IUCN/TRAFFIC Analyses of Proposals to Amend the CITES Appendices at CoP17

CoP17 Prop. 53

Delete annotation #5 to the listings of *Dalbergia cochinchinensis* and replace it with annotation #4

Proponents: Thailand

Summary: Siamese Rosewood *Dalbergia cochinchinensis* is a slow growing evergreen tree found sparsely in open semi-deciduous forests in Cambodia, Lao People's Democratic Republic (PDR), Thailand and southern Viet Nam. It is in demand internationally for its wood. It is included in the Chinese "Hongmu" standard of high-quality hardwoods used for furniture and cabinet-making. At CoP16 it was listed in Appendix II with annotation #5 to restrict the listing to logs, sawn wood and veneer sheets.

Harvesting of this species is either restricted (Viet Nam) or banned (Cambodia, Lao PDR, Thailand) within its range. A recent review of the trade in *D. cochinchinensis* indicates that a significant portion of the trade in this and similar species is currently in the form of secondary processed products, particularly furniture. By crudely processing timber in the source country to produce furniture it is possible to circumvent the current annotation #5. Since the Appendix-II listing, large shipments of timber believed to have been illegally harvested and exported in this way have been intercepted.

The proponents seek to amend the current listing with annotation #4 to include all parts and derivatives, except seeds and seedlings or tissue cultures obtained in vitro, in solid or liquid media, transported in sterile containers, and cut flowers of artificially propagated plants.

The intention of using this annotation is in order to regulate the products in trade that are of conservation concern.

Analysis: International trade in *Dalbergia cochinchinensis* appears to include products not included in the current annotation to the listing. This has been demonstrated by the interception of shipments of crudely processed timber exported as furniture. Annotation #4 would include all timber-related products including finished furniture, which are those of evident conservation concern.

Prop. 55 seeks to include all species of *Dalbergia*, except those in Appendix I, in Appendix II with no annotation. Depending on the order in which proposals are taken, if Proposal 53 is considered before Proposal 55, *D. cochinchinensis* would be included in the genus-level listing with no annotation if Proposal 55 were to be accepted, meaning that all readily recognisable parts and derivatives would be covered by the listing. There would be little practical difference between the two listings.

Inclusion in Appendix II of 13 timber species of the genus *Dalbergia* native to Mexico and Central America without annotation: *Dalbergia calderonii*; *D. calycina, D. congestiflora, D. cubilquitzensis, D. glomerata, D. longepedunculata, D. luteola*, *D. melanocardium, D. modesta, D. palo-escrito, D. rhachiflexa, D. ruddae, D. tucurensis*

Proponent: Mexico

Note: *The entire genus Dalbergia apart from those already included in Appendix I or II is the subject of Proposal 55. Discussion of the genus as a whole is included in the analysis of that proposal.*

Summary: There are 20 *Dalbergia* species found in Mexico, six of which are endemic. Of the total, 15 produce high quality timber; two are already listed in Appendix II (*D. retusa* and *D. stevensonii*), the remainder are proposed here for listing in Appendix II.

Timber produced by many species of *Dalbergia*, often known as 'rosewood', is valued for the beauty, durability and physical properties of the wood; it is consequently in demand in international trade (see analysis for Proposal 55). None of the 13 species currently proposed for listing is named in the National Hongmu Standard of 33 species[1], or in the Chinese Industrial Hardwood Standard[2].

There is little information on the populations and trade in most of the species. Regeneration of many *Dalbergia* species is considered slow[3]. Mexico has now carried out risk assessments for the populations of Mexico.

Dalbergia calderonii occurs in Mexico, Guatemala, El Salvador and Honduras. This species is rare and slow growing, and occurs in a region with high deforestation. Mexico considers its population endangered and El Salvador has assessed it as threatened.

Dalbergia calycina occurs in Belize, Costa Rica, El Salvador, Guatemala, Mexico and Nicaragua. No data are available on the volume of trade; exports from Guatemala (which listed its population in Appendix III) were reported in 2014[4]. Known to occur in a number of protected areas, there are no specific data relating to the population size of this taxon, however, it is considered to be rare in Nicaragua and assessed as threatened by Mexico. In 2012 IUCN classified the species as of Least Concern.

Dalbergia congestiflora is distributed in Mexico, Guatemala and El Salvador, it is currently considered endangered in Mexico, but according to the most recent assessment it now qualifies as subject to special protection.

Dalbergia cubilquitzensis occurs in Belize, Costa Rica, Guatemala, Honduras, Mexico and Nicaragua. Mexico considers this species endangered. No data are available on the volume of trade; exports from Guatemala (which has listed the species in Appendix III) were reported in 2014[4].

Dalbergia glomerata is reported to occur in Costa Rica, Guatemala, Honduras and Mexico, although Mexico considers that it is endemic and the populations elsewhere are *D. congestiflora*. It was listed in Appendix III by Guatemala in 2015 and, according to the CITES Trade Database, since then 42m^3 of sawn wood have been reported as exported from Honduras to Taiwan (Province of China). The species is harvested for timber; populations are believed to be declining as a result. Also believed to be affected by decline in area and quality of habitat as a result of conversion to agriculture. Road construction is making areas more accessible for logging[5]. Classified as in need of special protection in Mexico and as Vulnerable by IUCN (2012).

Dalbergia longepedunculata occurs in Honduras and Mexico; considered endangered by Mexico.

Dalbergia luteola occurs in Guatemala and Mexico and Guatemala; considered endangered in Mexico.

Dalbergia melanocardium occurs in El Salvador, Guatemala and Mexico; considered endangered in Mexico.

Dalbergia modesta endemic to Mexico where it is considered threatened.

Dalbergia palo-escrito is endemic to Mexico where it is considered threatened, this species is in high demand for the manufacture of classical guitars and is subject to selective logging[6].

Dalbergia rhachiflexa is endemic to Mexico where it is considered threatened.

Dalbergia ruddae occurs in Costa Rica and Mexico; considered threatened in Mexico.

Dalbergia tucurensis naturally occurs in Belize, El Salvador, Guatemala, Honduras, Mexico and Nicaragua; introduced into Costa Rica. Nicaragua listed the species in Appendix III in 2014 and Guatemala added its population in 2015; the CITES Trade Database records just over 29,000m^3 in trade, mainly from Nicaragua to East Asia. Considered endangered by Mexico.

The 13 species proposed for listing in Appendix II have timber that is similar to that of species already listed in Appendix II from the same geographical region. Enforcement of the current listing is difficult due to problems in species identification. Trade is often reported at genus level and enforcement officers do not have a quick and easy technique to identify to species level. Under laboratory conditions, there are identification tests that can be done to species level but they are both costly and complicated. There is also reported to be illegal trade in *Dalbergia* species in the region.

For a broader discussion of trade in *Dalbergia* species see analysis of Proposal 55.

With no annotation, all parts and derivatives, live or dead, would be regulated. Most current *Dalbergia* listings have annotations (#5 and #6) that variously include logs, sawn wood and veneer sheets and plywood. However Proposal 53 notes that in a review of the trade in *D. cochinchinensis* a large portion of the trade in "rosewood" species from eastern Asia 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. That proposal is to expand the scope of the listing by switching to annotation #4.

Analysis: The species of *Dalbergia* proposed here are timber-producing species that share range States with two *Dalbergia* species that are already included in Appendix II. There is insufficient information to determine whether any of the species proposed here meets the criteria in Annex 2a of the Resolution.

At least some of the species are known to be in trade and have timber that is difficult to distinguish from the Appendix-II listed species. Trade in timber from *Dalbergia* species may be reported at genus level. This creates problems in the implementation of the existing Appendix-II listing. It would appear therefore that these species meet the criteria for inclusion in Appendix II in Annex 2b of *Res. Conf. 9.24 (Rev. CoP16)* (lookalike criteria). With no annotation proposed, all parts and derivatives, live or dead, would be regulated; under the current Appendix-II listings for *D. retusa* and *D. stevensonii* the only products included are logs, sawn wood and veneer sheets and plywood.

References:

Information not referenced in the Summary section is from the Supporting Statement.

[1] Wenbin, H. & Xiufang, S. (2013) Tropical Hardwood Flows in China: Case Studies of Rosewood and Okoumé. Forest Trends.
[2] Chinese Industrial Standard of Precious Dark Color Hardwood Furniture (QB / T 2385-2008).
[3] EIA (2013) Report on CoP16 Proposals: https://eia-international.org/wp-content/uploads/EIA-COP16-Briefing_Proposals1.pdf. Viewed on 3rd July 2016.
[4] CITES (2015) PC22.Doc 17.2. Report of the Working Group for Neotropical Tree Species.
[5] Groom, A. (2012). *Dalbergia glomerata.* The IUCN Red List of Threatened Species 2012.
[6] Chatham House (2012) Chatham House Workshop: Tackling the Trade in Illegal Precious Woods 23-24 April 2012 Background Paper 1: Precious Woods: Exploitation of the Finest Timber Prepared by TRAFFIC.

Inclusion of the genus *Dalbergia* in CITES Appendix II without annotation, with the exception of the species included in Appendix I

Proponents: Argentina, Brazil, Guatemala and Kenya

Summary: *Dalbergia* is a genus of trees, shrubs and lianas with a pan-tropical distribution in Africa, Asia and Central and South America, ranging in habitat from tropical rainforests to seasonally dry tropical to subtropical humid and dry forest, woodland and wooded grassland. There are currently around 300 accepted names according to the Plant List but there is still substantial taxonomic uncertainty within the genus. Currently one species *Dalbergia nigra* from Brazil is in Appendix I, *D. cochinchinensis* from Southeast Asia, *D. granadillo*, *D. retusa*, and *D. stevensonii,* from Mexico and Central America, and all Malagasy species in the genus (ca. 70) are included in Appendix II. A number of Central American populations of various species are in Appendix III. Thirteen Mexican and Central American species are subject to a separate proposal (Proposal 54) for inclusion in Appendix II.

Some species produce high quality timber, often known as "rosewood", which commands high prices in trade and is used in construction, cabinet work, marquetry, inlay, furniture construction, musical instrument manufacture, tools and carvings. The term rosewood is imprecise, and used differently in different contexts. Not all timbers characterised as rosewood are *Dalbergia* (the name is also variously applied to species in the genera *Jacaranda*, *Guibourtia* (the subject of Proposal 56) and *Machaerium*), and not all *Dalbergia* species produce rosewood. Some valued *Dalbergia* timber is known as ebony or "blackwood".

Much of the current demand for rosewoods is associated with the demand in China for "Hongmu" furniture. However, not all Hongmu timber is necessarily rosewood. A national Hongmu standard (SAQSIQ 2000) of 33 species was issued in 2000 to identify those species whose density, texture and colour meet the requirements set in the Chinese National Hongmu Standard for legal marketing purposes (see Annex 1)[1]. Under the Hongmu standard *D. odorifera* is classified as "scented rosewood". Fifteen other species of *Dalbergia* are included in the standard but none is classified as rosewood (all rosewoods other than *D. odorifera* in the standard are species of *Pterocarpus*). Eight Hongmu *Dalbergia* are classified as "blackwood": *D. cultrata; D. fusca; D. latifolia; D. louvelii* (CITES Appendix II[2])*; D. melanoxylon; D. nigra* (Appendix I)*; D. spruceana; D. stevensonii* (Appendix II). Seven are classified as "mahogany": *D. bariensis; D. cearensis; D. cochinchinensis* (Appendix II)*; D. frutescens; D. granadillo* (Appendix II)*; D. retusa* (Appendix II); *D. oliveri*. There is also an Industrial Standard of Precious Dark Color Hardwood Furniture in China. This classifies an additional species of *Dalbergia* (*D. greveana* (Appendix II[2])) as "Rosewood".

Other *Dalbergia* species are also used for their hard wood. These include (but are not restricted to): Africa: some *Dalbergia* species from Madagascar; Latin America: *D. brasiliensis, D. cearensis, D. cubilquitzensis, D. cuscatlanica, D. decipularis, D. foliolosa*, *D. funera*, *D. glomerata, D. hortensis, D. miscolobium, D. spruceana, D. villosa, D. tucurensis*, *D. glabra, D. calycina.* Asia*: D. annamensis, D. cambodiana, D. mammosa, D. sissoo*[3]*, D. tonkinensis.* Various lists of commercial timber species exist that include *Dalbergias* (see "A Working List of Commercial Timber Tree Species"[4] although note that some species mentioned in the SS and here are not included in this); not all these species necessarily produce timber that resembles that of species already listed in the CITES Appendices.

Some *Dalbergia* species are used for making musical instruments. In particular the African Blackwood *D. melanoxylon* is the most highly-favoured wood for clarinets and oboes. Other species known for their musical qualities include *D. cochinchinensis* (Appendix II)*, D. glomerata, D. granadillo* (Appendix II)*, D. palo-escrito, D. retusa* (Appendix II)*, D. stevensonii* (Appendix II)[5], *D. tucurensis* and a number of Madagascan species (Appendix II)[6]. Recorded export of *D. melanoxylon*, a species widespread in sub-Saharan Africa, takes place almost entirely from Mozambique and Tanzania. Demand for musical instrument manufacture has been estimated at 255m^3 per year of semi-processed billets, equivalent to perhaps 1500m^3 of roundwood.

Harvest of different species of *Dalbergia* and similar timbers appears to follow a distinctive pattern in which as the most favoured and accessible timber stocks in a particular area are depleted, attention turns to others. As an example, with the commercial extinction of *D. odorifera* in China and *Pterocarpus santalinus* in India, the trade in *D. cochinchinensis* reportedly grew rapidly and it became the most sought-after Hongmu species globally. As *D. cochinchinensis* has subsequently been depleted the main species now dominating the Hongmu trade in Southeast Asia are reported to be *D. oliveri, D. bariensis, P. macrocarpus* and *P. pedatus*[7]*.*

There is generally very little quantitative information on the impact of logging on populations of *Dalbergia* species. Knowledge of the status of many of them is very limited and often out-of-date. In the 1998 IUCN Threatened Trees of the World, the following species were identified as under threat from overexploitation: *D. annamensis, D. bariensis, D. cambodiana, D. mammosa, D. oliveri*, *D. latifolia*, *D. odorifera, D. tonkinensis*. Of these *D. bariensis, D. latifolia, D. odorifera* and *D. oliveri* are classified as Hongmu species.

Dalbergia bariensis is native to Cambodia; Lao People's Democratic Republic (PDR); Thailand; Viet Nam where it is said to be widely distributed and scattered. At the time of the IUCN assessment (1998) there was said to be a rapid decline in the number of large trees because of overexploitation[8]. Millet and Truong (2011) recorded *D. bariensis* in Tan Phu forest in southern Viet Nam but noted that it was rare, showed limited regeneration and was "close to extinction"[9]. *D. latifolia* occurs in India, Indonesia and Nepal. In the 1998 IUCN assessment the timber was said to be of high commercial value and wild subpopulations widely overexploited including from illegal felling. *D. odorifera* was reportedly only known in 1998 from stands of coppiced individuals on Hainan Island, China. *D. oliveri* has a restricted distribution in Myanmar, Thailand and Viet Nam. Myanmar reported the export of 9000 m^3 of sawnwood to ITTO between 2000 and 2003[9].

Some species of *Dalbergia* are widely cultivated both within and outside their native range, occurring in plantations and used in agroforestry systems. Some, such as *D. latifolia* and *D. sissoo* have been regarded as invasive species outside their natural range[10, 11]. Some are shrubs or lianas with no international commercial use (e.g. *D. monetaria*[12]*, D. hostilis*).

Use and trade of non-timber producing *Dalbergia* has not been assessed for this analysis. There may be some species in trade where the products in trade do not resemble those of species already included in the Appendices or proposed as meeting the criteria for inclusion in Appendix II in their own right rather than as lookalike species. However, there are no indications of large-scale international trade in such products[13].

Of the non-*Dalbergia* Hongmu species, *P. santalinus* is listed in Appendix II and *P. erinaceus* is the subject of Proposal 57 to be included in Appendix II.

The wood of some *Dalbergia* species has a characteristic colour and texture. Many species have the same wood anatomy[14] making identification by eye or using traditional anatomical methods only possible to genus level, if at all. However, in combination with chemical methods, such as mass spectrometry, DNA sequencing and profiling, near infrared spectroscopy and stable isotope analysis identification can consistently identify and distinguish between species[15, 16, 17]. Inexpensive and accessible tools are not available to enforcement officers at this time.

The intention of the proposal is to include all parts and derivatives of the species, live or dead and therefore no annotation is proposed for inclusion with the listing.

Analysis: The genus *Dalbergia* is a large and widespread one, comprising plants of many different forms. Some species produce high quality and sought-after timber, some of which is traded as "rosewood".

There is little available information on the status of, or impacts of harvest for trade on, non-CITES listed species of *Dalbergia* that produce rosewood, although there are indications of decline in some species, notably in Asia and Central and South America. There is insufficient readily available information to determine whether any of these meets the criteria for inclusion in Appendix II in Annex 2a of *Res. Conf. 9.24 (Rev. CoP16)*.

However, given the difficulty in distinguishing between different rosewood-producing species of *Dalbergia* in the principal form in which they are traded (timber) it would appear that such species would meet the criteria for inclusion in Appendix II in Annex 2b (lookalike criteria) owing to the resemblance of their timber in trade to that of species already listed in the Appendices. Determining which species should be treated as lookalikes may require some additional work; various lists of Dalbergia species timber in trade exist but these would need to be analysed as to which rosewoods resemble each other.

One species of African *Dalbergia* African Blackwood (*D. melanoxylon*) produces timber that is in trade principally in a form (semi-processed billets for the production of musical instruments) that is reasonably easily distinguished from other *Dalbergia* spp. in trade and other timber species included in the Appendices. There is insufficient information to determine whether this species meets the criteria for inclusion in Appendix II in Annex 2a of *Res. Conf. 9.24 (Rev. CoP16)*. It does not appear to meet the criteria in Annex 2b. No mainland African species of *Dalbergia* is known to produce rosewood that is in trade.

Many *Dalbergia* species are not known to be in trade, nor do they resemble species that are in trade. These do not meet the criteria for inclusion in Appendix II.

No annotation is proposed with this listing which would result in all parts and derivatives being included, if adopted. Current listings are annotated to include "Logs, sawn wood and veneer sheets" (#5) and plywood for those with annotation (#6). Some of those species which are currently listed are used for the manufacture of musical instruments, although musical instruments are excluded from the listings. Species that would be listed were this proposal adopted would include musical instruments where they are used for this purpose. A proposal to amend the annotation for *D. cochinchinensis* (Proposal 53) intends to widen the scope of products covered to include secondary processed products, particularly furniture as it appears that traders are crudely processing timber in the source country and then exporting it as furniture to circumvent the control. A genus level listing with no annotation would include un-processed, semi-processed and finished furniture.

References:

Information not referenced in the Summary section is from the Supporting Statement.

[1] Forest Trends (2014) China's Policies for Hongmu Import Surveillance & Control Zhang Yue http://www.forest-trends.org/documents/files/doc_4368.pdf Viewed on 2nd July 2016.

[2] Under the general Appendix II listing for Malagasy *Dalbergia* spp.

[3] FAO (year unknown) *Dalbergia sissoo* Roxb http://www.fao.org/ag/agp/AGPC/doc/gbase/data/pf000385.htm. Viewed 2nd July 2016.

[4] Mark, J., Newton, A.C., Oldfield, S. and Rivers, M. (2014) The International Timber Trade: A working list of commercial timber tree species. BGCI, Kew, UK. http://www.bgci.org/files/Global_Trees_Campaign/Timber_list/TimberWorkingList_v2DImage.pdf

[5] Global Trees Campaign (2016) http://globaltrees.org/threatened-trees/tree-values/musical-instruments/ Viewed 2nd July 2016.

[6] Jenkins, A., Bridgland, N., Hembery, R., Malessa, U., Hewitt, J. & Keong, C.H. (2012) Background Paper 1: Precious Woods: Exploitation of the Finest Timber. TRAFFIC. Chatman House Workshop. Tackling the Trade in Illegal Precious Woods. 23-24 April 2012, http://www.traffic.org/non-traffic-papers/ Viewed on 2nd July 2016.

[7] EIA (2016). The Hongmu Challenge: A briefing for the 66th meeting of the CITES Standing Committee, January 2016.

[8] Oldfield, S., Lusty, C. & MacKinven, A. (1998) Threatened Trees of the World, IUCN/ WCMC, Cambridge.

[9] UNEP-WCMC (2014) Non-CITES timber species from South Asia (Leguminosae) potentially warranting further protection. UNEP-WCMC, Cambridge, UK.

[10] Global Invasive Species Database (GISD) (2016) Species profile: Dalbergia sissoo. http://www.iucngisd.org/gisd/species.php?sc=1186 on 26-05-2016.

[11] CABI (2016) Datasheet on *Dalbergia sissoo* http://www.cabi.org/isc/datasheet/17808 Viewed on 2nd July 2016.

[12] Acevedo-Rodríguez, P. (2005) Vines and Climbing Plants of Puerto Rico and the Virgin Islands. *Contributions from the United States National Herbarium* 51: 1-48.

[13] Lowry, P. (2016) *In litt.* to IUCN/TRAFFIC Analyses Team, Cambridge, UK.

[14] McClure, P., Chavarria, G.D. & Espinoza, E. (2015). Metabolic chemotypes of CITES protected Dalbergia timbers from Africa, Madagascar and Asia. *Rapid Commun. Mass Spectrom:* 29: 1-6.

[15] CITES (2015) PC22 Doc. 17.6. Implementation of the Convention for Dalbergia spp.

[16] Musah, R.A., Espinoza, E.O., Cody, R.B., Lesiak, A.D., Christensen, E.D., Moore, H.E., Maleknia, S. & Drijfhout, F.P. (2015) A High Throughput Ambient Mass Spectrometric Approach to Species Identification and Classification from Chemical Fingerprint Signatures. *Nature Scientific Reports*. 5:11520.

[17] Yu, M., Zhang, H., Jin, Q., & Liu, S. (2013) Wood identification of Dalbergia odorifera T.Chen based on DNA barcoding sequences. *In* Identification of Timber Species and Origins Regional Workshop for Asia, Pacific and Oceania (20-21 Aug 2013, Beijing, China).

Annex 1: 33 species listed in Chinese National Standard for Hongmu.

Category	**Species**
Red sandalwood	*Pterocarpus santalinus*
Rosewood	*Pterocarpus cambodianus, P. dalbergioides, P. erinaceus, P. indicus, P. macrocarpus, P. marsupium, P. pedatus*
Scented rosewood	*Dalbergia odorifera*
Blackwood	*Dalbergia cultrata, D. fusca, D. latifolia, D. louvelii, D. melanoxylon, D. nigra, D. spruceana, D. stevensonii*
Mahogany	*Dalbergia bariensis, D. cearensis, D. cochinchinensis, D. frutescens, D. granadillo, D. oliveri, D. retusa*
Ebene	*Diospyros ebenum, D. crassiflora, D. pilosanthera, D. poncei*
Ebony	*Diospyros celebica, D. philippensis*
Wenge	*Millettia laurentii, M. leucantha, Cassia siamea*

Inclusion of *Guibourtia demeusei*, *G. pellegriniana* and *G. tessmannii* in Appendix II with annotation #4

Proponents: Gabon and European Union

Summary: The genus *Guibourtia* is currently considered to comprise between 14 and 16 species[1,2]; 13 occur in tropical Africa, and one in the Neotropics[1]. All three species in the current proposal are African forest trees.

Guibourtia tessmannii grows to 65m with a trunk that can exceptionally reach 2m in diameter at breast height (DBH) but is generally smaller. It is found at very low population density on firm ground in evergreen forest in Cameroon, Equatorial Guinea and Gabon. It is also believed likely to occur in southeast Nigeria, the Republic of Congo and extreme southwest Central African Republic, being present in logging concessions in Cameroon near these countries. It has not been confirmed in the Democratic Republic of the Congo[3].

Guibourtia pellegriniana grows to 30m, with a trunk typically around 40cm DBH. It also occurs at very low population density. Its known distribution is considerably smaller than that of *G. tessmannii*. Herbarium specimens originate from a narrow strip of coastal forests in Cameroon, Equatorial Guinea, Gabon and possibly the Republic of Congo. Recent work indicates it may be more widespread than this, also occurring in forests further inland where *G. tessmannii* is found, although at much lower density.

Guibourtia demeusei grows 25 to 40m tall with a trunk up to one metre DBH. It occurs in periodically flooded and swampy forest and gallery forest, often in pure stands[4]. It has a much larger range than the other two species, extending into the central Congo basin. It occurs in Cameroon, Central African Republic, Democratic Republic of the Congo, Equatorial Guinea, Gabon, and the Republic of Congo[5].

There is a general lack of biological data for these species, which are all from closed forest and have historically been problematic to study[6]. *G. tessmannii* and *G. pellegriniana* are said to be difficult to distinguish from each other in the field. Increment rate (increase in trunk diameter) of ca. 0.35cm per year has been estimated for *G. tessmannii* in Gabon and of ca. 0.4cm per year for managed populations of *G. demeusei* in the Republic of Congo[7]. Frugivorous animals are thought to play an important part in seed dispersal.

Some inventory data are available. Historic estimates for Gabon (of a probable stock of three to seven million m^3 of *G. tessmannii* and *G. pellegriniana* combined made in 1975 and of seven to 13 million m^3 made in 1995) are not considered reliable. More recent assessment in forestry concessions in Gabon found extremely low stocks of the two species combined that could be harvested on a sustainable basis (annual harvests from effectively zero to 0.0045m^3 per ha). Inventories in Cameroon have found similarly low stocking densities, between 0.002 and 0.06 trees with DBH >20cm per ha. A considerably higher density of *G. demeusei*, of 0.4 stems per ha, has been reported in the Central African Republic[5].

The timber of all three species is commonly used locally and has a high socio-cultural value[8]. *G. tessmannii* and *G. pellegriniana* in particular are reportedly highly sought-after as timber for furniture-making within their range, although there is no information on quantities used.

All three species are traded internationally as Bubinga but are also known under other names, such as Kevazingo. *G. tessmannii* and *G. pellegriniana* are commonly referred to as Rose Bubinga and are reportedly indistinguishable in trade. *G. demeusei,* or Red Bubinga, can be distinguished and is generally considered of inferior quality, but reportedly may be easily confused with or substituted for that of the other two on the international market. Historically most exports were to Europe; more recently China has become the main market as the timber is used for the making of Hongmu-type (rosewood and blackwood or ebony) furniture, demand for which has increased greatly in the past decade. *Guibourtia* species are not a part of the recognised Hongmu standard in China, but their timber is a category A2 hardwood that is used as a substitute for Hongmu timbers[9].

Trade data, often reported under trade (i.e. non-scientific) names, may refer to one or other of the three species, or some combination of them. Reported exports of *G. tessmannii* and *G. pellegriniana* combined from Gabon have increased over time. Until 2009 all recorded export was of roundwood (logs), rising from an average annual export of ca. 25,000m^3 in 1987 to 1992, to ca. 60,000m^3 in 1993 to 1999 and just under 70,000m^3 in 2000 to 2009. From 2011 onwards, only sawnwood has been officially recorded as exported.

Using a conversion factor from sawnwood to roundwood of three, on average the equivalent of 65,000m^3 roundwood was exported annually in 2011 to 2014.

Recorded exports from Cameroon do not distinguish between the three species. Exports are at a much lower level than those for Gabon, amounting for ca. 13,000m^3 roundwood per year in 1995 to 1998 and roundwood equivalent of around 6000m^3 in sawnwood per year for 1999 to 2014 with little discernible overall trend. Data from logging requests submitted by forest management units indicates that during the period 2008 to 2012, around 75% of logged volume of *Guibourtia* in Cameroon was of *G. demeusei*, with volumes requested for this species for 2011 to 2013 considerably higher than those requested in previous years. At the same time requested volume of *G. tessmannii* (probably including *G. pellegriniana*) halved.

Recorded exports of Bubinga from Equatorial Guinea are at a low level, although have risen from virtually zero in 2007 to ca. 400 m^3 in 2011[5]. The species involved are not identified, nor is it clear if the volume is for roundwood or sawnwood.

Bubinga exported from Democratic Republic of the Congo is *G. demeusei* (the other two species do not occur there); it is likely that all Bubinga exported from Central African Republic (where *G. demeusei* is known to occur and the other two have not been confirmed) is also *G. demeusei*. Reported exports from the Central African Republic rose sharply from zero or nearly zero in 2005 to 2009 to ca. 600m^3 in 2010 and 1700m^3 in 2011 (again, it is unclear if this is roundwood or sawnwood). Recorded exports from the Democratic Republic of the Congo also increased, from very low levels in 2005 to 2008 to ca. 700m^3 in 2009 and 2000m^2 in each of 2010 and 2011.

Roundwood of *G. tessmannii* and *G. pellegriniana* is advertised on the internet, indicating that it is available on the international market despite the fact that the two countries known to export these species prohibit export of roundwood. It is suspected that declared exports represent only a proportion of the actual volume exported, although exactly what proportion remains unknown. There are narrative accounts of extensive illegal and unauthorised logging of these species in Cameroon[5].

Current low population densities of *G. tessmannii* and *G. pellegriniana* have been ascribed to past exploitation[10]. However, there is an absence of baseline information on which to assess the effects of exploitation.

Minimum felling diameters have been set in some range States. The export of Bubinga logs has been prohibited in Cameroon since 1999 and Gabon since 2010. In November 2012 Cameroon suspended its harvest of *G. tessmannii* in the national forest domain.

Guibourtia ehie and *G. arnoldiana* are distributed in the same region as the proposed three species, and are also in international trade but are easily distinguished due to their brown wood.

The listing of these species is proposed with an annotation (#4) that would include all parts and derivatives, except seeds, seedlings or tissue cultures obtained in vitro and cut flowers of artificially propagated plants.

Analysis: Information on the status of *Guibourtia tessmannii*, *G. pellegriniana* and *G. demeusei* is sparse. There is very little information on recruitment rates or age and size at maturity. The species, particularly *G. tessmannii* and *G. pellegriniana,* are known to be in demand internationally for their rosewood-type timber, the market for which has grown very rapidly in Asia, particularly China, in recent years.

Populations of *G. tessmannii* and *G. pellegriniana* are of low density, although it is not known if this is a natural state or a result of past exploitation. Where there is information on trade in these species it appears to be at a low level. There are indications of illegal offtake and trade, the volume of which is not quantified but which may be relatively high. Given the evident scarcity of harvestable-sized *G. tessmannii* and *G. pellegriniana* it is likely that current harvest, including illegal offtake, for export is exceeding the rate at which such trees are entering the population, leading to probable commercial extinction of these species. It is unclear, however, whether this will lead to the species themselves becoming threatened by harvest or other influences, or becoming eligible for inclusion in Appendix I in the near future

G. demeusei is a widespread species that can be locally abundant. Reported harvest and export in a number of its range States increased around 2009 and 2010, which may be associated both with increasing demand for rosewoods in general at that time, and declining availability of *G. tessmannii* and *G. pellegriniana*. However, recorded harvest and export remain at a relatively low level, indicating that the species is unlikely to meet the criteria for inclusion in Appendix II in Annex 2 a of *Res. Conf. 9.24 (Rev. CoP16)*.

Given the difficulties in distinguishing between *G. tessmannii* and *G. pellegriniana*, if either were to be included in Appendix II, then the other would meet the criteria in Annex 2b A of the Resolution (lookalike criteria). Information regarding the similarity of these two species to *G. demeusei* is conflicting. By some accounts the principal part in trade (timber) is relatively straightforward to distinguish, although all three may be traded under the same generic trade name. It is unclear, therefore, whether *G. demeusei* does meet the criteria in Annex 2b A of the Resolution.

Reviewers: D. Mahonghol and T. Osborn.

References:

Information not referenced in the Summary section is from the Supporting Statement.

[1] Royal Botanic Gardens, Kew (2016). *Guibourtia ehie* (Black hyedua). Available at: http://www.kew.org/science-conservation/plants-fungi/guibourtia-ehie-black-hyedua. Viewed on 6th July2016.
[2] Royal Botanic Gardens, Kew (2016). *Guibourtia*. Available at: http://www.theplantlist.org/browse/A/Leguminosae/Guibourtia/. Viewed on 6th July 2016.
[3] *Contra to the following report which is in error*: Mahonghol, D. & Osborn, T. (2015) Review of trade in selected African timber species threatened by international trade from major range States (Cameroon, Congo, Democratic Republic of Congo and Gabon) to Germany and the EU: A preliminary assessment of Guibourtia tessmannii (Bubinga) and Millettia laurentii (Wenge) (A preliminary draft information document prepared by TRAFFIC and WWF Germany for the 21st Meeting of the CITES Plants Committee).
[4] Useful Tropical Plants Database (2016) Useful Tropical Plants Database. http://tropical.theferns.info/. Viewed on 3rd July 2016.
[5] Betti, J. L. (2012) Background information on the conservation status of Bubinga and Wenge tree species in Africa countries. Report prepared for the international tropical timber organization (ITTO).
[6] Jongkind, C. (2016) *In litt.* to IUCN/TRAFFIC Analyses Team, Cambridge, UK.
[7] Mpati (2015) Review of trade in selected African timber species threatened by international trade. Unpublished report.
[8] Mahonghol, D. (2016) *In litt.* to IUCN/TRAFFIC Analyses Team, Cambridge, UK.
[9] Chinese Industrial Standard of Precious Dark Color Hardwood Furniture (QB / T 2385-2008).
[10] van der Burgt, X. (2016) *In litt.* to IUCN/TRAFFIC Analyses Team, Cambridge, UK.

Inclusion of *Pterocarpus erinaceus* in Appendix II, without annotation

Proponents: Benin, Burkina Faso, Chad, Côte d'Ivoire, European Union, Guinea, Guinea-Bissau, Mali, Nigeria, Senegal and Togo

Summary: *Pterocarpus erinaceus* is a slow growing, medium sized, generally deciduous tree found in open forest and wooded savannah in Sub-Sahelian West Africa, with a broad distribution including Burkina Faso, Cameroon, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Mali, Niger, Nigeria, Senegal, Togo and possibly Central African Republic, Chad, Liberia and Sierra Leone. It is a pioneer species, readily colonising fallow land, and is drought tolerant once established. It regenerates quickly after coppicing and is reasonably resistant to fire, usually surviving the yearly savannah bush fires. The species can mature at around 5cm stem diameter[1]. It is an important species ecologically due to its atmospheric nitrogen fixing properties which may improve soil fertility.

Population studies undertaken show that average tree density varies widely: in Burkina Faso, Niger and Togo it ranges from 1.17 ± 0.75 trees/ha to 110.9 ± 1.15 trees/ha[2] [3], with average stem diameter ranging from ca. 25cm to ca. 50cm. It has been observed that many mature trees remain in Sierra Leone: in the 100km^2 around Lake Sonfon in Sierra Leone there are an estimated total of 500,000 - 1 million individual trees[1], and trees here are of a larger average size than those observed in Burkina Faso[4].

The species is of high socio-cultural importance in the region and is widely used locally in construction and furniture making, as medicine, for musical instruments, charcoal, dyes and fodder for livestock.

The species has been heavily exploited for international trade in recent years with nearly all recorded trade going to China. It is amongst the species classified under China's Hongmu Standard, a list of 33 species, including *Pterocarpus* spp., *Dalbergia* spp., *Diospyros* spp., *Millettia* spp. and *Cassia* spp., whose density, texture and colour match the requirements for the manufacture of luxury Hongmu furniture. Recorded Chinese imports of logs increased from ca. 3000 m^3 in 2009 to 700,000m^3 in 2014[5]. A typical yield of 0.8m^3 is estimated for a relatively large (50cm dbh) tree[6], so that reported imports to China in 2014 would have required the harvesting of nearly 900,000 large trees.

The species has been protected under forest law in most range States, in some cases since 1996, due to concerns about failing population management and unsustainable use. There are total export bans in at least seven range States. Recommended average felling diameter ranges from 35-*65cm*. However, there is little evidence of forest management plans in place for this species, or of effective controls regulating national use or international trade. In some countries only specimens of ca. 30 cm stem diameter or over are being logged, but in others, for instance Benin, Burkina Faso, Ghana and Côte d'Ivoire trees of a smaller stem diameter are also targeted[7]. Logs of this species are widely available on the internet, in any quantity requested, and shipped from ports in countries with export bans in place.

In order to ensure the listing covers those parts of the species that first enter or dominate the international market (and as listings with annotations may be circumvented, for instance #5 by minimal working of the wood prior to export) the proposal is without annotation.

Analysis: *Pterocarpus erinaceus* is a tree species which it is harvested for timber and has a number of other local uses. There is evidence of rapid increase in export of timber from range States in the past six years largely to meet demand in China for Hongmu timber used in furniture-making. A proportion of this export, possibly the majority, appears to be unauthorised or illegal. The species is widespread and adaptable and may be at least locally abundant. It may also mature at a size considerably smaller than that at which it is harvested for timber. The current level of harvest for timber is likely to be unsustainable, in that it almost certainly exceeds the rate at which harvestable-sized trees are being replenished in the population, but it seems unlikely that regulation of trade is required to prevent the species from becoming eligible for inclusion in Appendix I in the near future, or that regulation of trade is required to ensure that harvest of specimens is not reducing the population to a level at which its survival might be threatened.

Reviewers: C. Duvall, C. Hin Keong and S. Oldfield.

References:
Information not referenced in the Summary section is from the Supporting Statement.

[1] van der Burgt, X. (2016) *In litt.,* to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.

[2] Novinyo, S.K., Kossi, A., Habou, R., Raoufou, R.A., Dzifafa, K.A., Andre, B. B., Ali, M., Sokpon, N. & Kouami, K. (2014) Spatial Distribution of *Pterocarpus erinaceus* Poir. (Fabaceae) Natural Stands in the Sudanian and Sudano-Guinean Zones of West Africa: Gradient Distribution and Productivity Variation across the Five Ecological Zones of Togo. *Annual Research & Review in Biology,* 6: 89-102.
[3] Segla, N.K., Rabioub, H., Adjonoua, K., Moussad, B.M., Saleyb, K., Radjia, R.A., Kokutsea, A.D., Bationoc, A. B., Mahamaneb, A. & Kokoua, K. (2016) Population structure and minimum felling diameter of *Pterocarpus erinaceus* Poir in arid and semi-arid climate zones of West Africa. *South African Journal of Botany*, 103:17-24.
[4] Balinga, M. (2016) *In litt.,* to the IUCN/TRAFFIC Analyses Team, Cambridge, UK
[5]EIA (2016) The Hongmu Challenge: A briefing for the 66th meeting of the CITES Standing Committee. http://www.illegal-logging.info/content/hongmu-challenge-briefing-66th-meeting-cites-standing-committee. Viewed June 2016.
[6] Duvall, C.S. (2008) *Pterocarpus erinaceus* Poir. [Internet] Record from PROTA4U. Louppe, D., Oteng-Amoako, A.A. & Brink, M. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands http://www.prota4u.org/search.asp. Viewed June 2016.
[7] Tosso, F. (2016) *In litt.,* to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.

Inclusion of Grandidier's Baobab *Adansonia grandidieri* in Appendix II with an annotation limiting the parts and derivatives to seeds, fruits, oils and living plants

Proponent: Madagascar

Summary: Grandidier's Baobab *Adansonia grandidieri*, one of six endemic *Adansonia* in Madagascar, is a large deciduous tree that occurs in west and southwest Madagascar. Recent studies based on analysis of satellite images and field observations[1,2], have found it to have a relatively extensive distribution (26,000 to 32,000 km^2) along the Mangoky River and in the western part of the Menabe region. Populations of the tree are scattered through this area. The satellite image study estimated its population at over one million individuals, many more than has previously been suggested.

Regeneration levels of *A. grandidieri* appear to be low, with few young trees in the population. A number of potential causes have been proposed, including reductions or loss of populations of natural seed dispersal agents (wild animals that eat the fruit without digesting the seeds), an increase in the population of feral pigs and cattle, increasing human harvesting of fruits and bark and changing land use through the conversion to agricultural land and pasture. Forest cover has declined considerably in the region in the past few decades and deforestation rates are said to have increased markedly in the past decade.

The species has established local uses for fruit, seed oil, tree bark, bark fibre and wood. Local demand for juice preparation in hotels in Morondava (one of the main towns in the region) is roughly estimated at 3000kg of fruits per year. Local harvest of trees for fibres in Morondava market is estimated at the equivalent of 50 trees harvested[6]. The amount of national level trade is not known but seed mounds (equivalent to ca. 2500kg) have been observed in the market in Antananarivo (the capital, not in the area of distribution of the baobab) during the fruiting season[6].

In Madagascar, several companies promote the commercialization and sustainable use of *A. grandidieri,* including through the production and marketing of baobab powder and baobab oil derived from fruit and seed[3]. The actual extent of this trade is unclear. A collection permit was granted to a company in Madagascar for 4000kg of *A. grandidieri* fruit for use in food and cosmetics; the full amount was reported as harvested in 2015[4]. Harvested fruit did not appear to be intended for international trade.

There is very little evidence of international trade in any products of *A. grandidieri.* Records from the Government of Madagascar indicate export of 150ml of seed oil (equivalent to 15 fruits) in 2014 and 35kg, apparently of seed oil (possibly seed), in 2015. Health products are advertised on online platforms as containing *A. grandidieri*[5], but it is not known if these do in fact contain *A. grandidieri* extract. Seeds for horticulture are advertised internationally and there is some local purchase of seeds by tourists, presumably intended for export[6]. The numbers involved are likely to be very small compared with national use.

The fruits and seeds (processed into powder and oil respectively) of another species of baobab, *A. digitata,* a species native to and widespread in Africa and southwest Arabia (and widely introduced elsewhere) have featured increasingly in international trade for use in pharmaceutical, cosmetics and food products[7]. *A. digiata* is registered by the US Food and Drug Administration as Generally Regarded as Safe (GRAS), which allows *A. digiata* to be used as an ingredient in food products. A similar classification (as Novel Food) for *A. digitata* exists in the European Union. There may be concerns that the future registration of *A. grandidieri* on the European and the USA export markets will lead to an increase in demand for fruit and seeds.

Local harvest comes under general regulations for non-timber forest products[8]. To date, there are no specific government regulations for *A. grandidieri.* The species is considered to have good representation in protected areas[1], where harvest is prohibited.

On-the-ground implementation projects are under way to establish sustainable production quantities of *A. grandidieri*; an experimental sustainable fruit offtake harvest has been piloted on a commercial basis for a few years[4].

The proposed annotation is to include seeds, fruits, oils and live plants. Both oils and products containing oils have been recorded in trade. It is unclear whether the use of term 'oil' in the proposal annotation is intended to include finished products, for example cosmetics.

The species was assessed as Endangered against the IUCN Red List criteria (1998); an updated assessment has been made but not yet published.

Analysis: *Adansonia grandidieri* is an endemic species to Madagascar where its population is reportedly still numerous, although affected by a range of factors including low regeneration rates and conversion of its habitat. There is harvest for domestic use. Some of this (principally for fibres) is destructive, but the major products harvested are fruit and seeds, harvested non-destructively. Such harvest might conceivably have some impact on regeneration rates in areas where it takes place, although there are no data to support this. Recorded levels of international trade (in seeds and seed products) compared with observed levels of domestic use are very small and appear highly unlikely to have an impact on the wild population. The species would not appear to meet the criteria for inclusion in Appendix II in *Res. Conf. 9.24 (Rev. CoP16)*.

The proposed annotation is to include seeds, fruits, oils and live plants. Both oils and products containing oils have been recorded in trade. It is unclear whether the use of the term 'oil' in the proposal annotation is intended to include finished products, for example cosmetics.

Reviewers:
V. Jeannoda, H. Ravaomanalina, D. Mayne, S. Andriambololonera, S. E. Rakotoarisoa, S. Wohlhauser and E. Creuse.

References:
Information not referenced in the Summary section is from the Supporting Statement.

[1] Vieilledent, G., Cornu, C., Sanchez, A. C., Pock-Tsy, J. M. L., & Danthu, P. (2013) Vulnerability of baobab species to climate change and effectiveness of the protected area network in Madagascar: Towards new conservation priorities. *Biological conservation* 166: 11-22.
[2] Rakotoarisoa, S.E. (2016) *In litt.* to the IUCN/TRAFFIC Analyses Team, Cambridge, UK (based on species distribution map via geocat.kew.org).
[3] For example, Renala Naturals (2016) http://www.renalanaturals.com/?udt_portfolio=products. Viewed 24th June 2016.
[4] MNP (2015) Proces verbal de la reunion du 24 Juin 2015, MNP Amatobe.
[5] For example, Alibaba (2016) adansonia grandidieri https://www.alibaba.com/adansonia-grandidieri-suppliers.html. Viewed 24th June 2016.
[6] Wohlhauser, S. (2016) *In litt.* to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.
[7] Iwu, M. M. (2014) *Handbook of African medicinal plants.* CRC press.
[8] Raveloson, C. O. & Andriafidison, D. (2014) Les baobabs de Madagascar: quel cadre réglementaire pour leur conservation? *Madagascar Conservation & Development* 9:31-35.

Inclusion of Algerian Fir *Abies numidica* in Appendix I

Proponent: Algeria

Summary: *Abies numidica*, the Algerian Fir, is an evergreen coniferous tree which grows to a height of 20-35m[1]. It is native to Algeria where it occurs only at 1800-2000m elevation on Djebel Babor, part of the Petite Kabylie Mountain Range. The total extent of forests containing the species is estimated at less than 30km^2 with the fir only occupying a small portion of this. Access to the area is highly restricted because of security problems and there are no recent population estimates. A 2011 report stated that the number of trees had halved since the 1950s, although the basis of this is not known[2].

The area is a Nature Reserve to which entry is controlled; wardens try to prevent timber extraction, hunting and livestock grazing although these activities apparently still persist, with grazing in particular said to seriously affect plant regeneration. Fires are also reportedly a hazard[2].

A number of specific conservation proposals have been suggested and relevant authorities are said to be very supportive of action to protect the site, but no more recent information is available regarding its current status and management[1].

Algerian Fir is not exploited for timber[3] but it is grown as an ornamental tree in parks and larger gardens, being valued among firs for its drought tolerance and attractive appearance[4]. However it is sensitive to low temperatures and to air pollution in urban environments[3]. It is mostly cultivated in countries around the Mediterranean Sea, where it is sometimes planted in hedges as it takes trimming well[3]. Few cultivars are known. The species hybridises readily with other *Abies* spp., so that seed collected from cultivated trees is often hybrid[3]. As a result the species has reportedly mostly been grown from seed collected *in situ*, although some nurseries use grafting techniques as a method of propagation[5]. There are no indications of wild collection of plants, nor is it known if seed is collected from wild plants at present.

This species is reported to be present in 72 botanic gardens[6]. Availability of the species on-line appears to be very limited.

This species is classified in the IUCN Red List as Critically Endangered (2011).

Analysis: The species has a restricted range and has a population which is apparently declining, so that it appears to meet the biological criteria for listing in Appendix I. If trade from the wild population does occur, which is not known, it is almost certainly in seeds. Unless very substantial quantities were collected, or harvest were destructive (through felling of the trees) such trade would be highly unlikely to have an effect on the wild population. It is not clear therefore whether the species meets the criteria for inclusion in Appendix I.

A listing with no annotation would mean all parts and products were included.

References:
Information not referenced in the Summary section is from the Supporting Statement.

[1] Yahi, N., Knees, S.G. & Gardner, M.F. (2013) Abies numidica. Threatened Conifers of the World http://threatenedconifers.rbge.org.uk/taxa/details/104. Viewed June 2016.
[2] World Wildlife Fund (WWF) (2011) Northern Africa: Algeria, Morocco and Tunisia. http://www.worldwildlife.org/ecoregions/pa0513. Viewed June 2016.
[3] Conifers of the World (2016) Pinaceae *Abies numidica.* http://herbaria.plants.ox.ac.uk/bol/conifers/CONIFERS/Species/Record/1323. Viewed June 2016.
[4] American Conifer Society (2016) *Abies numidica.* http://conifersociety.org/conifers/conifer/abies/numidica/. Viewed June 2016.
[5] Haddow, G. (2016) *In litt*. to IUCN/TRAFFIC Analyses Team, Cambridge, UK.
[6] BGCI (2016) Plant Search. http://www.bgci.org/plant_search.php. Viewed June 2016.

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 <u>wood chips</u>, beads, prayer beads and carvings."

Proponent: United States of America

Summary: *Aquilaria* and *Gyrinops* are two genera of trees in the family Thymelaeaceae, distributed from India to New Guinea. The CITES Checklist currently recognises some 25 species of *Aquilaria* and eight of *Gyrinops*. In some trees, a still imprecisely understood combination of wounding, vectors of infection (bacterial infection, fungus) and resinous response induces the formation of a resinous heartwood (agarwood) that is fragrant and highly valued. The primary source of agarwood in reported trade is *Aquilaria malaccensis*. Agarwood is used in perfumes, incense and traditional medicines, and as an essential oil, distilled from the wood. Carvings and beads, including prayer beads, are also produced from the wood. So-called exhausted wood powder – the residue left after the distillation process – is often compressed to make incense sticks and small statues.

All agarwood-producing taxa are currently included in Appendix II; *Aquilaria malaccensis* was listed in 1994, and the rest of the genus *Aquilaria* and all *Gyrinops* spp. in 2004. They are currently covered by annotation #14, agreed at CoP16 (Bangkok, 2013), including 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 beads, prayer beads and carvings.

International agarwood trade is complex, as it is traded in a variety of forms and at various stages of processing, from raw whole pieces to finished products such as perfumes, which may contain only small amounts of agarwood oil. Some processing of agarwood to produce end-products takes place in range States; some takes place elsewhere with resulting products, either sold domestically or re-exported to other consumer countries.

One of the major products in trade is wood chips, which may be traded for burning as 'incense wood', or for further processing to produce products such as beads, prayer beads, medicines, incense sticks, perfumes and tea. Such chips are exported in large quantities from range States and therefore adhere to the recommendations for inclusion in Appendix II set out in *Res. Conf. 11.21 (Rev CoP16*), which state that commodities listed should be those that dominate the trade and the demand for the wild resource.

It is not possible to distinguish wood chips destined for further processing from those intended to be used as an end-product. Because of this, concern has been expressed that substantial quantities of wood chips intended for further processing could be entering trade ostensibly as finished products packaged and ready for the retail trade. Under the current listing, wood chips that appear to be packaged and ready for retail trade are not covered by the Convention.

Consultations undertaken by the Standing Committee Working Group on Annotations indicated that there was variability in how trade in agarwood chips packaged for retail trade was regulated, with some such trade taking place with CITES permits, even though this was not currently required.

Conversely, in some cases it seemed as if such chips had been confiscated because they lacked CITES documentation, even though such documentation was not required.

Information from the CITES Trade Database confirms the importance of wood chips as a product in trade (ca. 7000mt of *Aquilaria* reported as exported and 10,000mt reported as imported between 2005 and 2015; ca. 180mt of *Gyrinops* reported as exported and 230mt reported as imported in the same period), and also indicates numerous transactions of less than 5kg, reported as grammes or kilogrammes. Reported small transactions such as these account for only a very small proportion of overall trade in wood chips (ca. 500kg in total, or 0.01% by weight of trade in *Aquilaria* as reported by exporters, and just 5kg of *Gyrinops* in total for the period 2005 to 2105). The amount of trade in wood chips packaged and ready for retail trade currently unregulated by CITES is unknown.

Analysis: Wood chips are a major trade item for agarwood, included in Appendix II as *Aquilaria* spp. and *Gyrinops* spp. The current annotation for agarwood exempts wood chips that are packaged and ready for retail trade from CITES controls. This exemption is reported to be inconsistently applied. Removal of the exemption, as proposed here, would ensure that all agarwood chips, however packaged, were subject to CITES controls (apart from those exempt under personal effects as specified in *Res. Conf. 13.7 (Rev CoP16*)), thereby bringing more of the agarwood trade under CITES control and, in theory, simplifying implementation.

Amendment of the listing of *Bulnesia sarmientoi* in Appendix II

Amend Annotation #11with underlined text: Logs, sawn wood, veneer sheets, plywood, powder and extracts. <u>Finished products containing such extracts as ingredients, including fragrances, are not considered to be covered by this annotation</u>

Proponent: United States of America

Summary: *Bulnesia sarmientoi* is a tree species occurring in the Plurinational State of Bolivia, Paraguay, Argentina and a small part of Brazil. It was included in Appendix II in 2010. The wood of *B. sarmientoi* is heavy, very strong and decay-resistant, even underground, because of its resin content, which also gives it aromatic properties. It has a wide range of uses including furniture, flooring, lathe work, manufacture of propeller shaft bearings for ships, and fence poles. The essential oil derived from *B. sarmientoi* wood, known as "Guayacol", "Guajol" or "Guayaco", is used in the perfume cosmetics industry and in mosquito repellents. Palo santo resin, derived from the residue of the distillation process can be used to produce dark varnishes and paints. The tree is also used for charcoal production and the leaves have been used for medicinal purposes.

The listing currently has annotation #11 covering "Logs, sawn wood, veneer sheets, plywood, powder and extracts".

A working group set up at CoP16 to review annotations concluded that finished products containing extracts of *B. sarmientoi* could be excluded from the listing with minimal impact on the conservation of the species. The proposed new annotation would ensure that extract, which is routinely exported, continues to be covered by the listing but that finished products containing extract are not. The wording does not specify that, in order to be exempted from CITES controls, finished products should be "ready for retail trade". This reflects the findings of the Annotations Working Group, based on consultation with the personal care products industry, that there are many different commodities along the production chain that are not yet packaged and ready for retail trade but whose trade has minimal conservation impact[1].

The CITES Trade Database shows that, along with timber, extract (including oil) is a key commodity of *B. sarmientoi* exported by range States – some 1000mt is reported as having been exported in the period 2010-2014. It is not clear to what extent "finished products" are exported from range States as these have not been reported as a separate term.

Analysis: According to *Res. Conf. 11.21 (Rev. CoP16)* annotations should concentrate on those commodities that first appear in international trade as exports from range States and include only those commodities that dominate the trade and the demand for the wild resource. Extracts (including oil) are clearly significant commodities in trade from range States. Although information is sparse, there is little indication that finished products are a major commodity exported by them.

The proposed amendment would closely align the annotation for this species to that for *Aniba rosaeodora* (annotation #12), which is similar in trade. The only difference is a reference to powders in the annotation for *Bulnesia*. This reference appears technically redundant, as powders are covered by the current definition of extracts (as solid – fine or coarse particles)[2].

References:
Information not referenced in the Summary section is from the Supporting Statement.

[1] CITES (2016) SC66 Doc 25, paragraph 41. https://cites.org/sites/default/files/eng/com/sc/66/E-SC66-25.pdf. Viewed on 24th June 2016.
[2] Interpretation of the Appendices (2016) See definitions in paragraph 8 of the https://www.cites.org/eng/app/appendices.php Viewed on 24th June 2016.