guibourtia demeusei* a l'annexe II de la CITES		02/05/16
	Guibourtia pellegriniana	Bubinga					
	Guibourtia demeusei	Bubinga					
51	*Adansonia grandidieri*	Baobab, bottletree	Madagascar		Inscrire l'espèce *Adansonia grandidieri* à l'Annexe II avec l'inscription limitée aux graines, aux fruits, aux huiles et aux plantes vivantes et que l'inscription soit annotée à cet effet		02/05/16

53	*Siphonochilus aethiopicus*	Natal Ginger	South Africa		Inclusion of *Siphonochilus aethiopicus* on Appendix II		02/05/16
54	*Sclerocactus spinosior* ssp. *Blainei*	Blaine's fishhook cactus	United States of America		Transfer of fishhook cacti *Sclerocactus spinosior* ssp. *blainei* (= *Sclerocactus blainei*), *Sclerocactus cloverae* (CITES-listed synonym of *Sclerocactus parviflorus*), and *Sclerocactus sileri* from Appendix II to Appendix I		02/05/16
	Sclerocactus cloverae	New Mexico fishhook cactus					
	Sclerocactus sileri	Siler's fishhook cactus					
55	*Aquilaria* spp. *Gyrinops* spp.	Agarwood	United States of America		Amendment of the listings of *Aquilaria* spp. and *Gyrinops* spp. in Appendix II		02/05/16

56	*Beaucarnea* spp.	Ponytail Palm, Elephant-Foot Tree	Mexico		Include genus *Beaucarnea* in Appendix II		02/05/16
57	*Bulnesia sarmientoi*	Holy wood	United States of America		Amendment of the listing of *Bulnesia sarmientoi* in Appendix II		02/05/16
58	*Dalbergia*	Rosewood, Palisander	Argentina, Brazil, Guatemala and Kenya		Inclusion of the genus Dalbergia in CITES Appendix II with exception to the species included in Appendix I		02/05/16
60	*Dalbergia cochinchinensis*	Siamese Rosewood	Thailand		Amendment of the annotation to the listings of *Dalbergia cochinchinensis* as follow:- Delete the current annotation		02/05/16

					#5 Logs, sawn wood and veneer sheets. Replace it with annotation #4 that reads as follows: #4 All parts and derivatives, except: a) Seeds (including seedpods of Orchidaceae), spores and pollen (including pollinia). The exemption does not apply to seeds from Cactaceae spp. exported from Mexico, and to seeds from *Beccariophoenix madagascariensis* and Neodypsis decaryi exported from Madagascar b) Seedling or tissue cultures obtained in vitro, in solid or liquid media, transported in		

					sterile containers; c) Cut flowers of artificially propagated plants; d) Fruits, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genus Vanilla (Orchidaceae) and of the family Cactaceae; e) Stems, flowers, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genera *Opuntia subgenus Opuntia* and *Selenicereus* (Cactaceae); and f) Finished products of *European Euphorbia antisyphilitica* packaged and ready for retail trade		

1 Every effort has been made to select an appropriate photograph and seek approval for the non-commercial use of the photographs in the present Annex as necessary