

## Inclusion of *Dalbergia retusa* and *Dalbergia granadillo* in Appendix II

### Proponent: Belize

**Summary:** *Dalbergia* is a large and very widespread genus of trees, shrubs and lianas; many of the species yield valuable timber traded under a variety of different names, most frequently as rosewood. *Dalbergia retusa* (Black Rosewood, Nicaraguan Rosewood, cocobolo) is a tree occurring in tropical dry forest habitats in Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama. It may also occur in Colombia and Belize (taxonomic clarification is required to determine if trees referred to as '*Dalbergia* spp.' and/or 'rosewood' in the Chiquibul Forest Reserve, Belize are in fact *D. retusa*). *Dalbergia granadillo* is a similar species, occurring in El Salvador and Mexico.

The range of *D. retusa* is said to be highly fragmented because of overexploitation and land conversion. Like other rosewood-bearing trees the species is slow growing. Natural regeneration is generally low, but may be enhanced in clearings and open areas including areas periodically exposed to fire. The species has been extensively felled to harvest the beautiful, dense and durable wood, which is prized for a wide range of uses. The heartwood is surrounded by white sapwood and the density varies with age and habitat conditions. The poorly formed stems yield the most uniquely figured and highly prized wood which is hard, heavy and lustrous in colour with high oil content and a high natural polish. Little information is available on current abundance and there are conflicting accounts of the conservation status of the species, even within particular countries. It has been reported to be threatened in Costa Rica, Guatemala, Mexico, Nicaragua and Panama, but its conservation status has also been described as good in both Costa Rica and Nicaragua. There is also inconsistent information regarding the current origin of cocobolo wood in trade. The species is known to have been the subject of heavy exploitation in the past, particularly in Costa Rica and Panama. There are recent unconfirmed reports of uncontrolled harvest in the Darien region of Panama and illegal shipments of cocobolo, apparently destined for China, were seized in Guatemala in 2011. However, it has also been said that much of the recent cocobolo in trade originates on private fincas (farms) where 80 to 100 year old trees have been able to mature. In the past two decades small-scale plantations are reported to have been established in Costa Rica and Guatemala, and there has been some re-planting in reserves in Panama. It seems unlikely that any of these efforts have yet produced commercial quantities of cocobolo.

Much less is known of *D. granadillo*. Its timber is said to be virtually indistinguishable from that of *D. retusa* and it has been assessed as nationally endangered in Mexico.

A proposal to include these species in CITES Appendix II at CoP14 was withdrawn with an agreement among range and import States to take further measures to increase knowledge and regional information sharing on the trade and population status and trends. Guatemala included its population of *D. retusa* in Appendix III in 2008 and Panama included its population in 2011. No annotation is specified for either species in the current proposal.

**Analysis:** Information on the conservation status of *Dalbergia retusa* is conflicting. The species is known to be in demand internationally for its timber, and the market for rosewoods in general has grown very rapidly in Asia, particularly China, in recent years. Populations are said to have declined historically as a result of overharvest and land conversion for agriculture and pasture. Little is known about the current level of harvest for international trade or the impact of such harvest on the species, although there are indications of uncontrolled harvest of wild populations in at least one range State, and of illegal trade in another (Guatemala). There is overall insufficient information to determine whether the species meets the criteria for inclusion in Appendix II set out in Annex 2 a of *Resolution Conf. 9.24 (Rev. CoP15)*.

*Dalbergia granadillo* has a more restricted distribution. Its wood is considered to be indistinguishable from that of *D. retusa* and is traded under the same name. If *D. retusa* were to be listed in Appendix II, implementation of such a listing would be greatly facilitated by the inclusion of *D. granadillo* in Appendix II.

Supporting Statement (SS)	Additional information
<b><u>Range</u></b>	
<p><i>Dalbergia retusa</i>: Mexico, Panama, Costa Rica, El Salvador, Honduras, Nicaragua, Guatemala, and possibly Belize. Also reported from north-western Colombia, though conflicting studies suggest this species does not occur in Colombia.</p> <p><i>Dalbergia granadillo</i>: El Salvador and Mexico.</p>	<p><i>D. retusa</i>: UNEP-WCMC Species Database (2012) includes Belize.</p>
<b><u>IUCN Global Category</u></b>	
	<p><i>D. retusa</i> is included in the IUCN Red List as Vulnerable A1acd based on a 1998 assessment (ver. 2.3).</p> <p><i>D.granadillo</i> is not currently listed.</p>
<b>Biological and trade criteria for inclusion in Appendix II (Res. Conf. 9.24 (Rev. CoP15) Annex 2 a)</b>	
<b><u>A) Trade regulation needed to prevent future inclusion in Appendix I</u></b>	
<p><i>Dalbergia retusa</i> Much of the habitat that should be available to <i>D. retusa</i> has been destroyed or heavily exploited (See figures in “threats” for forest loss). Some areas where the species was formerly widespread now hold populations which are almost completely exhausted. Cocobolo is so rare that very little of it reaches the world market; it has been heavily exploited and is now mainly harvested from private fincas (farms) where 80 to 100 year old trees have been able to mature.</p> <p>Colombia: Its occurrence in Colombia questioned.</p> <p>Costa Rica: <i>D. retusa</i> occupies 13 698 km<sup>2</sup> distributed in northern Pacific from 0 – 300 m. Its available habitat has been reduced by 61.5%. Populations are fragmented but localized. 6.2% of its habitat occurs within State protected areas. State of conservation is reported as good, although elsewhere in the SS it notes that areas where the species was formerly widespread now contain populations almost completely exhausted. There is good regeneration (tree has regrowth after cutting or burning).</p> <p>El Salvador: Distribution is restricted to the north-western region; no data are available regarding size, cover, density, vertical or horizontal structure or regeneration status. Reported as vulnerable.</p>	<p><i>Found in tropical dry forests, evergreen forests, live oak forests and also in disturbed areas and plantations. No country has information regarding population size, coverage or density or inventories in natural forests for D. retusa or D. granadillo (PC19 Doc. 16.1 (Rev. 1), 2011).</i></p> <p><i>Costa Rica: classified as Endangered by Estrada et al, (2005). Restricted to the Pacific Coast and is not found in the northern zone of Los Chile (CoP14 Prop. 31 IUCN/TRAFFIC Analyses). No detailed information on coverage.</i></p> <p><i>El Salvador: Rare.</i></p>

Supporting Statement (SS)	Additional information
<p>Guatemala: No records of population status. Its status is unknown but data on population will be available shortly. Included in Category 2 of the List of Threatened Species of Guatemala (which refers to species with distribution range restricted to one type of habitat).</p> <p>Honduras: Reported from western areas of the country. No data on status of populations. Included it in the list of “Species of Special Concern in Honduras” in the category vulnerable A1 cd+2cd according to IUCN categories.</p> <p>Mexico: Occurs in southwest and southeast Mexico, there are records of the distribution of the species in Chiapas and Oaxaca, but no data on population status. In Mexico, a research project is being developed which will assist in determining the commercial and conservation status of the genus <i>Dalbergia</i>; there is no record of harvest inside Natural Protected Areas.</p> <p>Nicaragua: Frequent from the Pacific to the Atlantic coasts (Stevens <i>et al.</i>, 2001). Good presence in open areas the species is distributed across the country mainly outside of forests at a density of 0.064 trees per hectare. Regeneration is abundant and the species has no health problems or plagues. Sustainable silvicultural criteria are applied to harvest.</p> <p>Panama: It is only found in the drier, southern parts of the isthmus, but is never common. Intensive commercial harvest of the timber for at least 100 years, combined with artisanal harvest and in addition to its restricted distribution is thought to have made it a scarce resource in Panama.</p>	<p><i>Guatemala: Endangered in Guatemala’s Red List of Trees in (Vivero et al., 2006).</i></p> <p><i>Honduras: No detailed information on coverage.</i></p> <p><i>Mexico Endangered (CoP14 Prop. 31 IUCN/TRAFFIC Analyses). No detailed information on coverage.</i></p> <p><i>Nicaragua: Considered to be in a critical state (CoP14 Prop. 31 IUCN/TRAFFIC Analyses).</i></p> <p><i>Panama: Endangered (CoP14 Prop. 31 IUCN/TRAFFIC Analyses).</i></p>
<p><b><u>B) Regulation of trade required to ensure that harvest from the wild is not reducing population to level where survival might be threatened by continued harvest or other influences</u></b></p>	
<p><i>Dalbergia retusa</i> is heavily exploited and in international trade mainly for its heartwood, which is considered to be beautiful. It is also extremely strong and durable. It is used for various purposes including marine uses, making woodwind instruments and decorating items.</p> <p>Most internationally traded timber now comes from plantations, although historically large volumes of the wood were extracted from the wild.</p> <p>At the time of writing very little trade data specifically relating to <i>D. retusa</i> was available. The USA reports that in 2008, one shipment of 15 cubic meters of wild Guatemalan-origin <i>Dalbergia retusa</i> sawn wood was imported into the United States from Guatemala.</p>	<p><i>There is also very little information on the volume of international trade although cocobolo is available from numerous sources online and is currently subject to high demand in China. Seizures of illegally trafficked timber in Guatemala suggest there is an organised smuggling ring capable of exporting large quantities. The demand for <i>D. retusa</i> from the Darien Region of Panama has been described as “out of control” (Jenkins et al., 2012).</i></p> <p><i>The main exported product is sawn wood. Guatemala reported that it exported almost 20 m<sup>3</sup> in <i>D. retusa</i> in 2008. For <i>D. granadillo</i> Mexico has reported that there have been no exported specimens in the past 5 years. <i>D. granadillo</i> is less sought after than <i>D. retusa</i> and is cheaper. A websearch for traders wanting to buy <i>D. retusa</i> resulted in 19 importers, of which half were from China (Jenkins et al., 2012).</i></p>

Supporting Statement (SS)	Additional information
<p>ITTO (2004) does not report any export trade in <i>Dalbergia retusa</i>, although five of the range States (Colombia, Guatemala, Honduras, Mexico, Panama) are ITTO members. Similarly, ITTO does not report any import trade despite the evidence of trade in the species in the United States, which is an ITTO member, but not a range State.</p> <p>A search on eBay in USA for cocobolo in 2006 showed 944 wood items for sale. The USA reports that in 2008, one shipment of 15 m<sup>3</sup> of wild Guatemalan-origin <i>Dalbergia retusa</i> sawn wood was imported into USA from Guatemala.</p> <p>Illegal trade in <i>D. retusa</i> has increased considerably throughout its known range. Several shipments in Guatemala have been seized in 2011 of around 200 m<sup>3</sup>. The shipments were destined for China.</p> <p>The increase in the imports of timber generally referred to as 'rosewood' by China from the range States, has raised serious concerns within the region.</p>	<p><i>Direct Trade during 2001 – 2010 'importers quantity recorded' was 24 m<sup>3</sup> (UNEP-WCMC CITES Database).</i></p> <p><i>There is very little information on the volume of international trade but Cocobolo wood and finished products are available through many websites. There are approximately 200 items listed as 'cocobolo' on eBay in the UK (Oct 2012) comprising musical instruments, collectables, furniture and crafts. A search on eBay in the USA shows 1775 items, which includes lumber, an increase from 944 in 2006.</i></p>

### Inclusion in Appendix II to improve control of other listed species

#### **A) Specimens in trade resemble those of species listed in Appendix II under Res. Conf. 9.24 (Rev. CoP15) Annex 2 a or listed in Appendix I**

<p>The timber of <i>Dalbergia granadillo</i> (range States El Salvador and Mexico) is not distinguishable from that of <i>D. granadillo</i>.</p> <p>Although it has the common name "granadillo", it is often traded under the name "cocobolo". Inclusion of this species in CITES Appendix II is therefore proposed for look-alike reasons. <i>D. retusa</i> wood is denser and stronger than Brazilian rosewood <i>Dalbergia nigra</i>.</p>	<p><i>There are an estimated 250 Dalbergia species (Lewis et al., 2005).</i></p> <p><i>21 Dalbergia species occur in the region (CoP14 Prop. 31 Annex 1).</i></p> <p><i>The decline in Madagascan Dalbergia species has led to a decline of export of these species to China over the past two years which has led to a huge rise in imports from Central America from negligible volumes in 2009 to 29 310 m<sup>3</sup> in 2011. As a result, Belize banned the harvesting and export of rosewood in March 2012, Nicaragua and Guatemala announced a crackdown on trafficking in 2011 (EIA, 2012).</i></p> <p><i>D. retusa (from FSC sources) is recommended as an alternative to the CITES Appendix I listed D. nigra by the Mesoamerican and Caribbean Forest and Trade Network (CoP14 Prop. 31).</i></p>
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### Other information

#### **Threats**

<p>The tropical dry forests of Central America have been subject to human influences such as hunting, harvesting and grazing in the understory, land conversion for agriculture and pasture and land clearance through burning. It is considered to be the most endangered major tropical ecosystem, with less than 2% remaining intact..</p>	<p><i>Dry forests in central America are generally under threat and the fact that Costa Rica has lost 61.5% of its habitat for these species is significant (Gill in litt., 2012).</i></p>
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Supporting Statement (SS)	Additional information																																
<p>FAO report 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. The change in forest cover in the range states is summarised in the table below (FAO). In Costa Rica, <i>D. retusa</i> occupies 13 697.7 km<sup>2</sup> but its available habitat has been reduced by 61.5%, indicating that the species is exploited and rare, of which 6.2% occur within State protected areas.</p> <table border="1"> <thead> <tr> <th rowspan="2">Country</th> <th colspan="2">Forest cover change 1990-2000</th> </tr> <tr> <th>Annual ('000 ha)</th> <th>Annual rate (%)</th> </tr> </thead> <tbody> <tr> <td>Colombia</td> <td>-190</td> <td>-0.4</td> </tr> <tr> <td>Costa Rica</td> <td>-16</td> <td>-0.8</td> </tr> <tr> <td>El Salvador</td> <td>-7</td> <td>-4.6</td> </tr> <tr> <td>Guatemala</td> <td>-54</td> <td>-1.7</td> </tr> <tr> <td>Mexico</td> <td>-631</td> <td>-1.1</td> </tr> <tr> <td>Honduras</td> <td>-59</td> <td>-1.0</td> </tr> <tr> <td>Nicaragua</td> <td>-117</td> <td>-3.0</td> </tr> <tr> <td>Panama</td> <td>-52</td> <td>-1.6</td> </tr> <tr> <td><i>Belize</i></td> <td>-36</td> <td>-2.3</td> </tr> </tbody> </table> <p>Given the increasing importance of tourism in the region, the prominence of carvings in the tourist trade, the continuing demand for the wood for a range of uses internationally and the high level of wastage, the total trade may represent utilisation of a great many trees.</p>	Country	Forest cover change 1990-2000		Annual ('000 ha)	Annual rate (%)	Colombia	-190	-0.4	Costa Rica	-16	-0.8	El Salvador	-7	-4.6	Guatemala	-54	-1.7	Mexico	-631	-1.1	Honduras	-59	-1.0	Nicaragua	-117	-3.0	Panama	-52	-1.6	<i>Belize</i>	-36	-2.3	
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#### Conservation, management and legislation

<p>Costa Rica Included under Decree 27388 from 1998.</p> <p>El Salvador Plans of Territorial Regulation are being developed which regulate change of land use. Included in Law of Wildlife Conservation.</p> <p>Guatemala Included in Category 2 of the List of Threatened Species of Guatemala and in Appendix III of CITES Guatemala reports the Decree 4-89 "Law of Protected Areas", Regulations specific for threatened species. The only territorial regulations are the master plans of natural protected areas. Change of land use is forbidden.</p>	<p><i>Costa Rica and Guatemala have management plans for D. retusa for a period of 10 to 40 years with minimum cutting diameters from 40 to 60 cm to ensure sustainable harvesting of timber (CITES, 2011).</i></p> <p><i>El Salvador is preparing similar measures to those of Guatemala (CITES, 2011).</i></p> <p><i>Guatemala has zoning and land use regulations on harvesting D. retusa in accordance with the management categories of the national system of protected wild areas. Guatemala reported on a validated methodology for undertaking the consolidated national inventory of CITES-listed timber species (CITES, 2011).</i></p>
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Supporting Statement (SS)	Additional information
<p>Honduras Resolution GG-MP-104-2007 establishes a ban for this species. A Territorial Regulation Law (Decree 180-2003) is in place. Some municipalities have territorial regulation plans.</p> <p>In México a research project is being developed which will assist in determining the commercial and conservation status of the genus <i>Dalbergia</i>. There is no record of harvest inside Natural Protected Areas. Mexico has the Agrarian Law, Federal Law of Administrative Procedure, General Law of Sustainable Forestry Development and its regulation, General Law of Ecological Equilibrium and the Protection of Environment and its regulations in the matter of environmental impact and Natural Protected Areas, General Wildlife Law, Federal Law of Rights, Official Mexican Norm NOM-059-SEMARNAT-2010 that lists species at risk. Forestry Law determines that land use changes are only issued by exception. In some cases there are regulation plans at the municipal level which determine land use.</p> <p>Nicaragua, for its harvest, all sustainable silvicultural criteria are applied. Nicaragua has the Forestry Law 462 and its regulation 73-2003; There are no Plans of Territorial Regulation for the species, there are general plans which establish adequate use of the land.</p> <p>Panamá listed their populations of <i>Dalbergia retusa</i> in CITES Appendix III.</p>	<p><i>In Mexico D. granadillo is listed as a species at risk, Category P – Endangered (Semarnat, 2010).</i></p>
<b><u>Captive Breeding/Artificial Propagation</u></b>	
<p><i>Dalbergia</i> trees are slow growing, but due to the value of their timber, NAS (1979) recommend that efforts be made to extend their cultivation. During trials in a dry tropical region in Costa Rica, they exhibited good growth in height and good productivity when compared to six other native slow growth species that were also planted in pure and mixed plantations.</p> <p>The Forest Stewardship Council lists two organisations that maintain plantations including <i>D. retusa</i> holding their certificate in forest management in Costa Rica and Nicaragua.</p> <p>Most of the cocobolo available today is not cut from the natural rainforest, but from privately owned fincas with trees planted 80 to 100 years ago. Seedlings of <i>D. retusa</i> are being planted in local reserves in Gamboa, Panama. It has been planted for lumber in Costa Rica. <i>Dalbergia retusa</i> was included in plantation trials of native precious wood species in Costa Rica, which started in 1992 and is noted as a choice for reforestation in the central Pacific zone of Costa Rica. In managed plantations, trees may reach 13 cm diameter breast height and 8 m in height after 17 years and have been found to grow at a rate of 1.1 m/year.</p>	

Supporting Statement (SS)	Additional information
<p>Seeds of <i>D. retusa</i> are available from the CATIE forest seed bank and commercial suppliers. Guatemala reports a plantation of 58 ha between 1998-2004. It was included in a 10 year reforestation programme in 2003 for 4000 ha of former pastures in Nicaragua.</p>	
<b><u>Other comments</u></b>	
	<p><i>The Working Group on the Bigleaf Mahogany and Other Neotropical Timber Species (CoP16 Doc.69) has tested the criteria for D. retusa and D. granadillo. They note that information for D. retusa fulfils the trade criterion, the main trade is not reflected in the trade data as most trade is in finished products that are not covered by the Appendix III annotations. There is also evidence of illegal trade. Data required to assess Annex 2a, Criterion B is still lacking. Some of the major exporting countries do not provide data on the conservation status of their populations. In Costa Rica populations are well protected in designated protected areas but non protected population are highly fragmented. In Guatemala the population occurs throughout 10 – 20 % of the country and is listed as a threatened species. Information is lacking on the progress in the implementation of the Action Plan such as information on Forest Inventories of natural populations, harvest zoning, size, coverage and density of population, vertical and horizontal structure occupied by the species and the percentage of volume exported originating from plantations. In light of this Criterion B of Annex 2a may apply. Only two of the range states – Guatemala and Panama have included D. retusa in Appendix III.</i></p> <p><i>D. granadillo was included in the action plan owing to its similarity to D. retusa and therefore any decision relating to this species is determined by the decision made for D. retusa.</i></p>

**Reviewers:** D. Gill, J. de Koning, S. Oldfield, G. Pinelo, N. Zamora.

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