

Inclusion of *Cedrela* spp. in Appendix II.

Proponent: Germany, on behalf of the European Community Member States acting in the interest of the European Community.

Summary: *Cedrela* is a genus of trees which, as currently defined, is restricted to the New World and comprises at least seven species that occur naturally from Mexico and the Caribbean islands south to Argentina. The most widespread species, *C. odorata* has been planted widely in many parts of the region and has been introduced to many countries elsewhere. Once a common tree, it has had a long history of over-exploitation for its timber and now suffers from extensive loss of habitat. Populations are now much reduced in many countries in its native range and it is categorised in the IUCN Red List of Threatened Species as globally Vulnerable. The wood is used extensively in many countries for furniture making and other purposes and large quantities have recently been exported by several South American countries. In many countries there are laws and regulations addressing control of logging and trade in the species but lack of human and financial resources diminishes their effectiveness, and some illegal trade has been reported. Other species in the genus, particularly *C. fissilis* and *C. lilloi*, are also apparently subject to over-exploitation. Both *C. fissilis* and *C. lilloi* are currently classified by IUCN as Endangered.

Cedrela odorata has been listed in CITES Appendix III by Colombia and Peru since 2001. The other species in the genus are proposed for inclusion in Appendix II on a look-alike basis.

The proponent seeks to include *C. odorata* in Appendix II in accordance with Resolution Conf. 9.24 (Rev. CoP 13) Annex 2a, paragraph B, and all other species in the genus in Appendix II in accordance with Resolution Conf. 9.24 (Rev. CoP 13) Annex 2b, paragraph A.

Analysis: *Cedrela* is a genus of New World trees most of which have extensive ranges. The most widespread species, *C. odorata*, and at least some of the other species, have been intensively exploited for their timber, for both domestic use and international trade. Some populations are known to have been substantially reduced by the combined effects of selective logging and habitat destruction. However, detailed information on logging rates and population trends is lacking for many areas. In the absence of such information it is not possible to say with certainty whether any species in the genus meets the criteria for inclusion in Appendix II set out in Resolution Conf. 9.24 (Rev. CoP 13) Annex 2a.

Cedrela species and their products in trade resemble each other. Listing of some species in the Appendices and not others would be likely to create enforcement problems.

Supporting Statement (SS)	Additional information
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Taxonomy

The following accepted species are listed based on Styles (1981):

Cedrela fissilis
Cedrela lilloi
Cedrela montana
Cedrela oaxacensis
Cedrela odorata
Cedrela salvadorensis
Cedrela tonduzii.

The proposal follows the latest published taxonomic revision but a new revision is currently in progress.

Zapater et al. (2004) described a new species from Argentina: C. saltensis, and they accepted C. balansae as valid.

The International Plant Names Index [IPNI] (2007) lists 35 New World species names that are presumably synonyms of the accepted species but are not mentioned in the SS.

Range

***C. odorata*:** Antigua & Barbuda, Argentina, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, Cayman Islands, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles (Curaçao), Nicaragua, Panama, Paraguay, Peru, Puerto Rico, St Kitts & Nevis, St Lucia, Suriname, Trinidad & Tobago, Venezuela. It has also been introduced to many other countries.

***C. odorata* has also been recorded from St Vincent (Jackson, 2004).**

Supporting Statement (SS)	Additional information
<p>C. fissilis: Costa Rica to Brazil and Argentina.</p> <p>C. lilloi: Argentina, Bolivia, Brazil, Peru.</p> <p>C. montana: 'it occurs in the same areas as <i>C. lilloi</i>, with which it is associated in the highlands of Venezuela and Peru'.</p> <p>C. oaxacensis: Mexico.</p> <p>C. salvadorensis: Mexico to Panama.</p> <p>C. tonduzii: Mexico to Panama.</p>	<p>C. fissilis has also been recorded from Bolivia, Colombia, Ecuador, Panama, Paraguay, Peru and Venezuela (IUCN Red List), also El Salvador (Anon., 1997), Guyana (Steege et al., 2000) and Honduras (Anon., 1999).</p> <p>C. lilloi has also been recorded in Ecuador (Jørgensen and León-Yáñez, 1999) and Paraguay (IUCN Red List).</p> <p>C. montana has been recorded from Colombia (Sears and Marin, 2001), Ecuador (Bussmann, 2005), as well as Peru and Venezuela (but not in Argentina [Zapater et al., 2004] or, apparently, Bolivia and Brazil).</p> <p>C. oaxacensis is listed for Guatemala by Anon. (undated) and for Honduras by Wilson and McCranie (2004).</p> <p>C. salvadorensis occurs in Costa Rica (Anon., 2007a), El Salvador (Anon., 1997), Guatemala (Anon., 2005), and Honduras (Anon., 2005), as well as Mexico and Panama. It is not clear if it has been recorded from Belize and Nicaragua.</p> <p>C. tonduzii occurs in Belize (d'Arcy, 1987), Costa Rica (Anon., 2007a), El Salvador (d'Arcy, 1987), Guatemala (d'Arcy, 1987), Honduras (UNEP-WCMC database) and Nicaragua (UNEP-WCMC Database), as well as Mexico and Panama.</p>
IUCN Global Category	
<p><i>C. odorata</i> is categorized as VU A1cd+2cd (Assessed 1998, Criteria ver 2.3)</p>	<p><i>C. fissilis</i>: Endangered A1acd+2cd (Assessed 1998, Criteria version 2.3).</p> <p><i>C. lilloi</i>: Endangered A1a+2cd (Assessed 1998, Criteria version 2.3).</p>

Biological and trade criteria for inclusion in Appendix II (Res. Conf. 9.24 (Rev. CoP13) Annex 2a)

A) Trade regulation needed to prevent future inclusion in Appendix I

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

C. odorata is most successful in drier closed subtropical forest conditions and is rare in evergreen forests; however, it is a fast-growing species that may colonize secondary forest, abandoned pastures and agricultural land. The species needs an annual rainfall between 1 200–2 500 mm and a mean annual temperature of 20–32°C. Trees bear fruit from the age of 10 to 15 years and may attain a diameter of 1 meter in 50–60 years. It may reach 30+ m in height and 2.5 m in diameter. Regeneration is generally poor except in situations where the canopy is opened up.

The distribution is fragmented due to extensive deforestation in the neotropical region. No estimates of the current total population of *C. odorata* are available. Two 1998 reports suggested that the species occurred in abundance, notably in Central America, but a 2004 paper reported that, although widespread, it was not common throughout moist tropical American forests. Population densities varied from 1 tree per 100 ha in Nicaragua to almost pure stands in Manu National Park, Peru. Exploitation has reduced populations of this species in many countries and the proposal notes that it is becoming rare in Argentina, Barbados, Bolivia and Puerto Rico; threatened in Belize; threatened in Nicaragua by unsuitable procedures including forest fires; threatened in Costa Rica where the species' habitat has been reduced by almost 60%. Greatly reduced in Guatemala. Once a common species in Panama, now most trees are less than 50 cm in diameter, although it is still present in some

The SS indicates widespread declines of *C. odorata* in many countries, particularly in Central America, but does not provide information about the status or trends of the species in Colombia, Ecuador, French Guiana, Guyana, Suriname and Venezuela. *C. odorata* is listed as a harvestable species in Guyana by the National Agricultural Research Institute (1995), although no information is given about its exploitation. No further information has been located regarding the status of the species in these countries.

In Peten, Guatemala, densities of *C. odorata* and *Swietenia macrophylla* of up to 309 per ha were encountered in managed forest areas (Heredia, 2003).

Supporting Statement (SS)	Additional information
<p>National Parks. There are reports of harvest of trees in Mexico before having produced a seed crop (ie less than 10–15 years old).</p> <p><i>C. odorata</i> is perhaps the most important local timber for domestic use in tropical America. The wood is very durable and is used for a variety of light building work, joinery and cabinet work. The bark and other parts are used in traditional medicine in various countries.</p> <p>The timber of <i>C. odorata</i> is usually considered next in value in the New World after <i>Swietenia mahagoni</i> and it has played a major role in the timber trade throughout its range.</p> <p>The main products involved in international trade come from the timber, and include logs, sawnwood, plywood and veneer.</p> <p>Significant quantities have been exported recently from Bolivia and Peru, with small quantities from Guatemala, Nicaragua, Suriname and Venezuela. Brazil, Colombia and Ecuador exported large quantities in the mid 1990s but have not featured in very recent trade data.</p> <p>Trade data provided from the CITES Trade Database and INRENA show increasing exports from Peru since the Appendix III listing in 2001. Bolivia, Brazil and Peru were the main exporting range States.</p> <p>One case of illegal trade in Peru, involving timber of <i>C. odorata</i> and other species, is documented. Cases of illegal logging, some of which subsequently involve exports, are apparently widespread.</p>	<p><i>In Peru in 2006, some timber exporters 'indicated that, as a result of problems associated with the issuing of CITES certificates, customers were looking for mahogany substitutes such as Spanish Cedar (Cedrela odorata)' (Castaño, 2006).</i></p> <p><i>The SS provides very little information about species other than C. odorata, presumably because the proponent considered that the other species were only relevant for look-alike reasons.</i></p> <p><i>However, the populations of both C. fissilis and C. lilloi have been severely reduced by exploitation (IUCN, 2006). In El Salvador, C. fissilis, C. odorata, C. salvadorensis and C. tonduzii are included in an official list of species threatened with extinction (Anon., 1997). In the Area Protegida Trinacional Montecristo, on the borders of El Salvador, Guatemala and Honduras both C. odorata and C. salvadorensis are considered to be threatened with extinction (Anon., 2005). C. odorata, C. fissilis and C. montana were considered to be endangered in Ecuador by a meeting of specialists in the flora of the country; the original populations of C. odorata have been depleted (TRAFFIC/EcoCiencia, 1996).</i></p> <p><i>The International Tropical Timber Organisation (ITTO) (2005) reported the following exports in 2005: C. odorata logs from Mexico in 2003 and 2004 (< 1 000 m³); C. fissilis sawnwood from Bolivia in 2003 (13 000 m³) and 2004 (16 000 m³), and veneer in 2003 and 2004 (< 1 000 m³); Cedrela spp. sawnwood from Peru in 2003 and 2004; Cedrela spp. sawnwood from Trinidad and Tobago in 2003 and 2004 (< 1 000 m³).</i></p> <p><i>Macqueen et al. (2003) noted that 'While Brazilian timber exports comprise a small percentage of total timber production, Brazil is still the second largest exporter of tropical sawnwood (900 000m³) principally of high value species such as Tabebuia spp. and Cedrela spp.'</i></p> <p><i>In Ecuador, Vigilancia Verde detected small illegal movements from the Pastaza region and also illegal trade of Cedrela from Peru to Cuenca city, where timber is used for furniture (Anon., 2003). In Guayaquil Port, the environmental police seized some containers with Cedrela logs, which lacked the necessary CITES Certificates of Origin (Hilger, 2006).</i></p> <p><i>In Peru, the Minister of Agriculture and agents of the National Natural Resources Institute (INRENA) 'discovered selective plundering of valuable hardwood species – mainly mahogany and cedar and verified the existence of unauthorized logging roads built using heavy equipment in the protected forests of Iñampari and Iberia, which caused grave ecosystem damage in Madre de Dios'. Iñampari and Iberia are unauthorized areas. A ban was imposed on cedar and mahogany logging in Madre de Dios, effective from 1 January 2000 until the extent of the risk could be determined (AIDA and SPDA, 2002).</i></p>

Supporting Statement (SS)	Additional information
Inclusion in Appendix II to improve control of other listed species	
<u>A) Specimens in trade resemble those of species listed in Appendix II under Res. Conf. 9.24 (Rev. CoP 13) Annex 2a or listed in Appendix I</u>	
<p>The wood from all <i>Cedrela</i> spp. is very similar in appearance and it is probably impossible to distinguish which species is involved in the products in trade. The wood can also be confused with that from <i>Swietenia</i> spp. but can be distinguished by a number of different characters.</p>	<p><i>In Peru, apparently CITES Certificates of Origin issued by INRENA since March 1996 were not distinguishing between Swietenia macrophylla and Cedrela shipments (TRAFFIC, 2002).</i></p> <p><i>A further example of identification problems is provided by Blundell and Rodan (2003) who noted that there had been a recommendation to Customs in Canada to create HTS codes for timber species easily confused with genuine Latin American mahogany, e.g. the African mahoganies, Cedrela spp., and lignum-vitae Guaiacum spp.</i></p>

Other information**Threats**

Widespread deforestation in the range of *C. odorata*, particularly in tropical dry forests is the biggest threat to the species, but this is exacerbated by illegal logging and selective logging for this and other species. It is claimed that 'its distribution has been diminished by excessive exploitation over its entire range to the extent that large trees of good form and size are now rarely found.' Inefficient logging and timber processing leads to much wastage of the harvested timber.

These comments apply equally to C. fissilis and C. lilloi (IUCN, 2006) and to some extent to C. salvadorensis and C. tonduzii at least in Central America.

Conservation, management and legislation

C. odorata has been protected in Nicaragua since 1997, there is a total logging ban in Bolivia and commercial logging is prohibited within national reserves in Peru (although there is much abuse of this legislation). The species occurs in protected areas in Bolivia, Costa Rica, Guatemala, Mexico, Peru, U.S. Virgin Islands and Venezuela.

C. odorata was listed in CITES Appendix III by Peru on 12 June 2001, followed by Colombia on 29 October 2001.

In Belize felling is restricted to above 72 inches (1.8 m)

Brazil began reforestation/forest enrichment projects in 1989, Puerto Rico has extensively planted seedlings in secondary forests. Costa Rica is developing propagation technologies for multiplication, conservation and genetic improvement. Honduras has a programme for conserving genetic material for future reforestation.

FSC certification has been given to 19 enterprises for *C. odorata*.

C. odorata occurs in protected areas in Ecuador (Sangay Foundation, 2001), Honduras (Davis et al., 1997) and Puerto Rico (Acevedo-Rodriguez and Axelrod, 1999).

In Ecuador, exports of Cedrela spp. were prohibited under Law No. 147, RO/901 of 25 March 1992. It was listed in 1995 as a threatened timber species (INEFAN Resolution No. 031, 20 July 1995); this was revised via INEFAN Resolution 046 (1996) and modified in 1997 by INEFAN Resolution No. 033, 1997, where it was listed as a species prohibited from export. In 2000, through Decree 131, the ban was suspended. In 2004, this measure was replaced with a conditional logging category under the new Forestry Norms for Sustainable Forestry Management (Ministerial Agreements 037 and 039). In 2007, a temporal ban (two years) was established for Swietenia macrophylla and Cedrela odorata in order to diminish illegal trade (El Comercio, 2007, Ministerial Agreement 167, Registro Oficial Nro. 18 – Jueves 8 de Febrero del 2007).

In Peru, Law 27308 (Forest and Wild Fauna Regulation) imposed restrictions on exports of the two main forestry species, S. macrophylla and Cedrela spp. (TRAFFIC, 2002).

Artificial propagation

C. odorata has been widely introduced into plantations throughout the world, in some areas producing much greater yields than those shown by many native populations.

In some areas it is proving invasive (Anon., 2007b).

Reviewers:

Ximena Buitron, S. Oldfield; TRAFFIC South America.

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