This guide covers the main timber species regulated by the Convention on International Trade in Endangered Species (CITES). It provides information on the key issues regarding the implementation of the Convention for this important group of plants. Written for the non-expert, individual sections cover the species found in significant trade, with details on their distribution, uses, traded parts and derivatives, and scientific and common names.

Additional sections cover timber identification and measurement, guidance on CITES documentation and key resources.
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INTRODUCTION

The aim of this guide is to introduce you to the tree species that are regulated under the Convention on International Trade in Endangered Species of wild fauna and flora – CITES – and to provide guidance on the key issues regarding the implementation of the Convention for this important group of plants. The guide does not cover all of the woody and tree species regulated under CITES, rather it concentrates on those species found in significant trade for their timber and parts and derivatives or those newly listed in CITES. Subjects covered in this guide include where to find information about the CITES listing; which parts and derivatives are in trade and whether they are regulated; identification techniques available; and key resources on where to find more assistance or information.
REGULATING THE TIMBER TRADE

There are a range of national, regional and international guidelines, legislation and treaties in place to verify, monitor and regulate the global harvesting and trade in timber to ensure it is legal, sustainable and traceable. They include promoting good forest governance; independent forest monitoring; chain of custody certification; legality and due diligence verification when procuring, selling and processing timber; and the regulation of the trade in illegal and unsustainably logged timber.

CITES

This international treaty came into force in 1975 (http://www.cites.org/eng) and regulates the international trade in plants and animals threatened through trade, listing them in one of three Appendices (I, II and III). In order to implement the Convention, each Party has to establish a Management Authority and at least one Scientific Authority, and trade is regulated by means of a permit system. When trade threatens a species’ survival in the wild it can be proposed for listing by one or more of the Parties to CITES, either at the Conference of the Parties (CoP) or, if the Party is a range State, unilaterally at any time on Appendix III. For CITES Appendix I and II listed species checks are carried out to ensure sustainability and that the specimen was not obtained in contravention of national laws, but only the contravention checks are required for Appendix III species. The Convention does allow for Parties to take “stricter measures”, such as imposing stricter export or import requirements.

For a country to export a specimen of a species listed in Appendix II, which is the majority of tree species, the Management Authority has to confirm that the species has been harvested sustainably (a non detriment finding, or NDF) as well as in accordance with all relevant national legislation (a legal acquisition finding, or LAF). Further guidance on how these findings should be carried out in practice is available for NDFs (https://www.9steps-cites-ndf.org/) and for LAFs (https://cites.org/sites/default/files/eng/prog/laf/Legal-Acquisition-Findings-Handbook-English_Final.pdf).

The CITES website has a Timber ID repository, where useful information related to tree species can be found https://cites.org/eng/timber/timber-ID-repository. Recommendations, guidance and interpretation of the Convention text are provided through CITES Decisions, Resolutions and Notifications. Check the CITES website after each CoP for amendments or deletions. This includes the Resolutions relating to timber, some of which are outlined in the table below.
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<td>Provides guidance and information on classifying monospecific tree plantations as artificially propagated (as defined in Resolution Conf. 11.11 (Rev. CoP18)); HS classification codes of the Harmonized System of the World Customs Organization for timber products (e.g. logs and sawn wood); steps to take when amending a CITES timber listing.</td>
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<td><strong>Resolution Conf. 11.11 (Rev. Cop18)</strong>&lt;br&gt;Regulation of the trade in plants</td>
<td>Contains the CITES definition of artificial propagation. Key criteria are that artificially propagated Appendix I / Annex A species can be treated as Appendix II / Annex B species allowing trade for commercial purposes; and that cultivated parental stock must have been “established in accordance with the provisions of CITES and relevant national laws”.</td>
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<td><strong>Resolution Conf. 13.6 (Rev. CoP18)</strong>&lt;br&gt;Implementation of Article VII, paragraph 2, concerning ‘pre-Convention’ specimens</td>
<td>There is an exemption from the Convention rules for ‘pre-Convention’ specimens. A guide to what this term means and the differences between how CITES and the EU Wildlife Trade Regulations (WTR) interpret this exemption can be found at <a href="http://ec.europa.eu/environment/cites/pdf/referenceguide_en.pdf">http://ec.europa.eu/environment/cites/pdf/referenceguide_en.pdf</a></td>
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<td><strong>Resolution Conf. 16.10</strong>&lt;br&gt;Implementing the Convention for agarwood producing taxa</td>
<td>Details on how artificial propagation, management and trade control, and non-detriment findings relate to agarwood taxa (<em>Aquilaria</em> and <em>Gyrinops</em> species).</td>
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<td><strong>Resolution Conf. 16.8 (Rev. Cop17)</strong>&lt;br&gt;Frequent cross-border non-commercial movements of musical instruments</td>
<td>To facilitate the non-commercial cross-border movement of musical instruments made from CITES-listed species, a certificate (‘passport’) or the personal effects exemption, consistent with Resolution Conf. 13.7 (Rev. CoP17), may be used.</td>
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<td><a href="https://cites.org/sites/default/files/documents/COP/19/resolution/E-Res-16-08-R17.pdf">https://cites.org/sites/default/files/documents/COP/19/resolution/E-Res-16-08-R17.pdf</a></td>
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<td>Reminds importing Parties of their due diligence obligations if they believe specimens are being traded in contravention of the laws of any country involved in the transaction, or have reason to believe that the specimen accompanied by a CITES document may not have been traded in accordance with the provisions of the Convention</td>
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<td>Sets out the requirements related to permits and certificates needed for trade in CITES-listed species.</td>
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**European Union (EU) – Implementation of CITES**

The European Union and all of the EU member States are Parties to CITES (https://environment.ec.europa.eu/topics/nature-and-biodiversity/wildlife-trade_en). Due to the European Single Market and lack of internal border controls they implement CITES uniformly through a set of regulations called the EU Wildlife Trade Regulations (EU WTR). The species covered by these Regulations are listed in four Annexes (A, B, C and D). The provisions of these Regulations go beyond those of CITES, including the requirement for an import permit for Appendix II/Annex B species, stricter requirements for the import of pre-Convention material and the possibility to impose import restrictions for certain species/country combinations. A Reference Guide to the EU WTR can be found at [https://circabc.europa.eu/ui/group/3f466d71-92a7-49eb-9c63-6cb0fadf29dc/library/007ddf2-dca9-4c1b-be1c-95e43d67ba8a/details?download=true](https://circabc.europa.eu/ui/group/3f466d71-92a7-49eb-9c63-6cb0fadf29dc/library/007ddf2-dca9-4c1b-be1c-95e43d67ba8a/details?download=true) (NOTE: this version of the guide was produced in 2020 so some aspects may now be out of date or are about to be revised following CoP19 (Nov. 2022) changes).

The Regulations establish three main groups: the Committee on Trade in Wild Fauna and Flora, the Scientific Review Group (SRG) and the Enforcement Group. Where a Member State’s CITES Scientific Authority has doubts over the sustainability of an import into the EU this may lead to other member States refusing similar imports and the application being discussed at a meeting of the SRG, which are held a number of times a year. The SRG may form an opinion (positive, negative, none) and these may lead to EU import suspensions and ultimately a restriction being put in place for that species/country combination. The SRG opinions arising from a meeting are posted online (within five days) on Species + ([www.speciesplus.net](http://www.speciesplus.net)).
Forest Law Enforcement, Governance and Trade (FLEGT)

Through its FLEGT Action Plan, published in 2003, the EU initiated a number of regulations and measures to tackle illegal logging and promote legal and sustainable forestry (http://www.euflegt.efi.int/home). The two main FLEGT initiatives are the FLEGT licensing scheme, negotiated under bilateral Voluntary Partnership Agreements (VPAs) with partner timber-producing countries, and the implementation of an EU Timber Regulation (EUTR). Under the FLEGT agreement the VPA partner country issues a FLEGT licence for specified timber products. The licence is the proof of legality (it is not required for Annex A, B or C listed species). It accompanies the shipment and must be verified by the EU member State’s appointed competent authority (nominated to enforce the FLEGT regulation) before the shipment is allowed entry into the EU.

EU Timber Regulation (EUTR) (2013-2023)

The EU Timber Regulation (http://ec.europa.eu/environment/forests/timber_regulation.htm) came into force on 3rd March 2013 to combat the placing on the EU market of illegal timber and products derived from them (as laid out in the Annex to the EUTR http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:295:0023:0034:EN:PDF). It is applicable to those who first place timber on the EU market (‘Operators’) with an emphasis that they exercise ‘due diligence’ and for those further down the supply chain (‘Traders’) to keep records of suppliers. Timber and timber products covered by valid FLEGT or Wildlife Trade Regulations (Annex A, B, C specimens) are considered to comply with the permit requirements of this Regulation. In 2023 it will be repealed by the EU Deforestation Regulation (EUDR).

EU Deforestation Regulation (EUDR) 2023

The EUDR requires EU-based companies to ensure that their imports and exports do not contribute to deforestation and forest degradation in the EU and globally and their production upholds human rights. It was adopted by the European Parliament on 19 April 2023 and will come into force shortly after it has been endorsed by the Council of the European Union. The products covered are cattle, cocoa, coffee, palm oil, rubber, soya and wood and include derivative products such as leather, chocolate, furniture, charcoal, printed paper products and certain palm oil products. The definition of deforestation includes the conversion of primary or naturally regenerating forests into plantation forests.
Operators will have between 18 (large companies) and 24 (small and medium companies) months to implement the regulation. In order to sell their products on the EU market, suppliers must issue a due diligence statement confirming that the product does not come from deforested land or has led to forest degradation after December 1st 2020. They will also have to verify that the products have been sourced in compliance with national legislation of the producer country, including any related to human rights. An overview of the legislation can be found here [https://preferredbynature.org/EUDR](https://preferredbynature.org/EUDR) and a document written by the EU on how the new law relates to CITES-listed species may also be useful [https://cites.org/sites/default/files/documents/PC/26/agenda/E-PC26-18.pdf](https://cites.org/sites/default/files/documents/PC/26/agenda/E-PC26-18.pdf).

**The Lacey Act**

This U.S. Act states it is illegal to import, export, sell, acquire, or purchase fish, wildlife or plants that are taken, possessed, transported, or sold in violation of U.S. or Indian law or in interstate or foreign commerce involving any fish, wildlife, or plants taken, possessed or sold in violation of a State or foreign law. The Lacey Act covers CITES species and in 2008 it was amended to include products made from illegally logged woods ([https://www.fws.gov/law/lacey-act](https://www.fws.gov/law/lacey-act)).

**Illegal Logging prohibition Act (Australian Government 2012)**

This Act prohibits the importation and processing of illegally logged timbers, with importers and processors required to make a declaration to customs at time of import to show compliance with the due diligence requirements under the Act ([https://www.legislation.gov.au/Details/C2015C00427](https://www.legislation.gov.au/Details/C2015C00427)).
UNDERSTANDING A CITES LISTING

There are numerous sites to help determine whether a species, genus or whole family of plants is listed in the CITES Appendices or EU Annexes and how to understand the information attached to the listing to ensure it is implemented and enforced correctly. They include the CITES website (http://www.cites.org) and the EU website on CITES implementation (https://environment.ec.europa.eu/topics/nature-and-biodiversity/wildlife-trade_en). One central point of information is called Species + (https://speciesplus.net), a website developed by UNEP-WCMC (http://www.unep-wcmc.org) and the CITES Secretariat to assist Parties with implementing a number of multilateral environmental agreements (MEAs), including CITES. Below are a series of basic questions that may help you understand the scope of a timber listing by using Species + (also available as an app).

1. Is the specimen listed in the CITES Appendices and / or the EU Annexes?

For a full list of CITES regulated species check the current Appendices (https://cites.org/eng/app/appendices.php), EU Annexes (https://environment.ec.europa.eu/topics/nature-and-biodiversity/wildlife-trade_en) or Species + (https://speciesplus.net/) where you can click on DOWNLOAD SPECIES LISTS or type in the name as shown in the example below.
Species + is set to CITES default. For guidance on how to use Species + click the ABOUT button.

Check to see if a species is listed in CITES by typing in the name (scientific or common) and clicking SEARCH. As you are typing Species + may suggest a name to choose from. Click on this name.

Where possible use the scientific name. Using common names can be confusing as more than one species or genera may be assigned to that name. If in doubt, check with the trader, plant taxonomists, botanists and your Scientific Authority to clarify what they understand to be the accepted scientific name for that specimen. Alternatively, check to see if a CITES accepted standard reference or checklist is available for that species, genus or plant group (e.g. timber - https://cites.org/eng/node/131008).

If CITES-listed, an information page with five tabs will appear – LEGAL (information on the CITES listing / quotas / suspensions / reservations / EU listing / decisions); NAMES (scientific and common names); DISTRIBUTION (countries and territories); REFERENCES (for distribution and CITES standard references); and DOCUMENTS (CoP, Identification and EU SRG documents).

If not CITES-listed the website will state there are no results for that species. The reasons for this may include there being a delay in the listing coming into force, it only being published in the EU Annexes, or you may have misspelled the name. Check the outcome of the last CoP and CITES Notifications for more information (https://cites.org/eng/notif/index.php).
2. Which parts and derivatives are regulated?

When a species is listed under CITES it is necessary to understand which parts and derivatives are regulated. The Convention defines what a specimen is in Article 1 and to clarify this, most plant listings are accompanied by “annotations”, special footnotes preceded by a # symbol plus a number (e.g. #5, #15); by a capital P and a number (e.g. P6); or information alongside the listing (in parentheses in the Appendices - see Box 1 below), which can clarify the scope of the listing or provide more information on populations or parts and derivatives that are regulated.

For plant taxa included in Appendix I, the CITES listings covers all parts and derivatives, and for plant taxa included in Appendices II and III, the CITES listings cover whole specimens, whether alive or dead, and any parts or derivatives specified in an annotation. For Appendix II and III plant listings that are unannotated, the Parties have agreed that they are to be interpreted as covering all parts and derivatives. For these reasons, most Appendix II and III plant listings are annotated. See also Resolution Conf. 11.21 (Rev. CoP19) on Use of annotations in Appendices I and II and Resolution Conf. 9.25 (Rev. CoP18) on Implementation of the Convention for species in Appendix III (https://cites.org/eng/res/index.php).

Plant annotations and footnotes can be complex so it helps to check them, and the definitions of the terms they use, with your Scientific / Management Authority, on the CITES website, with other CITES bodies and the EU Commission, where applicable. The following resources are also useful: Species +; paper or electronic versions of the Appendices or EU Annexes and their Interpretation sections; and the CITES Glossary in the CITES website (under TERMINOLOGY https://cites.org/eng/resources/terms/index.php). The CITES Glossary contains definitions of some of the terms used in the annotations and are meant as general guidance only as they may not be accepted by all CITES Parties. An Illustrated Manual of Plant Annotations in the CITES Appendices (vers. 3) has also been produced (https://cites.org/sites/default/files/eng/com/pc/25/Inf/E-PC25-Inf-09.pdf). NOTE: the manual was last updated and released in 2020. This version does not contain recently added or amended annotations and definitions of the terms used.
Box 1. Types of annotations found against CITES-listed timber species

- **# Annotations (e.g. #5, #11)** – these define the parts and derivatives that are / are not subject to the provisions of CITES. The majority of timber species included in CITES Appendices II or III or EU Annexes B and C are accompanied by one of the # annotations. They can be exclusionary (state which parts and derivatives are not regulated), inclusionary (state which parts and derivatives are regulated) or both. The # annotations can be complex and may cover more than one species or taxon. Also check definitions of the terms used in annotations, either in the Interpretation section of the Appendices and Annexes, Resolution Conf. 10.13 (Rev. CoP18) on Implementation of the Convention for tree species or in the CITES Glossary.

At present, the # annotations that relate to timber species take two different forms:

- The # number followed by the sentence ‘All parts and derivatives, except…’ followed by a series of subparagraphs listing commodities that are generally not regulated (e.g. #1, #2, #4, #14 and #15); or
- The # number followed by a list of commodities (e.g. logs, sawn wood and veneer sheets) that are generally regulated (e.g. #5, #6, #7, #10, #11, #12 and #17).

**NOTE:** both of these types of annotations may include additional points that are both inclusionary and exclusionary.

- **Numbered P annotations** – these annotations provide information on hybrids, cultivated varieties (cultivars) and artificially propagated plants and the conditions they must meet for exemption from regulation. Only one numbered P annotation relates to a timber species (P6).

- **Additional text, often in parentheses** – additional text may be located beside a listing in the Appendices / Annexes, and can provide information on taxonomic issues relevant to the listing, when the listing is coming into force, define which populations are regulated (e.g. “Populations of the Neotropics”) or indicates the country that listed the taxon (see Section 3 below for more information on Are all populations or only certain populations regulated?).

**NOTE:** For EU Annex D plants, if the listing has no annotation, only live specimens are regulated unless otherwise annotated. The Annex D plant annotations are:

- §3 Dried and fresh plants, including, where appropriate: leaves, roots / rootstock, stems, seeds / spores, bark and fruits;
- §4 Logs, sawn wood and veneer sheets.
The following examples show how to read the # annotations for timber species by using Species+. Always check it is the most up-to-date version of the Appendices / Annexes and their Interpretation Sections, particularly after every CoP as listings, annotations and definitions can be revised. These changes are usually reflected in the CITES website within 90 days after a CoP, unless otherwise agreed at the CoP, and often longer for the Annexes and EU Legislation.
All parts and derivatives except:

a) seeds and pollen; and

b) finished products packaged and ready for retail trade

This # annotation can currently be found alongside the Osyris lanceolata, Guaiacum spp. and Taxus species listings.

When looking up annotations look under the NOTES section of the LEGAL tab.

When reading # annotations that start with “All parts and derivatives, except” it means that the listing covers all parts and derivatives (alive or dead), except for the commodities listed in the subparagraphs, in this case for #2 in subparagraphs a) - b). Always read the subparagraphs carefully as they can sometimes exempt a commodity in one state but not another in the same state.

Subparagraph a) – this simply lists products that are not regulated.

Subparagraph b) - this is here because timber from species with this annotation is in trade, but it is often the pharmaceutical properties found in the wood that is of commercial value. Regulating specimens or products nearer the first point of production and from the country of origin help conserve the species rather than products further down the supply chain, such as finished products. Therefore, for Osyris, the finished products are not regulated.

This paragraph also states that finished products have to be in their final packaging and ready for retail trade. Different interpretations of the terms used in annotations, whether defined or not under CITES, can lead to enforcement problems. Definitions for these terms may be provided in the CITES Glossary, in the Interpretations sections of the Appendices / Annexes and can follow the definitions used in the Harmonised System Commodity Codes administered by the World Customs Organisation:

- Finished products packaged and ready for retail trade - Products, shipped singly or in bulk, requiring no further processing, packaged, labelled for final use or the retail trade in a state fit for being sold to or used by the general public.

CoP14 relates to the last CoP where any changes to the listing and annotation occurred.
All parts and derivatives, except:

a) seeds (including seedpods of Orchidaceae), spores and pollen (including pollinia). The exemption does not apply to seeds from Cactaceae spp. exported from Mexico, and to seeds from Beccariophoenix madagascariensis and Dypsis decaryi exported from Madagascar;

b) seedling or tissue cultures obtained in vitro, in solid or liquid media, transported in sterile containers;

c) cut flowers of artificially propagated plants;

d) fruits, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genus Vanilla (Orchidaceae) and of the family Cactaceae;

e) stems, flowers, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genera Opuntia subgenus Opuntia and Selenicereus (Cactaceae); and

f) finished products of Aloe ferox and Euphorbia antisyphilitica packaged and ready for retail trade.

g) finished products derived from artificial propagation, packaged and ready for retail trade of cosmetics containing parts and derivatives of Bletilla striata, Cyripedium cooperi, Gastrodia elata, Phalaenopsis amabilis or Phalaenopsis lobbii.

Click on the #4 annotation found under the NOTES column and it will expand to show the annotation.

#4 is one of the most commonly used annotations for CITES listed plant taxa, including timber species Caryocar costaricense, Gonystylus spp., Platymiscium parviflorum, Prunus africana and Swietenia humilis. It is also quite strict in that few taxa and their commodities with this annotation are exempt from regulation.

Reading the first sentence of this annotation, it is understood that all parts and derivatives are regulated except those listed in subparagraphs a) - g).

Subparagraphs a) – c) – these apply to any taxa associated with this annotation and show that there are general exemptions for seeds, tissue cultures and cut flowers. However, although exempt, certain conditions have to be met otherwise the specimens are regulated e.g. tissue cultured plants must be in sterile containers or the parental stock has to be artificially propagated, not wild plants.

Subparagraphs d) – g) - these only apply to the taxa mentioned in them i.e. specific orchids, cacti and certain succulents (Aloe ferox and Euphorbia antisyphilitica). Note that under d) only flowers of Vanilla and Cactaceae and parts and derivatives from these flowers are exempt. Under e), only stems and flowers and parts and derivatives from these are exempt.
All parts and derivatives except:

a) seeds and pollen;
b) seedling or tissue cultures obtained in vitro transported in sterile containers;
c) fruits;
d) leaves;
e) exhausted agarwood powder, including compressed powder in all shapes; and
f) finished products packaged and ready for retail trade, this exemption does not apply to wood chips, beads, prayer beads and carvings

This annotation is specific to all species of the genera *Aquilaria* and *Gyrinops*, whose wood and by products are known by the common name agarwood. These specimens are used in the fragrance, cosmetic and medicinal industries.

#14 starts by stating that all parts and derivatives are regulated and then lists commodities that are exempt in subparagraphs a) – f).

Subparagraphs a) – d) - these are quite straightforward, outlining the specimens that are exempt.

Subparagraph e) - exempts exhausted powder in whatever form, compressed or not. Oil is extracted from powdered agarwood and exhausted powder is the by-product. It is often pressed into shapes (statues, cones), which are exempt from CITES.

Subparagraph f) - this is more complex in that it first states ‘finished products packaged and ready for retail trade’ are exempt, but then lists a number of specimens that this exemption does not apply to (i.e. wood chips, beads, prayer beads and carvings). This is because these specimens are usually made from higher value agarwood as opposed to wood with a low agarwood oil content.

NOTE: In addition to #14, in CITES Resolution 13.7 (Rev. CoP17) on Control of trade in personal and household effects, the CITES Parties have agreed a certain approach with regard to what are called personal or household effects. If they meet certain conditions, and both trading countries “recognize” a personal effects exemption, a person may travel with up to 1 kg of woodchips, 24 ml of oil and two sets of beads or prayer beads (or two necklaces or bracelets) made from agarwood without CITES documents.
All parts and derivatives, except:
a) Leaves, flowers, pollen, fruits, and seeds;
b) Finished products to a maximum weight of wood of the listed species of up to 10 kg per shipment;
c) Finished musical instruments, finished musical instrument parts and finished musical instrument accessories;
d) Parts and derivatives of Dalbergia cochinchinensis, which are covered by Annotation #4; and
e) Parts and derivatives of Dalbergia spp. originating and exported from Mexico, which are covered by Annotation #6.

#15 starts by stating that all parts and derivatives are regulated then lists commodities that are exempt in subparagraphs a) – e) along with the criteria they have to meet to be exempt.

Subparagraph a) - lists a straightforward number of specimens for Dalbergia / Guibourtia species that are exempt.

Subparagraph b) – This exemption is to ensure that smaller finished items, such as artisanal handicrafts, made from the Appendix-II Dalbergia species are exempt from CITES regulation (NOTE: D. nigra is included in Appendix I and subject to all applicable CITES requirements for trade in Appendix I plant species). A definition of a “shipment…” and “finished products to a maximum weight of the wood……” are found in the Interpretation section at the beginning of the Appendices (https://cites.org/sites/default/files/eng/app/2023/E-Appendices-2023-02-23.pdf).

In order to be eligible for this exemption, there must be 10kg or less wood for each separate CITES-listed species in a shipment. The determination of whether or not CITES documents are required for the shipment does not depend on the total combined volume of all CITES-listed wood in a shipment being 10kg or less.

To determine if the shipment is exempt from CITES controls, check the following:

- **Which species?** - Which species of Dalbergia / Guibourtia are the wood products in the shipment made from;
- **Finished products** - Make sure that these wood products are finished products (i.e., require no further processing). If they are not finished or minimally worked, they are NOT exempt under this subparagraph;
- **How much wood of each species is in each finished product in the shipment?** - Calculate how much wood there is for each separate species of Dalbergia / Guibourtia in the shipment. The wood may be found in one finished product or in a number of products in the shipment; and
- **Exempt or not** – Add up the total volume of wood for each separate species. If the total for each separate species comes to 10kg or less then the wood from that species is exempt. If the total volume of wood for that species in that shipment is more than 10kg, then a CITES document is required for the wood of that species.
See the following examples:

- A shipment containing 50 carvings made from two different *Dalbergia* species – the carvings are finished products. The trader calculates that 25 carvings are made from species X and weigh a total of 15kg and the other 25 are made from species Y weighing a total of 7kg. The species X carvings are NOT exempt (over 10kg) while the species Y carvings are exempt (under 10kg);

- A parcel containing 20 bowls, all made from *Guibourtia demeusei* – 5 bowls contain 1kg each of the *G. demeusei* while the other 15 contain 0.5kg each of wood of *G. demeusei*. The bowls are not exempt under CITES since the total amount of wood for this single species (*G. demeusei*) in all the bowls is 12.5kg and over the 10kg limit;

- A shipment of 30 bracelets made from the wood of two separate species (X and Y) of *Dalbergia*. Some bracelets contain a mixture of beads made from species X and species Y and some only contain beads made from species X. When the weight of the wooden beads in all the bracelets made from species X are added up the total weight comes to 8 kg. The total weight of all the beads of species Y comes to 15 kg. Therefore, any bracelet containing just species X is exempt (as the total weight of 8kg is under 10kg). The bracelets containing both species are not exempt as the beads made from species Y weigh 12kg, which is over the 10kg limit. Therefore, CITES documents are required to authorize the trade in specimens containing species Y; and

- A shipment of rough sawn wood of *Dalbergia davidii* roughly planed on one side and weighing 7kg – this shipment is not exempt under subparagraph b) as it is not a finished product.

**Subparagraph c)** - simply exempts all finished musical instruments, finished musical instrument parts and finished musical instrument accessories. This is because it reduces the permit burden on CITES Parties. Definitions of the terms “finished musical instruments...instrument parts...accessories” etc can be found in the CITES Glossary.

Previously, individual *Dalbergia* species were listed under CITES, often with stricter annotations depending on the level of threat. Now that all species in the genus *Dalbergia* and *Guibourtia* are listed under Appendix II with the single #15 annotation (*D. nigra* is listed in Appendix I), there is still a need to restrict trade for certain *Dalbergia* species. This is why **subparagraphs d) and e)** mention other annotations and relate to specific *Dalbergia* species.

**Subparagraph d)** - Parts and derivatives of *Dalbergia cochinchinensis*, which are covered by Annotation # 4 – This is an example of where an annotation is mentioned within an annotation and it only applies to the species mentioned in it – *D. cochinchinensis*. Due to trade impacts on this species, it is necessary to have stricter control over the commodities in trade. This is why for *D. cochinchinensis* #4 annotation applies instead of #15. Reading #4, all parts and derivatives (live or dead) are regulated except for seeds, pollen, tissue cultured plants and cut flowers from artificially propagated plants.

**Subparagraph e)** - Parts and derivatives of *Dalbergia spp. originating and exported from Mexico*, which are covered by Annotation # 6 - This is similar to **subparagraph d)** in that stricter control over commodities in trade are needed for certain *Dalbergia* species. In this case it is *Dalbergia* species from Mexico. Therefore, annotation #6, not #15, applies to all *Dalbergia* species first exported from Mexico and that “originate” in Mexico. “Originate” means they have grown and were harvested in Mexico. Reading #6 shows that for these *Dalbergia* species, only logs, sawn wood, veneers and plywood are regulated.

**NOTE**: *Dalbergia nigra* is listed in Appendix I of CITES and, therefore, all parts and derivatives, are covered by the provisions of CITES.
These annotations are specifically designed for species in trade for their timber. **#5** can be found against the Appendix II listing for all *Diospyros* spp. (only populations of Madagascar), *Swietenia mahagoni*, the Appendix III listings of *Fraxinus mandshurica*, *Pinus koraiensis* and *Quercus mongolica* (Russian Federation for all three taxa). **#6** can be found against the listings for *Cedrela* spp. and *Swietenia macrophylla* (only the populations of the Neotropics for both taxa) and *Dalbergia* spp. originating and exported from Mexico (see #15 also). **#17** can be found against the Appendix II listings of *Khaya* spp., *Pterocarpus* spp. (*except P. santalinus*), *Afzelia* spp. and *Pericopsis elata*. It is also found against the listings for *Dipteryx* spp., *Handroanthus* spp., *Tabebuia* spp. and *Roseodendron* spp. although the listings for these four genera is delayed 24 months until 25th Nov. 2024.

All these annotations simply list the specimens that are concerned and regulated under the listing. In addition to the listed specimens and the whole plant, whether alive or dead, no other commodities are regulated under CITES.

Different interpretations of the terms used in these annotations (e.g. veneers, transformed wood) can lead to enforcement problems. Definitions for these terms are provided in the Resolution Conf. 10.13 (Rev. CoP18) on Implementation of the Convention for tree species, the Interpretation section of the Appendices, and/or the CITES Glossary, often following the definitions used in the Harmonised System Commodity Codes administered by the World Customs Organisation:

- **Logs** - All wood in the rough, whether or not stripped of bark or sapwood, or roughly squared, for processing, notably into sawn wood, pulpwood or veneer sheets (HS code 44.03);
- **Sawn wood** - Any wood simply sawn lengthwise or produced by a profile-chipping process. Sawn wood normally exceeds 6 mm in thickness (HS code 44.06, HS code 44.07); and
- **Veneers** - A thin layer or sheet of wood of uniform thickness, usually 6 mm or less, usually peeled or sliced, for use in making plywood, for veneering furniture, veneer containers, etc. (HS code 44.08).
- **Plywood** - Three or more sheets of wood glued and pressed one on the other and generally disposed so that the grains of successive layers are at an angle (HS code 44.12.13, HS code 44.12.14, and HS code 44.12.22).
- **Transformed wood** - Defined by Harmonized System code 44.09: Wood (including strips, friezes for parquet flooring, not assembled), continuously shaped (tongued, grooved, v-jointed, beaded or the like) along any edges, ends or faces, whether or not planed, sanded or end-jointed.

**NOTE**: Transformed wood includes unassembled shaped or worked wood, such as tongue and groove planks and decking strips and planks, whether they are in their final packaging or not.
#11 Logs, sawn wood, veneer sheets, plywood, powder and extracts. Finished products containing such extracts as ingredients, including fragrances, are not considered to be covered by this annotation.

#12 Logs, sawn wood, veneer sheets, plywood and extracts. Finished products containing such extracts as ingredients, including fragrances, are not considered to be covered by this annotation.

#11 is only found against the *Bulesia sarmientoi* listing and #12 is only found against the *Aniba rosaeodora* listing.

In the first sentence of both, the annotations simply list the specimens that are concerned and regulated under the listing (i.e. logs, sawn wood, veneer sheets, plywood and extracts). The inclusion of the term "extracts" in both annotations shows that both timber and extracts from the timber are in trade.

The second sentence in both annotations clarifies that finished products which contain such extracts (e.g. fragrances) are exempt. While other annotations state that the final products must be in their final packaging, these annotations do not. This is because the CITES Parties have concluded that finished products, including fragrances, containing such extracts are generally not exported from the species’ range countries and are, therefore, not a conservation risk to the species.

Different interpretations of the terms used in these annotations (e.g. extracts) can lead to enforcement problems. Definitions for these terms are provided in the Interpretation section of the Appendices / Annexes and the CITES Glossary, often following the definitions used in the Harmonised System Commodity Codes administered by the World Customs Organisation:

- **Logs** - All wood in the rough, whether or not stripped of bark or sapwood, or roughly squared, for processing, notably into sawn wood, pulpwood or veneer sheets (HS code 44.03);
- **Sawn wood** - Any wood simply sawn lengthwise or produced by a profile-chipping process. Sawn wood normally exceeds 6 mm in thickness (HS code 44.06, HS code 44.07);
- **Veneers** - A thin layer or sheet of wood of uniform thickness, usually 6 mm or less, usually peeled or sliced, for use in making plywood, for veneering furniture, veneer containers, etc. (HS code 44.08);
- **Plywood** - Three or more sheets of wood glued and pressed one on the other and generally disposed so that the grains of successive layers are at an angle (HS code 44.12.13, HS code 44.12.14, and HS code 44.12.22);
- **Powder** - A dry, solid substance in the form of fine or coarse particles; and
- **Extracts** - Any substance obtained directly from plant material by physical or chemical means regardless of the manufacturing process. An extract may be solid (e.g. crystals, resin, fine or coarse particles), semi-solid (e.g. gums, waxes) or liquid (e.g. solutions, tinctures, oil and essential oils).
All parts, derivatives and finished products, except re-export of finished musical instruments, finished musical instrument accessories and finished musical instrument parts.

This annotation is currently only used for one species, *Paubrasilia echinata*, which is in trade for its valuable timber. The species was originally listed under the name of *Caesalpinia echinata*, but the agreed taxonomy subsequently changed. The species is endemic to Brazil and is mainly used for making high-end violin bows.

The annotation starts by stating that all parts and derivatives of this species and every product containing or made from this species is regulated. However, it then goes on to state that this exemption does not apply in the case where there are re-exports of “... finished musical instruments, finished musical instrument accessories and finished musical instrument parts”.

The revised annotation for this species was adopted at the 19th meeting of the Conference of the Parties to CITES (CoP19, Nov. 2022) and seeks to apply CITES requirements to all exports of the species from the range country (Brazil) while also not requiring CITES documents for finished bows in international trade. If CITES requirements were applied to all parts and derivatives of this species in international trade professional and amateur musicians traveling with their bows as well as commercial dealers of bows would have to obtain CITES documents. The range country, Brazil, was concerned about unregulated timber of this species being exported from Brazil without required permits and authorizations.

Different interpretations of the terms used in these annotations (e.g. finished musical instrument accessories) can lead to enforcement problems. Definitions for these terms are provided in the CITES Glossary, often following the definitions used in the Harmonised System Commodity Codes administered by the World Customs Organisation:

- **Finished musical instruments** - A musical instrument (as referenced by the Harmonized System of the World Customs Organization, Chapter 92; musical instruments, parts and accessories of such articles) that is ready to play or needs only the installation of parts to make it playable. This term includes antique instruments (as defined by the Harmonized System codes 97.05 and 97.06; Works of art, collectors’ pieces and antiques).

- **Finished musical instrument accessories** - A musical instrument accessory (as referenced by the Harmonized System of the World Customs Organization, Chapter 92; musical instruments, parts and accessories of such articles) that is separate from the musical instrument, and is specifically designed or shaped to be used explicitly in association with an instrument, and that requires no further modification to be used.

- **Finished musical instrument parts** - A part (as referenced by the Harmonized System of the World Customs Organization, Chapter 92; musical instruments, parts and accessories of such articles) of a musical instrument that is ready to install and is specifically designed and shaped to be used explicitly in association with the instrument to make it playable.
The following is an example of the only P numbered annotation used for CITES-listed timber species.

### P6

Artificially propagated hybrids and cultivars of Taxus cuspidata, live, in pots or other small containers, each consignment being accompanied by a label or document stating the name of the taxon or taxa and the text ‘artificially propagated’, are not subject to the provisions of the Convention. P numbered annotations

This annotation is only found against the Taxus cuspidata listing, which also has the #2 annotation.

The P numbered annotations, like P6, cover specimens that are usually artificially propagated cultivars (cultivated varieties) or hybrids.

Under P6, the T. cuspidata plants have to be traded in a certain way to be eligible for an exemption from regulation. If they are not live, artificially propagated hybrid or cultivars of T. cuspidata in pots/small containers and do not have the requested documentation/labelling, then the plants are not be exempt.

An example of a cultivar name would be *Taxus cuspidata* ‘Keumbitnoeul’. An example of a hybrid name would be *Taxus cuspidata* × *media*. 

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### Taxus cuspidata

*Sieb. & Zucc.*

- Pinaceae • Taxoaceae • Taxus

<table>
<thead>
<tr>
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### CITISES

**CITES LISTING**

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<td>P</td>
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CoP14 #2

Includes infraspecific taxa of this species. Artificially propagated hybrids and cultivars of *Taxus cuspidata*, live, in pots or other small containers, each consignment being accompanied by a label or document stating the name of the taxon or taxa and the text “artificially propagated”, are not subject to the provisions of the Convention.

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Includes infraspecific taxa of this species. Artificially propagated hybrids and cultivars of *Taxus cuspidata*, live, in pots or other small containers, each consignment being accompanied by a label or document stating the name of the taxon or taxa and the text “artificially propagated”, are not subject to the provisions of the Convention.
3. Are all populations or only certain populations regulated?

It is important to understand whether a species / genus listing covers all populations or only certain populations (e.g. populations of Madagascar, populations of the Neotropics) as this will determine whether permits are required. For information and guidance on permit requirements contact the Management Authority of the country of export, re-export and import, the CITES Secretariat and / or the EU Commission.

To check the native distribution of the species, look under the DISTRIBUTION tab.

With Appendix II species, if specific populations or regions are regulated this information will be included in a footnote (in parentheses in the Appendices) against the listing. In Species +, this is found under the NOTES heading under the LEGAL tab.

For example, under the listing for Osyris lanceolata there is a list of countries under the NOTES heading – Populations of Burundi, Ethiopia, Kenya, Rwanda, Uganda and the United Republic of Tanzania; no other population is included in the Appendices. It is understood that only specimens from populations in these countries are regulated, not populations found in other countries.

Another example is shown here for the Appendix II species, Swietenia macrophylla. The footnote, under the NOTES heading, reads “Populations of the Neotropics”. The CITES listing is limited in this manner to cover only the native populations of the species (i.e., those occurring in the Neotropics), and this means that controlled specimens from the Neotropics (Central and South America and the Caribbean) are regulated. If specimens originate outside of this region (e.g. from plantations in Africa or the Pacific) then they are not regulated.

With Appendix III species / Annex C species, it may show a name of a country against the listing in parentheses in the Appendices (in Species + it is found under the COUNTRY heading under the LEGAL tab).

In this example of Pinus koraiensis, it states “Russian Federation”. The names of the country / countries does not mean that only Russian Federation populations are regulated, rather that this is the Party that listed this species in Appendix III and all populations are regulated for this species. If an Appendix III listing needs to be limited in its geographic scope, then the notation will indicate the scope of the listing by stating “Populations of....”.

Pinus koraiensis
Sieber & Zucc.
* Pinaceae * Pinus

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**Table:**

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**Pinus koraiensis**

Russian Federation

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4. Are CITES export quotas in place?

CITES export quotas are established by Parties unilaterally or are set by the Conference of the Parties as a tool to help regulate trade. They usually run annually (1st January to 31st December), but harvesting periods do not always follow this timeframe. Changes or updates are relayed through a Notification to the Parties. Export quotas are available on the CITES website (https://cites.org/eng/resources/export_quotas) along with the CITES Export Quota Tool.

To find out if a CITES quota is in place, either click on the CITES Quota tab or scroll down through the LEGAL tab until you reach the QUOTA section. Here you will find the current annual quota per country together with the products it applies to and the quota level.

In this example of Gonystylus bancanus (Ramin), the quotas for 2023 can be seen. Under the QUOTA heading are the YEAR, COUNTRY, QUOTA (amount / measurement) and NOTES sections.

Click on SHOW HISTORY for previous year’s quotas, which products they applied to and the previous quota level.

Check Species + for export quota updates or the CITES website for a list of annual export quotas under the CITES Export Quota tool (https://tinyurl.com/2p8ccz7c).
5. Has a country taken out a reservation on the listing?

CITES is not subject to general reservations, but a Party may enter a specific reservation when it accedes to the Convention, when a species is included in the Appendices (for Appendix I and II), or at any time for species included in Appendix III. A reservation is a statement by a Party not to be bound by the CITES provisions with regard to the reserved species.

A Party that has entered a reservation is treated as a non-Party with regard to trade in the reserved species and if it exports are to a non-Party or another Party with the same reservation, no CITES documents are required. An export permit or comparable CITES documents, is required if the Party with a reservation (re-)exports to a Party that has not taken out a reservation on the same species.

Reservations, if any, will be listed under the CITES LISTING section in the LEGAL tab. They can also be found on the CITES website https://cites.org/eng/app/reserve.php

In this example for an Aquilaria species, the “R” means the United Arab Emirates has a reservation on all Appendix II-listed Aquilaria species (not A.malaccensis) from 12/01/2005.

If a country has a “W” by its name having previously had an “R” against it, the reservation has been withdrawn.

Click on SHOW HISTORY to see previous reservations.
6. Are there specific CITES international trade suspensions or EU opinions in place for this listing?

Species + notes any national export suspensions or CITES international suspensions that affect trade. The CITES Parties may take “stricter measures” than the Convention. As such they may impose stricter import or export conditions. The EU member States, through its SRG, issue decisions relating to stricter conditions for importing material into the EU and specific species / country combinations. They can result in applications being allowed subject to permits being issued, no imports allowed until further communication with the country in question or a referral required to the SRG before importation can take place.

This example uses Pterocarpus santalinus (red sandalwood). Either click on CITES SUSPENSIONS tab or scroll down the LEGAL tab to the SUSPENSION heading for details on the current CITES and national suspensions.

This example shows that India is implementing a zero export quota and national suspension on exports for all wild specimens of wild Appendix I, II and III species for commercial purposes. This includes species such as red sandalwood.

This suspension came into force on 26/03/2018 and a Notification is given (CITES Notif. No. 2018/031 which provides more details (https://cites.org/sites/default/files/notif/E-Notif-2018-031.pdf)).
This example uses *Pterocarpus santalinus* (red sandalwood).

Current EU decisions and opinions are found by clicking on the EU DECISIONS heading under the LEGAL tab or by scrolling down to the EU LISTING section (found below the CITES LISTING in the LEGAL tab). Under the heading EU DECISIONS details of what they apply to and the date they came into force are provided.

The EU has put in place a number of negative opinions (no EU imports allowed) for all wild, artificially propagated, assisted production and confiscated/seized material of red sandalwood from India. If new information is provided to the SRG this opinion may be overturned at its next meeting. If not, the opinion may remain in place or it could be formalized into a legally binding import prohibition established and published in Official Journal of the European Union as “Suspension Regulation”.

Click on the SHOW HISTORY to see all previous EU opinions.
SPECIES PAGES

The following information is provided for each species / genus:

**Distribution** – approximately covers the countries / territories that the species / genus are native to*

**Uses** – the major uses for the taxa and products in trade (regulated or not).

**Trade** – the dataset used to inform this section has been taken from the CITES Trade Database (https://trade.cites.org/) for the years 2016-2021.

**Identification** – highlights available identification techniques and major ID issues

**Plantations /artificial propagation** – highlights whether a species/ genus is grown in plantations and/ or is artificially propagated and whether timber or timber products from these sources are in trade.

**CITES international trade suspensions, export quotas and reservations** – current CITES international trade suspensions, export quotas and reservations are noted.

**EU decisions** – this section outlines those trade suspensions and decision/ opinions currently put in place by the European Union. These may be stricter than CITES.

**Scientific and common names** – CITES adopts ‘Standard References’ to be used by Parties when referring to the scientific names of taxa listed on the Convention. These references provide the basis on which names should be used on CITES permits and annual reports – the accepted names – as adopted by a Conference of the Parties (CoP). The references, where possible, include the major synonyms – the non-accepted names – that apply to these taxa. The list of Standard References is updated at every CoP based on the recommendations of the CITES Animals and Plants Committees and is included in a CITES Resolution (for flora see Annex 2 of Resolution Conf. 12. 11 (Rev. CoP19) Standard Nomenclature: https://cites.org/sites/default/files/documents/COP/19/resolution/E-Res-12-11-R19.pdf). If necessary, clarification can be sought from the CITES Secretariat who may confer with the Nomenclature Specialist of the CITES Plants Committee to provide you with more formal guidance on the appropriate scientific name.

**Details on the CITES listing** – the date the species / genus were first listed is provided along with the date of the current listing and annotation. For EU listings the current listing and annotation date applies to the latest version of the Commission Regulation amending the list of species regulated under Council Regulation (EC) No 338/97.
Product pictures – pictures have been provided of products seen in international trade. As space is a limiting factor in the guide the coverage is not comprehensive. Products regulated by CITES have a red tab and those not regulated have a green tab. The photographs used are not, in all cases, true representations of the species in trade, rather they are meant as a guide to the products in trade.

Picture credits/copyright – these are provided in the KEY RESOURCES section of the guide.

* Country abbreviations include Taiwan for Taiwan (Province of China); UK (United Kingdom); USA (United States of America); EU (European Union).
**Abies guatemalensis**

**Guatemalan Fir**

**Distribution**

This genus has some 39 species in the temperate regions of North America, Central America and Europe and this is the only species currently listed under CITES. The species is native to El Salvador, Guatemala, Honduras and Mexico.

**Uses**

The timber has historically been used for construction purposes, and in the manufacture of tools, roof shingles, wood carvings and charcoal for domestic markets. Illegal harvesting for the domestic Christmas tree and Christmas decoration market is threatening the species.

**Trade**

This species is listed in Appendix I/ Annex A and international trade in wild-sourced specimens for commercial purposes is prohibited. Commercial trade in artificially propagated specimens is permitted. Domestic use of this species accounts for the majority trade. The CITES Trade Database indicates no international trade over the last decade.

As an Appendix I/ Annex A listed species there is no annotation therefore all parts and derivatives, live or dead, are regulated.
Identification

Using anatomical characteristics, identification is only possible to genus level as the wood of *Abies guatemalensis* is very similar to that of other non CITES *Abies* species. The wood is also similar to species of the non CITES genera *Cedrus*, *Pseudolarix* and *Tsuga*. Some reference data (genetic barcoding markers) that has the potential to be used for species identification, is available, but there is a general lack of reference specimens to carry out mass spectrometry tests (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page [https://cites.org/eng/timber/timber-ID-repository#manuals](https://cites.org/eng/timber/timber-ID-repository#manuals) for more information on timber identification).

Plantations/artificial propagation

There are commercial plantations of this species in Guatemala and El Salvador, primarily supplying domestic markets.

CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.

EU Decisions

There are no current EU suspensions or opinions for this species.

See Species + for details - [https://speciesplus.net/](https://speciesplus.net/)
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<tr>
<td>See Resolution Conf. 12.11 (Rev Cop 19) Standard Nomenclature and Species+ for details (Reference tab)</td>
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**Picture Credits:** see KEY RESOURCES section
Afzelia (African populations)

Afzelia Pod Mahogany, Doussié

**Distribution**

*Afzelia* is a genus of around 12 species with seven from Africa, which are now subject to CITES controls, and five from Southeast Asia, which are not. All species of *Afzelia* are slow growing and occur at low densities; they are found in Angola, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d’Ivoire, Democratic Republic of Congo, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Togo, Uganda and Zambia.

**Uses**

Species of *Afzelia* are sought after for use in construction and boatbuilding due to their resistance to insects and some chemicals, suitability for use in humid conditions, and attractive appearance. They are also used for veneer and furniture, and for firewood and charcoal production.

**Trade**

Due to the recent listing of these species, there is no reported trade in the CITES Trade Database. Information drawn from customs data indicates that these species are mainly exported as logs or sawn wood. *Afzelia bipindensis* and *A. pachyloba* are reportedly the most commonly traded species with Cameroon, Côte d’Ivoire, and Ghana the main exporters. Most of the trade goes to Asia, to Vietnam and China. *Afzelia africana* is considered commercially extinct in Ghana and all timber is currently exported under a salvage license.
There are no known national population estimates or stock assessments for any African species of *Afzelia*. The lack of information on the status of wild populations is of major conservation concern. Survey studies may be non-existent, lack robustness or be out of date and can undermine the scientific data used in the making of NDFs on which export and annual harvest quotas are based.

The #17 annotation means only logs, sawn wood, veneer sheets, plywood and transformed wood are regulated. Definitions of these timber terms are found in the CITES Glossary (https://cites.org/eng/resources/terms/glossary.php) and in Resolution Conf. 10.13 (Rev. CoP18) on Implementation of the Convention for tree species (https://cites.org/eng/res/index.php). Transformed wood includes unassembled shaped or worked wood, such as tongue and groove planks and decking strips and planks, whether they are in their final packaging or not. Finished products such as furniture are not subject to CITES regulations, but care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

**Identification**

Using anatomical characteristics, identification is only possible to genus level. The genus *Afzelia* also includes five species native to tropical Asia and the wood of African species cannot be clearly distinguished from that of Asian species on the basis of the macroscopically recognizable features. The fact that wood, which can be assigned to *Afzelia* on the basis of its structural features, is of African origin can only be guaranteed by a certified proof of origin, possibly also by the genetic fingerprint and/or a chemical analysis of the extractive compounds.
Afzelia pachyloba and A. bipindensis can be identified through DART TOFMS. Similar species include those of the genus Intsia, which although found in Tanzania, Mauritius and Madagascar is mainly a tropical Asian/SW Pacific genus. (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page https://cites.org/eng/timber/timber-ID-repository#manuals for more information on timber identification).

**Plantations /artificial propagation**

Due to the slow growth of hardwood species such as Afzelia quanzensis, plantation production is considered to give a poor economic return. There are no known plantations of any of these species except for those used for research.

**CITES international trade suspensions, export quotas and reservations**

There are no current CITES international trade suspensions, export quotas or reservations for any of these species.

**EU Decisions**

There are no current EU opinions for this species.

See Species + for details https://speciesplus.net
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**Annotation**

#17 Logs, sawn wood, plywood, veneer and transformed wood.

**NOTE:**
The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.

**Picture Credits:** see *KEY RESOURCES* section.
**Aniba rosaeodora**

**Brazilian rosewood, Pau rosa**

### Distribution

This is one of 49 species in the genus *Aniba* and the only one listed under CITES. It is a large tree native to the tropical rainforests of Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname and Venezuela.

### Uses

Historically, the trees were destructively harvested to obtain the linalool-rich oil from the timber. The oil was then distilled and the extract used in high end perfumery and in the aromatherapy industry, or diluted to add scent to cosmetics and toiletries, such as soap, and less expensive fragrances and oils. Such destructive methods are no longer used, and the oil is now obtained from small, coppiced branches and leaves. Research is currently underway to determine if this oil has different olfactory characteristics and quality to that distilled from the heartwood.

### Trade

The main product in international trade is rosewood oil. Brazil is the main supplier of this small but valuable trade, but in the last couple of years exports from Peru have substantially increased. France and the USA are the principal importers of the oil, followed by the UK. The USA is also the largest re-exporter of oil, followed by France. Peru completed an NDF for this species in 2015 and concluded that there should be no exports from natural forests on the basis of insufficient data related to the status of wild populations and serious concerns about the sustainability of trade. The species has been categorized as endangered on the IUCN Red List and care should be taken in sourcing to ensure compliance with the due diligence requirements of national and international legislation relating to timber products imports and exports.
The #12 annotation covers logs, sawn wood, veneer sheets, plywood and extracts. Finished products containing such extracts as ingredients, including fragrances, are not considered to be covered by this annotation and are therefore not regulated. Definitions of the timber terms are found in the CITES Glossary (http://www.cites.org/eng/resources/terms/glossary.php) and in Resolution Conf. 10.13 (Rev. CoP15) (http://www.cites.org/eng/res/10/10-13R15.php). A definition of the term extract can be found in the Interpretation section of the Appendices and EU Annexes and in the CITES Glossary as meaning “Any substance obtained directly from plant material by physical or chemical means regardless of the manufacturing process. An extract may be solid (e.g. crystals, resin, fine or coarse particles), semi-solid (e.g. gums, waxes) or liquid (e.g. solutions, tinctures, oil and essential oils)”. See #12 in UNDERSTANDING A CITES LISTING section for more information.

**Identification**

Using anatomical characteristics, identification is only possible to genus level. Leaf mass spectrometry fingerprinting has been used to differentiate between *A. rosaeodora* and another Amazon *Aniba* species, *Aniba parviflora*. The wood of *A. rosaeodora* is similar to other species of *Aniba* and other genera in the Lauraceae family. The common name of pau rosa is also used for a number of African timber species, such as *Bobgunnia fistuloides* and *B. madagascariensis* (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page https://cites.org/eng/timber/timber-ID-repository#manuals for more information on timber identification).

**Plantations /artificial propagation**

There is at least one authorised commercial plantation for this species, in Maués, Brazil, that is producing oil for export. Peru has also recently registered plantations in Loreto Region with the Peruvian CITES Management Authority. International cosmetic manufacturers are establishing smaller trial plantations to ensure tighter control over the sustainability of the ingredients for their products.
CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.

EU Decisions

There are no current EU suspensions or opinions for this species.

See Species + for details - [https://speciesplus.net/](https://speciesplus.net/)

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<td><strong>French:</strong> bois de rose, bois-de-rose-femell, carcara</td>
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<td>#12 Logs, sawn wood, veneer sheets, plywood and extracts. Finished products containing such extracts as ingredients, including fragrances, are not covered by this annotation</td>
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<td><strong>Spanish:</strong> palo de rosa, palo de rose</td>
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<td>NOTE: The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.</td>
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CITES Standard Reference: See Resolution Conf. 12.11 (Rev Cop 19) Standard Nomenclature and Species + for details (Reference tab)

If you require further guidance, contact the CITES Secretariat.

Picture Credits: see KEY RESOURCES section.
**Aquilaria and Gyrinops**

**Agarwood**

**Distribution**

The main agarwood producing tree species are in the genera *Aquilaria* and *Gyrinops*. All species in these two genera are listed under CITES. There are some 21 species of *Aquilaria* native to Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Lao People’s Democratic Republic, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, Thailand and Vietnam. There are some nine *Gyrinops* species which are native to India, Indonesia and Sri Lanka. The genus *Gonystylus* (ramin) has also been linked to the agarwood trade, but is more commonly traded as timber and timber products. See Species + for individual species distribution.

**Uses**

The infection of *Aquilaria* and *Gyrinops* trees by fungal pathogens produces a resinous heartwood that is highly prized for its fragrant properties. Oil is distilled from the wood, powder or sawdust and used in the fragrance and cosmetics/toiletries industries. Other products in trade include wood chips of various sizes and powder, sold both prior to the distillation process (non-exhausted) and post the distillation process (exhausted).
Exhausted powder may then be further processed and compressed into statues, incense cones or sticks. The wood is made into carvings, beads (for prayer or decoration) or traded as highly prized items. Agarwood is also an ingredient in traditional and patented medicines. It is estimated that only 1 – 10% trees in the wild produce agarwood, but that is only known when the tree is cut down.

**Trade**

Agarwood products are found in international trade as crude, semi-finished or finished products from both wild and artificially propagated sources. Processing of agarwood products may occur in countries of export or in the major re-exporting Parties, in particular the Middle East.

*Aquilaria malaccensis* is the most important *Aquilaria* species in trade, although *A. crassna* has more recently become much more prevalent because it is increasingly grown in plantations. It now supplies almost as much agarwood globally as *A. malaccensis*. Other exported agarwood comes from *A. acuminata* (or *A. filaria*), *A. beccariana*, *A. microcarpa*, *A. sinensis*, and *A. subintegra*.

For *Aquilaria* species wood chips, powders (both non-exhausted and exhausted), timber/sawn wood/wood products and oil are the major products in trade followed by extracts and ‘unspecified’ products. The major exporters are Malaysia, Indonesia, Thailand, Bangladesh, Lao People’s Democratic Republic and Vietnam. The major importers are United Arab Emirates (UAE), Singapore, Kuwait, Bahrain, China (including Hong Kong), Switzerland, Saudi Arabia, Europe (France, Germany, Spain), India, Republic of Korea, Japan, Thailand, United Kingdom and the USA. The major re-exporting countries are UAE, Singapore, Switzerland, the EU (France, Germany, Spain), Bahrain, Japan, Saudi Arabia, India, Hong Kong, United Kingdom and Kuwait.

| Wood chips-finished product | Compressed exhausted powder | Prayer beads |
The main *Gyrinops* species in trade are *G. versteegii* and *G. walla*, with smaller amounts from *G. caudata* and *G. ledermanii*, or trade is only reported as *Gyrinops* spp. Products in trade includes wood chips, powder and logs. The major exporters of *Gyrinops* products are Indonesia, Papua New Guinea and Sri Lanka. The major importing countries are in the Middle East (Saudi Arabia, Kuwait and United Arab Emirates), Singapore, Taiwan and Vietnam. The major re-exporters of this genus are Bahrain, UAE and Singapore.

Trade in wild-sourced agarwood products is not permitted by many range States. However, trade in products from artificially propagated sources is allowed subject to the issuance of permits. However, the mixing, or misdeclaration of, wild sourced material with plantation stock circumvents many of these national export bans. All range states (except Singapore) have declining wild tree populations due to habitat conversion and overharvesting. The lack of information on the status of wild populations is of major conservation concern. Survey studies may be non-existent, lack robustness or be out of date and can undermine the scientific data used in the making of NDFs on which export and annual harvest quotas are based. Some range States have established registration and chain-of-custody protocols for the harvesting and export of agarwood products and restrictions or bans on wild harvesting. However, there has been an emphasis on plantations and not conservation in the wild, and enforcement against illegal trading and harvesting is often lacking which leads to the mixing of wild agarwood with plantation wood for the export and processing markets.

The *Aquilaria* and *Gyrinops* listings are accompanied by the #14 annotation meaning all parts and derivatives are regulated except seeds, seedling or tissue cultures in sterile containers fruits, leaves, exhausted agarwood powder, including compressed powder in all shapes, and finished products packaged and ready for retail trade. This latter exemption does not apply to wood chips, beads, prayer beads and carvings. Care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.
There is also an exemption under the CITES personal and household effects derogation (Resolution Conf. 13.7 (Rev. CoP17) [https://cites.org/eng/res/index.php]) for specimens of agarwood. Up to 1 kg woodchips, 24 ml oil and two sets of beads or prayer beads (or two necklaces or bracelets) per person is permitted without permits (see #14 in UNDERSTANDING A CITES LISTING for more information).

Identification

Using anatomical characteristics, the species of *Aquilaria* / *Gyrinops* cannot be differentiated from each other, but this may not be necessary in every case as all species of both genera are listed in CITES Appendix II. Using anatomical features, the two genera can, however, be differentiated from the genus *Gonystylus* and look-alike genera *Memecylon* (Melastomataceae) and *Strychnos* (Loganiaceae).

Distinguishing between agarwood products in trade may prove problematic, for example, identifying non-exhausted from exhausted powder (the latter is lighter in colour with little odour). Distinguishing between wild and plantation agarwood in trade remains a challenge. Recent research has had some success in remedying this using DNA barcoding and/or gas chromatography/mass spectrometry and in differentiating between agarwood from different regions within a country. Some of these are based on olfactory characteristics as artificial inoculation using fungal or chemical means signatures not found in wild trees. However, the problem for many countries is access to the proper equipment, the cost of testing, lack of reference collections and databases and the need for trained personnel to carry out testing (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page [https://cites.org/eng/timber/timber-ID-repository#manuals] for more information on timber identification).

Plantations /artificial propagation

There are commercial mono- and mixed plantations of *Aquilaria*, particularly *A. malaccensis*, *A. crassna*, *A. sinensis* and *Gyrinops* as the technology to artificially inoculate trees and produce the resinous heartwood is available. Trees of both genera are also grown in mixed community farms and gardens within its natural range. Inoculation may be through fungal or chemical methods but the quality of plantation grown agarwood is often deemed inferior to wild sourced material. Timber or timber products from all of these production systems are in international trade and may be declared as artificially propagated material under source code “A” or “Y” (assisted production). Trees take about eight years to reach 10 cm diameter at
breast height (dbh), the recommended size for inoculation, followed by two years or more for the agarwood to develop. Check with the country of origin and Resolutions Conf. 11.11 (Rev. CoP18), Resolution Conf. 10.13 (Rev. CoP18) and Resolution Conf. 16.10 for guidance on whether the material fits the definition of artificially propagated for agarwood. ([https://cites.org/eng/res/index.php](https://cites.org/eng/res/index.php)).

**CITES international trade suspensions, export quotas and reservations**

There are current CITES international trade suspensions for certain *Aquilaria* and *Gyrinops* species. Export quotas have been in place for *Gyrinops* species up to 2022 and for certain *Aquilaria* species for 2023. Check [Species +](https://speciesplus.net/) for details or check the annual export quotas on the CITES website or the CITES Export Quota Tool ([https://cites.org/eng/resources/quotas/export_quotas](https://cites.org/eng/resources/quotas/export_quotas)). There are current reservations in place for a number of country/*Aquilaria* and *Gyrinops* combinations. There are current national harvesting and export bans in place for some wild collected species of *Aquilaria* and *Gyrinops*.

There is a trade suspension and a zero export quota in place for the export of all wild specimens of Appendix I, II and III species from India (see Notification 2018/031 [https://cites.org/sites/default/files/notif/E-Notif-2018-031.pdf](https://cites.org/sites/default/files/notif/E-Notif-2018-031.pdf)).

**EU decisions**

There are a number of current EU opinions in place for *Aquilaria* species.

See Species + for details - [https://speciesplus.net/](https://speciesplus.net/)
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NOTE: The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.

Picture credits: see KEY RESOURCES section.
**Distribution**

This is the only species in the genus *Araucaria* (19 species) currently listed under CITES. It is a long-lived, tall conifer, commonly known as the monkey puzzle tree or Chilean pine and is native to the temperate rainforests of southern and central Chile and southwest Argentina.

**Uses**

The monkey puzzle tree has historically been used to make beams in buildings, bridges, piers, pit props, roofs, furniture, ship masts, veneers, plywood, flooring and paper pulp. The pine nuts are edible and are harvested in Chile under strict legislation. This species was introduced into Europe as early as the late 1700s.

**Trade**

This species is listed in Appendix I/Annex A and international trade in wild-sourced specimens for commercial purposes is prohibited. Commercial trade in artificially propagated specimens is permitted. The CITES Trade Database indicates that the majority of trade is in artificially propagated live plants and seeds (source code “D” which is artificially propagated material of an Appendix I species). Most of the
trade is exported by Chile and imported by the Netherlands and Belgium. Timber or wood blanks from felled ornamental trees planted outside of its natural range are in international trade for the manufacture of wooden artefacts (e.g. bowls and vases). Fossilised specimens of this species are also for sale on the Internet.

As an Appendix I/Annex A listed species there is no annotation therefore all parts and derivatives, live or dead, are regulated.

**Identification**

Using anatomical characteristics, identification is to genus level. Most *Araucaria* and *Agathis* species are indistinguishable on the basis of macroscopic wood anatomy. Similar species can be found at [https://www.speciesplus.net/api/v1/documents/14590](https://www.speciesplus.net/api/v1/documents/14590). Using mass spectrometry, *A. araucana* can be distinguished from similar taxa and near infrared spectroscopy can differentiate between Coastal and Andean populations of this species (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page [https://cites.org/eng/timber/timber-ID-repository#manuals](https://cites.org/eng/timber/timber-ID-repository#manuals) for more information on timber identification).

**Plantations/ artificial propagation**

Commercial plantations are established worldwide, in particular in Chile, Argentina and New Zealand. Artificially propagated seed and specimens of this species are for sale on the Internet and can be found growing in nurseries, parks and gardens, particularly throughout Western Europe, the west and east coast of the USA, New Zealand and southeastern Australia.
**CITES international trade suspensions, export quotas and reservations**

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.

**EU Decisions**

There are no current EU suspensions or opinions for this species.

See Species+ for details [https://speciesplus.net/](https://speciesplus.net/)

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</table>

**Annotation**

As an Appendix I / Annex A species all parts and derivatives, live or dead, are regulated.

**NOTE**

The first listing of a species may relate to a different CITES Appendix / EU Annex, population, commodity or annotation than those applicable to the current listing.

**Picture credits:** see KEY RESOURCES section.
**Cedrela**

**Spanish cedars**

**Distribution**

The genus *Cedrela* consists of 19 species (two recently named), all of which were included in Appendix II at CoP18 in 2019 with the listing restricted to populations of the Neotropics. These species are native to Central and South America and the Caribbean. See Species + for the distribution of individual species.

**Taxonomy**

*Cedrela liloi* was incorporated into *Cedrela angustifolia* in 2019, following taxonomic changes adopted at CoP18.

**Uses**

The species are traded for their workable, aromatic, insect-repelling and rot-resistant timber which is used to make quality furniture, musical instruments, paneling, cigar boxes and in light construction (doors, boat building). Many old churches and cathedrals throughout the distribution of the genus have paneling, doors and roofs made of Cedrela.

**Trade**

The CITES Trade Database indicates that most of the trade is in *Cedrela odorata* as sawn timber with lower levels of trade in timber pieces, carvings and veneer. There are significant discrepancies between trade levels reported by exporting and importing countries. According to importer reported trade, the main exporters are Brazil and Bolivia, with the EU, Switzerland, the UK and Norway as the biggest importers. Spain is the major re-exporter of this timber. There are concerns about the sustainability and legality of trade in this genus, in particular *C. odorata*.

Finished products, such as musical instruments or furniture, are not regulated, but care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

**Plantations / artificial propagation**

*Cedrela odorata* has been widely introduced outside its natural range as a shade tree for crops, an ornamental tree and for its timber. There are commercial plantations of this species producing timber for the international market in Africa (Ghana, Nigeria, Cote d’Ivoire, Madagascar, South Africa, Tanzania and Uganda) and in SE Asia (Vietnam, the Philippines). Smaller or trial plantations have been established in Malaysia, Papua New Guinea and Thailand. The timber from these markets is not regulated under CITES and does not need a permit. The largest exporters of plantation timber are Cote D’Ivoire and Ghana.

**Identification**

Using anatomical characteristics, identification is only possible to genus level. Using this method and near infrared spectroscopy, *Cedrela odorata* can be identified apart from similar Neotropical timbers including *Swietenia* (‘true’ mahogany) and *Carapa guianensis*. The genus *Toona* and *Cedrela odorata* are virtually indistinguishable anatomically. Certain *Cedrela* can be identified to species level, and on a geographical level, using genetical and mass spectrometry techniques. *Cedrela fissilis* can be identified by its volatile organic compounds and by the presence of 10 chemical elements (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page https://cites.org/eng/timber/timber-ID-repository#manuals for more information on timber identification).

**CITES international trade suspensions, export quotas and reservations**

There are current CITES international trade suspensions, reservations or quotas in place for some species in this genus, for example *Cedrela odorata*.

*Cedrela fissilis* | Finished guitars | Sawn wood
EU decisions

There are no current EU suspensions or opinions for this genus.

See Species + for details [https://speciesplus.net/](https://speciesplus.net/)

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<td>C. lilloi: 11/04/2008</td>
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<td>C. odorata: 11/04/2008 (except for those populations listed in Annex C (Populations of Colombia, Guatemala and Peru).</td>
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<td>C. montana: 11/04/2008</td>
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<td>C. salvadorensis: 11/04/2008</td>
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<td>C. tonduzii: 11/04/2008</td>
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Family: Meliaceae

Common names:
- English: cedar, cigar-box cedar (C. odorata), red cedar, Spanish cedar, stinking mahogany
- French: acajou, cedrat, cedrela
- Spanish: cedrela, cedro, cedro blanco 
  (C. fissilis), cedro colorado, cedro diamantina, cedro dulce (C. tonduzii), cedro pinta, cedro rosado (C. odorata), cedro rojo

CITES Standard Reference:
See Resolution Conf. 12.11 (Rev Cop 19) Standard Nomenclature and Species + for details (Reference tab)

If you require further guidance, contact the CITES Secretariat.

Picture Credits: See KEY RESOURCES section.
Distribution

All species of the genus *Dalbergia* are listed in CITES Appendix II, except for *Dalbergia nigra* which is listed in Appendix I. The genus consists of some 275 species of trees, shrubs and lianas and has a pan-tropical distribution in Africa, Asia and the Americas and Caribbean. Habitat ranges from tropical rainforests to seasonally dry tropical to subtropical humid and dry forest, woodland and wooded grassland. See Species + for individual species distributions.

Uses

Some species produce high quality timber, often known as ‘rosewood’, which commands high prices in trade and is used in construction, cabinet work, decorative veneers, gun blank manufacture, marquetry, inlay, furniture construction, musical instrument manufacture, tools and carvings.

Much of the past and current demand for rosewoods is associated with the demand in China for ‘Hongmu’ furniture. Under the Chinese National Hongmu Revised (2017) Standard, 29 tree species, including *Dalbergia*, are identified. Their density, texture and colour meet the set requirements for legal marketing purposes. However, not all species characterised as ‘rosewood’ are species of *Dalbergia* and can include other CITES (*Pterocarpus*) or non-CITES listed tree genera (*Cassia, Diospyros, Millettia*). There is also an Industrial Standard of Precious Dark Colour Hardwood Furniture in China. This
classifies an additional species of *Dalbergia* (*D. greveana*) as ‘rosewood’.

The customs codes for Hongmu timber include the following:

4403 9930 00 – Hongmu Log

4407 9910 10 – End-joined sawn wood of Camphor/Nanmu/Hongmu

4407 9910 90 – Non end-joined sawn wood of camphor/Nanmu/Hongmu

44034980 - Other tropical rosewood (other than that treated with paint, stains, creosote or other preservatives)

44072940 - Tropical wood plate, the vertical sawing, slitting, slicing, whether planing, sanding or finger tenon joints, a thickness exceeding 6mm

9403 5010 10 – Bedroom furniture manufactured with endangered hongmu species

9403 6010 10 – Other furniture manufactured with endangered hongmu species

Some *Dalbergia* species are used for making musical instruments; *D. melanoxylon* is the most highly-favoured wood for clarinets and oboes and is also widely used locally for snuff boxes. Other species known for their musical qualities are used in the manufacture of violins, guitars, marimbas, banjos, mandolins, harp bodies, ukuleles and xylophones and include *D. cochinchinensis, D. congestiflora, D. cubilquitzensis, D. glomerata, D. granadillo, D. latifolia, D. nigra, D. palo-escrito, D. retusa, D. stevensonii, D. tucurensis* and a number of Madagascan species. Other *Dalbergia* species that are more common
Trade

According to the CITES Trade Database 2016-21, Dalbergia species are in trade as carvings, derivatives, logs, plywood, roots, sawn wood, timber, veneer and wood products. The majority of trade is in pre-Convention specimens, and wood products of *Dalbergia latifolia* from India are the predominant items traded. *Dalbergia latifolia*, *D. retusa* and *D. melanoxylon* are the main species traded as wild sourced logs and sawn wood and declared in m3. There is a suspension of commercial trade in specimens of species from Madagascar, which includes all stockpiles. The majority of trade in *D. melanoxylon* is from Mozambique and Tanzania, with both wild and pre-Convention material in trade from both countries. However, wild-sourced sawn timber from both countries is more prevalent in trade since 2019. The trade data indicates that the tone wood industry, based in Europe and the USA, is a major destination market for this timber. Overall, exports to China for use in the furniture industry have decreased in recent years.

*Dalbergia nigra* is listed in Appendix I / Annex A and the international trade in wild-sourced specimens for commercial purposes is prohibited. Commercial trade in artificially propagated specimens is permitted. The CITES Trade Database shows that the majority of trade has been in specimens harvested prior to the species listing in 1992 i.e. pre-Convention material. The trade in this species is in a variety of units including carvings, wood products, logs, sawn wood, veneers and jewellery. Trade in wild-sourced specimens has taken place between 2016-2021.
Annotation #15 is found against the *Dalbergia* listing. To understand #15, see UNDERSTANDING A CITES LISTING section in this guide. Care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

**Identification**

Using anatomical characteristics, identification is only possible to genus level. In combination with chemical identification methods, such as mass spectrometry (e.g. DART TOFMS for American species), DNA sequencing and profiling, near infrared spectroscopy and stable isotope analysis, identification between *Dalbergia* species and other similar Neotropical timbers, such as *Platymiscium* (one species in CITES), *Swartzia* species and *Machaerium scleroxylon* (non CITES) can be improved. However, these techniques require trained staff, reference collections, laboratory conditions and specialist equipment. Due to the dark wood of some *Dalbergia* species, they can be mistaken anatomically with Madagascan (CITES) and non Madagascan *Diospyros* species, with the lighter sapwood a prerequisite for accurate identification. *Dalbergia nigra* (Appendix I / Annex A) is easily mistaken for *Machaerium scleroxylon* (non CITES) and similar to *Dalbergia madagascariensis* (CITES Appendix II).

Some species (e.g. *Dalbergia granadillo*, *D. retusa*, *D. spruceana* and *D. stevensonii*) cannot be distinguished using anatomical characteristics, but some may be differentiated using simple techniques, such as the combustion behaviour (burning splinter test). As all species of *Dalbergia* are listed in CITES, identification to species level may not be necessary in all cases (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page https://cites.org/eng/timber/timber-ID-repository#manuals for more information on timber identification).
Plantations / artificial propagation

**Africa:** There are no known commercial plantations or artificial propagation of Madagascan *Dalbergia* species. *Dalbergia melanoxylon* is widely coppiced and field plantations / seedling nurseries are in existence and replanting is taking place, in particular around Mt Kilimanjaro, Tanzania. Timber certified under the Forest Stewardship Council (FSC) can be found in trade.

**Asia:** No commercial plantations of most Asian *Dalbergia* species used in the manufacture of Hongmu furniture exist and most trade is assumed to be wild in origin. As these species are slow growing the artificial propagation trials that have been encouraged in range States will take many years to produce sizeable timber for export. *Dalbergia sissoo* is widely found in cultivation in plantations and home gardens/plots in India, Pakistan and other regions in the subtropics and tropics, including throughout Africa, North, South and Central America and the Caribbean and in Australia, French Polynesia and New Caledonia. However, not all plantation trials in these countries have succeeded to a commercial level. *Dalbergia latifolia* is grown in plantations in both India and Java. India prohibits the export of logs and sawn wood and this species is traded as veneer used in the manufacture of musical instruments. It is also grown in Nigeria, Kenya, Vietnam, the Philippines, and other parts of tropical Africa and Asia as an ornamental plant.
The Americas and the Caribbean: Tree planting schemes are in place for some species, but the majority of trade will be wild in origin. Planting schemes for *D. stevensonii* have been established in Belize and *D. retusa / D. granadillo* plantations are maintained in Costa Rica and Nicaragua although the majority of wood still comes from privately owned fincas (rural or agricultural land that was planted 80–100 years ago). There are no known plantations or artificial propagation of *D. nigra*. Species of *Dalbergia* have been used in sustainable natural forest management in Central American forestry systems, in which the species are grown in mixed cultivation together with plantains, cocoa or coffee.

CITES international trade suspensions, export quotas and reservations

There are current CITES international trade suspensions in place for certain *Dalbergia* species / country combinations, for example Madagascan species. There are zero export quotas in place for certain *Dalbergia* species/ country combinations, including Madagascan *Dalbergia* species. There are current reservations in place for certain *Dalbergia* species / country combinations. However, check all range States for domestic legislation prohibiting the logging, exploitation and import/(re)export of *Dalbergia* species.

EU Decisions

There are current EU opinions in place for certain *Dalbergia* species / country combinations, including for Madagascan species.

See Species + for details [https://speciesplus.net/](https://speciesplus.net/)
### SCIENTIFIC AND COMMON NAMES

<table>
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<tr>
<th>Scientific name and author:</th>
<th>Date of Listing</th>
<th>Current Listing and Annotation</th>
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<td>Dalbergia nigra</td>
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<td>Appendix I: 11/06/1992</td>
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<td>Annex A: See Species+</td>
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</table>

### Family: Leguminosae/Fabaceae

### Common names:

- **English:** rosewoods
- **French:** bois de rose
- **Spanish:** palo de rosa

See Species+ for individual species common names

### CITES Standard Reference:

See Resolution Conf. 12.11 (Rev Cop 19) Standard Nomenclature and Species+ for details (Reference tab)

If you require further guidance, contact the CITES Secretariat.

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**NOTE:**
The first listing of a species may relate to a different CITES Appendix/EU Annex, population, commodity or annotation than those applicable to the current listing.

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**Picture Credits:** see KEY RESOURCES section.
**Diospyros**

**Madagascaran ebonies**

**Distribution**

There are around 720 species in this genus worldwide but taxonomic work is still ongoing. An estimated 250 of these species occur in Madagascar, of which 88 are considered to be large tree species. The Madagascan population of *Diospyros* was included in Appendix II in 2013 but the remaining species are unregulated.

**Uses**

Ebony is used in the manufacture of furniture, musical instruments, in particular fingerboards for violins and guitars, piano keys, violin / viola pegs, wind instruments, cutlery and marquetry and inlay. Highly valuable ebony species include *Diospyros gracilipes*, *D. perrieri*, and *D. platycalyx*.

**Trade**

There has been a trade suspension in place since 2016 and no legal trade has occurred since that date.

The #5 annotation means only logs, sawn wood and veneer sheets are regulated. Definitions of these timber terms are found in the CITES Glossary ([https://cites.org/eng/resources/terms/glossary.php](https://cites.org/eng/resources/terms/glossary.php)) and in Resolution Conf. 10.13 (Rev. CoP18) ([https://cites.org/sites/default/files/documents/COP/19/resolution/E-Res-10-13-R18.pdf](https://cites.org/sites/default/files/documents/COP/19/resolution/E-Res-10-13-R18.pdf)). Finished products, such as musical instruments or furniture, are not regulated.
The listing of the Madagascan populations means that only specimens of *Diospyros* species endemic to Madagascar are regulated.

**Identification**

Using anatomical characteristics, identification is to genus level. The true ebonies from Madagascar (CITES listed) are easily mistaken for true ebonies from other parts of the world (non CITES) based on macroscopic structural features and independent of heartwood colour (whether pale, brown or black). *Diospyros* are externally hard to differentiate but can be identified from some very dark woods, such as *Dalbergia melanoxylon* (African blackwood, CITES listed) or *Swartzia cubensis* (Katalox – non CITES).

Mass spectrometry can identify certain species that exhibit diagnostic chemotypes and it can differentiate *Diospyros* spp. from *Dalbergia* (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page <https://cites.org/eng/timber/timber-ID-repository#manuals> for more information on timber identification).

**Plantations / artificial propagation**

There are no known plantations or artificial propagation of these species within Madagascar.

**CITES international trade suspensions, export quotas and reservations**

There is a current CITES international trade suspension in place.
EU Decisions

There is a current EU suspension or opinion in place.

See Species + for details [https://speciesplus.net](https://speciesplus.net)
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<thead>
<tr>
<th>Scientific and Common Names</th>
<th>Date of Listing</th>
<th>Current Listing and Annotation</th>
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| **Scientific Names and Authors:**  
* Diospyros L. (populations of Madagascar only).  
See Species + and CITES Standard Reference below for individual names and authors |
| **Family:** Ebenaceae |
| **Common names:**  
* English: ebony, ebonies  
* French: bois d’èbène  
* Malagasy: kakazomainty, hazomafana, hazomainty, lopingo, maintipody, maintipototra, mapingo, pingo  
* Spanish: ébano |
| **CITES Standard Reference:**  
See Resolution Conf. 12.11 (Rev Cop 19) Standard Nomenclature and Species + for details (Reference tab)  
If you require further guidance, contact the CITES Secretariat. |
| **Appendix III**  
22/12/2011  
104 species of *Diospyros* (populations of Madagascar only) |
| **Appendix II**  
12/06/2013  
Genus listing *Diospyros* spp. (populations of Madagascar only) |
| **Annex C**  
15/12/2012  
104 species of *Diospyros* (populations of Madagascar only) |
| **Appendix II**  
12/06/2013: Genus listing *Diospyros* spp. (populations of Madagascar only) |
| **Annex B**  
See Species+  
Genus listing *Diospyros* spp. (populations of Madagascar only) |
| **Annotation**  
#5 Logs, sawn wood and veneer sheets (populations of Madagascar only) |
| **NOTE:**  
The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing. |

**Picture Credits:** see KEY RESOURCES section.
**Dipteryx**

**Cumaru, tonka, almendro**

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**Distribution**

*Dipteryx* contains around fifteen species of large, canopy emergent, slow growing trees that are found across Central and South America, from Honduras south to Paraguay. Species in this genus can reach 60m, with a diameter of 1.7m and can live for over a thousand years. One species, *Dipteryx oleifera*, was previously included in Appendix III by Costa Rica and Nicaragua under *D. panamensis*.

**Taxonomy**

There are fifteen currently accepted species (with one recently discovered in 2021) and the taxonomy of this genus is under revision.

**Uses**

These species, generally known as cumaru in trade, have some of the heaviest woods in the world; due to their mechanical resistance they were difficult to harvest before the advances in chainsaw technology in the 1980s. The main use of these species is in decking and flooring.
Trade

This genus is recently listed under CITES and therefore there is no trade data reported in the CITES Trade Database, with the exception of *D. panamensis* which shows little trade with limited exports of timber, the majority of which is exported by Panama with smaller volumes by Costa Rica and Nicaragua. However, customs data for the trade name *cumaru* indicates that the main exporters are Brazil, Bolivia, Colombia and Peru, with the main importers the USA, the EU and China. In 2008 the harvesting of almendro trees from the wild was completely banned in Costa Rica.

The #17 annotation means only logs, sawn wood, veneer sheets, plywood and transformed wood are regulated. Definitions of these timber terms are found in the CITES Glossary (https://cites.org/eng/resources/terms/glossary.php) and in Resolution Conf. 10.13 (Rev. CoP18) on *Implementation of the Convention for tree species* (https://cites.org/eng/res/index.php). Transformed wood includes unassembled shaped or worked wood, such as tongue and groove planks and decking strips and planks, whether they are in their final packaging or not. Seeds, known as tonka and used as food and by the fragrance, cosmetic and personal care industries, are also in trade but are excluded from regulation.

Finished products such as furniture are not subject to CITES regulations, but care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

Identification

Using anatomical characteristics, identification is only possible to genus level as species of *Dipteryx* cannot be differentiated and are often mistaken for each other (e.g. *Dipteryx oleifera* is easily mistaken for *D. odorata*). Mass spectrometry can also identify to genus level. *Dipteryx alata, D. ferrea, D. micrantha, D. odorata* and *D. punctata* can be identified using genetic markers and various physical and chemical tests, such as a splinter burn test and colour shades of ethanol extracts, can help identify some species (e.g. *D. oleifera*). Species of *Dipteryx* can appear anatomically similar to species of *Handroanthus, Tabebuia* and *Roseodendron*, all three recently listed on CITES but with implementation delayed for 24 months.
See the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page https://cites.org/eng/timber/timber-ID-repository#manuals for more information on timber identification.

**Plantation and artificial propagation**

There are some commercial and experimental plantations of this species in Costa Rica, but the production levels of these are unknown.

**CITES international trade suspensions, export quotas and reservations**

There are no current CITES international trade suspensions, export quotas or reservations in place for these species.

**EU Decisions**

There are no current EU suspensions or opinions for this species.

See Species + for details https://speciesplus.net/
### SCIENTIFIC AND COMMON NAMES

**Scientific name and author:**
Dipteryx Schreb.

See Species+ for individual species

**Family:** Leguminosae/ Fabaceae

**Common names:**
- **English:** cumaru, almendro, tonka bean tree
- **French:** cumaru, tonka
- **Spanish:** almendro, shihuahuaco, tonka

**CITES Standard Reference:**
See Resolution Conf. 12.11 (Rev Cop 19)
Standard Nomenclature and Species+ for details (Reference tab)

If you require further guidance, contact the CITES Secretariat.

### DATE OF LISTING

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<td><strong>Dipteryx panamensis:</strong> Costa Rica: 13/02/2003 Nicaraagua: 13/09/2007</td>
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### CURRENT LISTING AND ANNOTATION

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<td>23/02/2023 (Entry into effect delayed by 24 months, until 25 November 2024). D. oleifera (D. panamensis) remains in Appendix III until 25/12/2024)</td>
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### NOTE:
The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.

**Picture Credits:** see KEY RESOURCES section.
**Fitzroya cupressoides**

**Alerce**

**Distribution**

This species of conifer is one of the largest South American trees, reaching over 50 metres in height, and it is the only species in the genus *Fitzroya*. It is native to southern Argentina and southern Chile and can live to over 2,000 years.

**Uses**

The reddish brown, straight grained, insect resistant timber is durable and easily worked, and has been used in the manufacture of musical instruments, furniture, roof shingles and ships masts. The inside layer of bark (estopa de alerce) is used to calk boats. The resin is also gathered and is burned as incense or make cigar boxes.

**Trade**

This species is listed in Appendix I/ Annex A and the international trade in wild-sourced specimens for commercial purposes is prohibited. Since 2016 there has only been one transaction of 107 artificially propagated live trees from the UK to Ireland in 2021, origin Chile. Artificially propagated live plants and seeds are for sale on the Internet and through plant nurseries.
As an Appendix 1/Annex A listed species there is no annotation therefore all parts and derivatives, live or dead, are regulated.

**Identification**

Using macroscopic anatomical characteristics, this species is difficult to distinguish from other softwoods, such as *Sequoia sempervirens* and *Thuja plicata*. Mass spectrometry can identify to species level and differentiate between this species and *Pilgerodendron uviferum* (CITES) and work has been carried out on establishing the molecular basis for DNA-based wood identification of *F. cupressoides*, *Sequoia sempervirens* and *Thuja plicata* (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page [https://cites.org/eng/timber/timber-ID-repository#manuals](https://cites.org/eng/timber/timber-ID-repository#manuals) for more information on timber identification).

**Plantations/artificial propagation**

There are no known commercial plantations of this species and logging is illegal but as the species was introduced into cultivation in Europe in 1849 large specimens may be found in parks and gardens.

**CITES international trade suspensions, export quotas and reservations**

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.

**EU Decisions**

There is an EU Decision for this species.

See Species+ for details [https://speciesplus.net](https://speciesplus.net)
<table>
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<td>Scientific name and author: <em>Fitzroya cupressoides</em> (Molina) I.M. Johnston</td>
<td>Appendix I 01/07/1975</td>
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**Common names:**
- **English:** Patagonian cypress, Chilean false larch
- **French:** bois d’Alerce, cyprès de Patagonie, fitzroia
- **Spanish:** ciprés de la Patagonia, alerce, falso alerce Chileno, lahual, lahuan

**CITES Standard Reference:**
See [Resolution Conf. 12.11 (Rev Cop 19) Standard Nomenclature](#) and [Species + for details](#).

If you require further guidance, contact the CITES Secretariat.

**NOTE:** The first listing of a species may relate to a different CITES Appendix/EU Annex, population, commodity or annotation than those applicable to the current listing.

**Picture Credits:** See *KEY RESOURCES* section.
Fraxinus mandshurica
Manchurian Ash

Distribution

This is currently the only species in the genus Fraxinus (approximately 63 species) listed under CITES. The species is native to northern China, Republic of Korea, Japan and southeast Russian Federation (Primorye, Sakhalin Island).

Uses

An important and valuable hardwood tree, its timber is in high demand as a veneer due to the unusual figure effect in the grain, and is used in the manufacture of fine furniture, marquetry and musical instruments (guitars and drum kits). It appears to be relatively resistant to Hymenoscyphus fraxineus, the fungus that causes ash dieback.

Trade

There is a large amount of trade in this species, as logs, sawn wood and veneer sheets. Russia is the main exporter and China the main importer. Given plantations exist both wild and plantation grown material may be in trade.
Finished products, such as furniture, are not subject to CITES regulations, but care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports. Sanctions in place due to Russia’s invasion of Ukraine should also be observed.

The #5 annotation means only logs, sawn wood and veneer sheets are regulated. Definitions of these product terms are found in the CITES Glossary (https://cites.org/eng/resources/terms/glossary.php) and in Resolution Conf. 10.13 (Rev. CoP18) https://cites.org/sites/default/files/documents/COP/19/resolution/E-Res-10-13-R18.pdf

**Identification**

Using anatomical characteristics, identification is only possible to genus level. This wood of this species is very similar to all other species of the genus *Fraxinus*, and the species *Peronema canescens* (Verbenaceae) from Indo-Malesia. The lack of reference specimens hinders the use of mass spectrometry as an identification tool (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page https://cites.org/eng/timber/timber-ID-repository#manuals for more information on timber identification).

**Plantations /artificial propagation**

Commercial plantations of this species exist in China and this species has been planted as an ornamental tree in Canada, the USA and Europe.

**CITES international trade suspensions, export quotas and reservations**

There are no current CITES international trade suspensions, export quotas or reservations in place for this species

**EU Decisions**

There are no current EU suspensions or opinions for this species.

See Species + for details https://speciesplus.net
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<td>Spanish: Fresno de Manchuria</td>
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See Resolution Conf. 12.11 (Rev Cop 19) Standard Nomenclature and Species+ for details (Reference tab).

If you require further guidance, contact the CITES Secretariat.

**Picture Credits:** see KEY RESOURCES section.
Gonopterodendron sarmientoi
Palo santo, holy wood

Distribution

This species is a deciduous tree known for its aromatic wood, native to south-eastern Bolivia through western Paraguay and adjoining sectors of Brazil to northern Argentina, an area called the Gran Chaco (Región Chaqueña).

Taxonomy

This species was formerly included in the genus Bulnesia. Plants of the World Online (POWO) recognize this species as Plectrocarpa sarmientoi.

Uses

The heavy, hard wood of Gonopterodendron sarmientoi is used to produce furniture flooring, handicrafts and ship parts due to the rot resistant qualities of the species. Its aromatic bark produces an essential oil called ‘guaycol’, ‘guajol’ or ‘guayaco’ which is used in the manufacture of perfumes, cosmetics, toiletries and candles. The oil is also mixed with pyrethrum to make mosquito coils. Residual sawdust is treated with solvents to produce ‘palo santo’ resin used in the manufacture of varnish and dark paints. Small pieces of wood or wood chips, oil and powder compressed into cones or incense sticks are in international trade, in particular over the Internet. Some of these products may be made from non-CITES listed species (e.g. Bursera graveolens) which also use the common name ‘palo santo’. The species is also used for charcoal manufacture.
**Trade**

*Gonopterodendron sarmiento* is in international trade as timber and semi-finished and finished products. The majority of international trade is in wild-sourced timber exported from Argentina to China. Paraguay exports mainly essential oil for further processing in the fragrance industry, which is imported into China, the USA, the EU, Switzerland and the UK. The major re-exporters of oil are the EU (France, the Netherlands and Spain) and Switzerland.

The #11 annotation means only logs, sawn wood, veneer sheets, plywood, powder and extracts are regulated. Finished products containing such extracts as ingredients, such as fragrances, soaps, bath oils, are not regulated (see #11 in UNDERSTANDING A CITES LISTING section for more information).

**Identification**

Using anatomical characteristics, identification is only to genus level. Using this method *Gonopterodendron sarmiento* can be identified from similar non CITES timbers (*Chlorocardium rodiei*) and CITES-listed genera (*Tabebuia* spp., *Handroanthus* spp.). The wood of another *Gonopterodendron* species, *Gonopterodendron arboreum* (syn. *Bulnesia arborea*), is commonly traded as "vera" and is difficult to distinguish from *G. sarmiento* as regards colour, weight and macro structure. However, it is available in larger quantities and more common in the market. There are similarities between *Gonopterodendron sarmiento* and species in the genus *Guaiacum*, which belongs to the same family (Zygophyllaceae). They both produce oil, the wood has similar characteristics and they share the common names of ‘palo santo’ and ‘guayacán’ as well as some of their trade names, such as ‘lignum vitae’ and ‘guaiac’. All *Guaiacum* species are also regulated under CITES. Identification of the extracts, resins, paints, essential oils, soaps and fragrances made from *Gonopterodendron sarmiento* is possible by gas chromatography (GCMS and DART MS). See the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page https://cites.org/eng/timber/timber-ID-repository#manuals for more information on timber identification.
**Plantations/artificial propagation**

There are no known commercial plantations or artificial propagation of this species and all trade is from the wild.

**CITES trade suspensions, export quotas and reservations**

There is a current CITES international trade suspension, export quota or reservation in place for this species.

**EU Decisions**

There are current EU opinions for this species.

See Species + for details [https://speciesplus.net/](https://speciesplus.net/)
### Scientific and Common Names

**Scientific name and author:**
*Gonopterodendron sarmientoi* (Lorentz ex Griseb.) Godoy-Bürki

**Family:** Zygophyllaceae

**Common names:**
- **English:** palo santo, holy wood, verawood, lignum vitae, guaiac, guaiac wood
- **French:** bois de gaïc
- **Spanish:** palo santo, guayacán, palo bálsamo

**CITES Standard reference:**
See [Resolution Conf. 12.11 (Rev Cop 19)](https://www.cites.org/eng/app/annexes/resconf-12-11-annexes), [Standard Nomenclature](https://www.cites.org/eng/app/annexes/resconf-12-11-annexes) and [Species +](https://www.cites.org/eng/app/annexes/resconf-12-11-annexes) for details (Reference tab).

If you require further guidance, contact the CITES Secretariat.

### Date of Listing

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<td>Appendix III 12/02/2008 (population of Argentina only)</td>
<td>Appendix I 02/01/2017</td>
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### Annotation

**#11** Logs, sawn wood, veneer sheets, plywood, powder and extracts. Finished products containing such extracts as ingredients, including fragrances, are not considered to be covered by this annotation.

**NOTE:**
The first listing of a species may relate to a different CITES Appendix / EU Annex, population, commodity or annotation than those applicable to the current listing.

**Picture Credits:** see *KEY RESOURCES* section.
Gonystylus

Ramin

Distribution

As the entire genus Gonystylus (common name ramin) is listed under CITES, all 32 species are regulated. The species are native to the peat swamp forests of southeast Asia, including Brunei Darussalam, Fiji, Indonesia, (Kalimantan and Sumatra) Malaysia (Peninsular Malaysia, Sabah and Sarawak), Singapore, the Solomon Islands and the Philippines.

Uses

The light coloured, easily turned wood is in international trade as a wide range of semi-finished and finished products. These include mouldings, dowels, handles, paint brush blanks, finished paint brushes, curtain rods, umbrella poles, sports equipment (snooker and pool cues), toys (dolls house miniatures), furniture, cots, tool handles, technical drawing implements, window shutters, slatted wooden blinds, picture frames, slatted louvre wooden doors and veneers.

Trade

The genus Gonystylus is listed in Appendix II / Annex B with a #4 annotation. The key ramin products in trade are sawn timber, timber, wood products, logs and carvings. All trade is wild in origin and trade is mostly reported at the Gonystylus spp. level. There are small number of reports at the species level with Gonystylus bancanus being the dominant species noted in trade. According to the CITES Trade Database (2016 – 2021), Malaysia is the main exporter with one large shipment exported by the Solomon Islands to China (Gonystylus macrophyllus in 2018). Major importers include the EU (Belgium, Italy, France, Germany, Spain and the UK), China (including Hong Kong and Taiwan), Japan, Thailand, Switzerland and

Mouldings

Mouldings – picture frames

Parquet flooring
the USA. The trade data also shows that re-exports of ramin, in particular timber/ sawn wood and wood products, were reported by Japan and the EU (Italy, Germany). There are discrepancies between exporter and importer data and trade in a product may be reported in different units (number of specimens, kg, cm³ or m³). Gonystylus is among the top 15 wildlife species reported by quantity in UNODC seizure data (2014-2018).

The #4 annotation means all parts and derivatives are regulated apart from seeds, pollen, tissue cultured plants in their sterile containers and cut flowers from artificially propagated plants. Therefore, all unworked/ semi-finished/ finished products are regulated. For example, wooden blanks to make paint brushes, blinds, snooker cues and picture frames are regulated along with the finished product (see UNDERSTANDING A CITES LISTING for more information on #4).

Care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

**Identification**

Using anatomical characteristics, it is only possible to identify specimens to the genus level. However, as all species of Gonystylus are CITES-listed identification to species level may not always be necessary in every case. The genus Gonystylus can be identified against other morphologically similar non-CITES listed genera, such as Alstonia, Antiaris, Chrysophyllum, Endospermum, Pterygota and Terminalia. Gonystylus can be identified to genus level using mass spectrometry and several molecular genetic techniques are being developed that can aid identification, although these techniques can only be carried out in a laboratory setting with specialist equipment and trained staff (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page https://cites.org/eng/timber/timber-ID-repository#manuals for more information on timber identification).

**Plantations / artificial propagation**

There are no known commercial plantations or large-scale artificial propagation of this genus so all trade is wild in origin.
CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions or reservations in place for any of the species. There are current export quotas in place for certain *Gonystylus* species/country combinations. Check Species + for details or check the annual export quotas on the CITES website and the CITES Export Quota Tool (https://cites.org/eng/resources/export_quotas).

EU Decisions

There are current EU decisions in place for certain *Gonystylus* species/country combinations, including from Indonesia and Malaysia.

See Species + for details

Logs | Sawn wood

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Picture frames | Garden tool handles
<table>
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<td>Indonesia 23/02/2023</td>
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<td><strong>Appendix II</strong></td>
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<td>French: Ramin</td>
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<td>See <a href="#">Resolution Conf. 12.11 (Rev Cop 19) Standard Nomenclature</a> and <a href="#">Species+</a> for details (Reference tab)</td>
<td>See <a href="#">Resolution Conf. 12.11 (Rev Cop 19) Standard Nomenclature</a> and <a href="#">Species+</a> for details (Reference tab)</td>
<td><strong>#4 All parts and derivatives, except:</strong></td>
<td></td>
</tr>
<tr>
<td>If you require further guidance, contact the CITES Secretariat.</td>
<td>If you require further guidance, contact the CITES Secretariat.</td>
<td>a) seeds (including seedpods of Orchidaceae), spores and pollen (including pollinia). The exemption does not apply to seeds from Cactaceae spp. exported from Mexico, and to seeds from <em>Beccariophoenix madagascariensis</em> and <em>Dypsis decaryi</em> exported from Madagascar;</td>
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<td>b) seedling or tissue cultures obtained in vitro transported in sterile containers;</td>
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<td>c) cut flowers of artificially propagated plants;</td>
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<td></td>
<td>d) fruits, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genus <em>Vanilla</em> (Orchidaceae) and of the family Cactaceae;</td>
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<tr>
<td></td>
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<td>e) stems, flowers, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genera <em>Opuntia</em> subgenus <em>Opuntia</em> and <em>Selenicereus</em> (Cactaceae);</td>
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<td>f) finished products of <em>Aloe ferox</em> and <em>Euphorbia antisypilitica</em> packaged and ready for retail trade; and</td>
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<td>g) finished products derived from artificial propagation, packaged and ready for retail trade of cosmetics containing parts and derivatives of <em>Bletilla striata</em>, <em>Cynoches cooperi</em>, <em>Gastrodia elata</em>, <em>Phalaenopsis amabilis</em> or <em>Phalaenopsis lobbii</em>.</td>
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**Picture Credits:** see [KEY RESOURCES](#) section.
**Guaiacum**

**Lignum vitae, palo santo**

**Distribution**

There are five species of tropical trees and shrubs in the genus *Guaiacum*, all of which are CITES-listed. They are native to the USA, Central and South America and the Caribbean.

**Taxonomy**

The taxonomy of *Guaiacum* is under review. CITES standard references list five species (*G. angustifolium*, *G. coulteri*, *G. officinale*, *G. sanctum* and *G. unijugum*) whereas other taxonomic sources state six species with *G. angustifolium* renamed as *Porlieria angustifolia* (Engelm.) A.Gray and the addition of the species *G. palmeri* and *G. nellii*. Under CITES *Guaiacum* is listed at the genus level, meaning all species, including newly described ones, are regulated under the *Guaiacum* spp. listing.

**Uses**

These species are popular in trade for mechanical devices (marine bearings and propeller shafts) as the wood has self-lubricating properties. They are also used in the manufacture of pulley sheaves, casters, bowling balls, and handles and sheaths. The species have medicinal uses and are also used as an ingredient in alcoholic drinks.
Trade

The trade data does not always differentiate between the species, but the two major species in trade are *Guaiacum sanctum* and *G. coulteri*. The vast majority of trade is in wild-sourced timber of *Guaiacum sanctum* exported from Mexico. Germany is the main importer and re-exporter. The USA exports artificially propagated live plants of *Guaiacum officinale*. The other products in trade are extracts and powder with Germany and Switzerland as the largest importers and re-exporters.

The #2 annotation means that all parts and derivatives are regulated except seeds, pollen and finished products packaged and ready for retail trade. The definition of “finished products packaged and ready for retail trade” can be found in the CITES Glossary. A product that requires no alteration or re-packaging and is ready for immediate use or sale is not regulated.

Identification

Using anatomical characteristics and mass spectrometry, identification is only possible to genus level. These methods can also distinguish *Guaiacum* from similar timber species, such as *Chlorocardium rodiei* (non CITES) and *Tabebuia* and *Handroanthus* (recently CITES listed at CoP19 with delayed implementation for 24 months). *Guaiacum* is easily mistaken for *Bulnesia arborea* (non CITES) and *Gonopterodendron sarmientoi* (CITES listed). *Guaiacum officinale* and *G. sanctum* are considered the genuine lignum vitae while Argentine lignum vitae are *Bulnesia/Gonopterodendron* species.

Plantations /artificial propagation

There are no large-scale commercial plantations of *Guaiacum* species, although plantation trials of *G. sanctum* have been carried out in Ghana. *Guaiacum officinale* and *G. sanctum* are planted as ornamental trees in the USA and other tropical areas. The majority of products in trade are wild in origin.
CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions, export quotas or reservations in place for this genus.

EU Decisions

There is a current EU opinion for *Guaiacum sanctum*.

See Species + for details [https://speciesplus.net/](https://speciesplus.net/)

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*Picture Credits*: See *KEY RESOURCES* section.
**Guibourtia**

**Bubinga**

**Distribution**

This genus of trees is currently considered to comprise 15 species found in tropical Africa and the Neotropics. Three African species are CITES-listed. *Guibourtia demeusei* is a small to medium sized tree, up to 25-40 metres tall. Its range is much larger than the other two listed *Guibourtia* species, extending into the central Congo basin and occurring in Cameroon, Central African Republic (CAR), Congo, Democratic Republic of the Congo, Equatorial Guinea and Gabon. *Guibourtia pellegriniana* grows up to 30 metres tall and occurs at very a low population density. Its known distribution is a narrow strip of coastal forests in Cameroon, Congo, Gabon and Nigeria. It may also occur in forests further inland where *Guibourtia tessmannii* is found, although at a much lower density. *Guibourtia tessmannii* is a large tree up to 65 metres found at very low population density in Cameroon, DRC, Equatorial Guinea and Gabon. It is also believed to occur in south-east Nigeria, the Congo and in extreme south-west Central African Republic.

**Uses**

The timber of all three species has a high socio-cultural value and is commonly used locally. The timber of *Guibourtia tessmannii* and *G. pellegriniana* in particular is highly sought-after for furniture-making within their range and all three species have been traded since colonial times. Most international trade is now restricted to China where the species are heavily exploited for use in the Hongmu furniture market. The species are not classified under China's National Hongmu Standard but are category A2 hardwoods under the Chinese Industrial Standard of Precious Dark Colour Hardwood Furniture and are used as substitutes for Hongmu timber species. *Guibourtia demeusei* is widely used as a veneer in the manufacture of fine cabinetry, furniture and musical instruments, for example guitar sets. Kevazingo is the industry name given to rotary cut bubinga veneer.
**Trade**

The majority of trade is in pre-Convention wood products of *Guibourtia demeusei*, with a lesser amount in *G. tessmannii*. Wild sourced logs are exported from Congo, DRC and CAR, imported by China and Vietnam. The small amount of trade in *Guibourtia pellegriniana* is in wild sourced logs from CAR, which is not known to be a range state for this species.

The lack of information on the status of wild populations of all three species is of major conservation concern. Survey studies may be non-existent, lack robustness or be out of date and can undermine the scientific data used in the making of NDFs on which export and annual harvest quotas are based.

The annotation #15 means that all parts and derivatives are regulated except leaves, flowers, pollen, fruits, seeds, finished musical instruments/accessories and finished products up to a maximum weight of 10kg per shipment for each separate species (see UNDERSTANDING A CITES LISTING section for more information on #15).

**Identification**

Using anatomical characteristics, identification is possible to the genus level. This can also be achieved through mass spectrometry. *Guibourtia tessmannii* and *G. pellegriniana* are commonly referred to as rose bubinga and are reportedly indistinguishable in trade. *Guibourtia 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. There is external similarity with timbers of several genera of the family *Leguminosae/Fabaceae*, for instance *Copaifera* and *Hymenaea* (non CITES) and *Dalbergia* and *Pterocarpus* (CITES listed); hence the misleading trade name ‘African rosewood’ (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page https://cites.org/eng/timber/timber-ID-repository#manuals for more information on timber identification).
Plantations /artificial propagation

Support programs for regeneration of *Guibourtia tessmannii* and *Guibourtia pellegriniana* have been in place for several years in several certified Forest Stewardship Council (FSC) forest concessions in Gabon and Cameroon.

CITES international trade suspensions, export quotas and reservations

There are current CITES export quotas for these species.

EU Decisions

There are current EU opinions for this species.

See Species + for details [https://speciesplus.net](https://speciesplus.net)

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<td>Appendix II 26/11/2019</td>
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If you require further guidance, contact the CITES Secretariat

**Annotation**

#15 All parts and derivatives, except:

a) Leaves, flowers, pollen, fruits, and seeds;

b) Finished products to a maximum weight of wood of the listed species of up to 10 kg per shipment;

c) Finished musical instruments, finished musical instrument parts and finished musical instrument accessories;

d) Parts and derivatives of *Dalbergia cochinchinensis*, which are covered by Annotation # 4; and

e) Parts and derivatives of *Dalbergia* spp. originating and exported from Mexico, which are covered by Annotation # 6

**NOTE:**

The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.

**Picture Credits:** see KEY RESOURCES section.
**Handroanthus, Roseodendron and Tabebuia**

Ipê

**Distribution**

Currently, 35 species are recognized as *Handroanthus*, 76 species as *Tabebuia* and two species as *Roseodendron* and they are distributed throughout the United States of America, Mexico and the Caribbean, and south to Argentina. See Species + for the distribution of individual species.

**Uses**

The timber, generally traded as ‘ipê’, is of economic importance as it is hard and durable. It is widely used as decking and flooring.

**Trade**

All species in the genera *Handroanthus*, *Tabebuia* and *Roseodendron* were listed under CITES in November 2022, with a delayed implementation period of 24 months and thus there are no trade records in the CITES Trade Database. The trade name ipê refers to any species of the three genera, as timber trade data are generally not recorded at the species level. According to customs data, the main importers are the EU and the USA. The majority of ipê is exported from Brazil. At least 13 species of *Handroanthus* were reportedly exported from Brazil during 2010-2016, but the majority of international trade is in *H. serratifolius* and *H. impetiginosus*. 
The #17 annotation means only logs, sawn wood, veneer sheets, plywood and transformed wood are regulated. Definitions of these timber terms are found in the CITES Glossary (https://cites.org/eng/resources/terms/glossary.php) and in Resolution Conf. 10.13 (Rev. CoP18) on *Implementation of the Convention for tree species*. Transformed wood includes unassembled shaped or worked wood, such as tongue and groove planks and decking strips and planks, whether they are in their final packaging or not.

Finished products such as furniture are not subject to CITES regulations, but care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

**Identification**

Wood from species of the genera *Roseodendron* and *Tabebuia* is very similar to that of *Handroanthus*. A distinction between the wood of the three genera is not possible anatomically, macroscopically or microscopically. A clear differentiation between the genera *Handroanthus* and *Tabebuia* is not considered possible, especially for non-experts. The species of the genus *Roseodendron* may be distinguishable from *Handroanthus* and *Tabebuia* on the microscopic level (with relevant reference samples and expertise). However, based on the very complex taxonomy of the three genera with many synonyms, a clear differentiation may be difficult in practice.

The following species are commonly confused with ipê in trade, although they can be differentiated using microscopic characters. Most of these species are currently not included in the CITES Appendices and all are present in range States where the three proposed genera are also present: *Acosmium* spp., *Leptolobium* spp. (lapachillo, lapachin), *Dicorynia guianensis*, *Dicorynia paraensis* (angélique, basralocus), *Dipteryx odorata* and *Dipteryx alata* (cumaru – latter two CITES listed).
Chemotypes for *Handroanthus* and *Tabebuia* are similar and cannot be differentiated and a lack of *Roseodendron* reference specimens limits identification using mass spectrometry, etc (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository [https://cites.org/eng/timber/timber-ID-repository](https://cites.org/eng/timber/timber-ID-repository) for more information on timber identification).

**Plantations / artificial propagation**

There are no known plantations of any of these species. All trade is in wild species from natural and managed forests.

**CITES international trade suspensions, export quotas and reservations**

There are no current CITES international trade suspensions, reservations or quotas in place for these genera.

**EU decisions**

There are no current EU suspensions or opinions for this genus.

See Species + for details [https://speciesplus.net/](https://speciesplus.net/)
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<td>Handroanthus Mattos</td>
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<td>Roseodendron Miranda</td>
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<td>Genus listing of all three genera</td>
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<td>Tabebuia Gomes ex D.C.</td>
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**Picture Credits**: see KEY RESOURCES section.
**Distribution**

The genus *Khaya* consists of eight species, native to tropical and sub-tropical continental Africa and its islands, including Angola, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros Islands, Congo, Côte d’Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Madagascar, Malawi, Mozambique, Niger, Nigeria, Senegal, Sierra Leone, South Sudan, Sudan, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.

**Taxonomy**

The taxonomy follows the CITES accepted taxonomic standard nomenclature as outlined in the Royal Botanic Gardens Kew’s database Plants of the World Online (POWO). However, as the taxonomy of this genus is unresolved, a full revision of the genus *Khaya* is currently underway.

**Uses**

The bark of a number of species is used in traditional medicine for both humans and livestock and smaller branches are used as animal fodder. Species are also used for making furniture, palm wine, boats, musical instruments, flooring, veneers, plywood, turned items and handicrafts and in carpentry, joinery and construction. Species of *Khaya* have been used as an intercrop species (*K. senegalensis*), as ornamentals and as shade trees in streets and for other crops, such as cocoa plantations in Nigeria (*K. ivorensis*). Species

Sawn wood

Khaya fruit and seed
are used for soil stabilization, soil improvement (*K. grandifoliola*) and in mixed and pure plantations. The wood properties of *Khaya* species mean they are a suitable substitute for the declining and thus more expensive ‘true’ CITES-listed Central and South American mahogany, *Swietenia macrophylla*.

**Trade**

*Khaya* species are in commercial trade both within Africa and internationally. The recent CITES listing means that there is no CITES trade data available, but analysis of customs data reveals that the main exporters from 2010-2019 were Ghana, Cameroon, Cote d’Ivoire and The Congo. The main importers are China, the EU and the USA. International trade includes timber in numerous forms including sawn wood, plywood, veneers, machined wood and mouldings.

To circumvent current country export log bans in Africa, timber may be illegally shipped across one or multiple poorly enforced borders for use in another African country. Alternatively, it might be exported under a different trade/ scientific name or country of origin through ports lacking robust Customs’ processes in Namibia, South Africa, Mozambique and Tanzania.

The recent CITES listing only includes African populations of the genus *Khaya*. The #17 annotation means only logs, sawn wood, veneer sheets, plywood and transformed wood are regulated. Definitions of these timber terms are found in the CITES Glossary ([https://cites.org/eng/resources/terms/glossary.php](https://cites.org/eng/resources/terms/glossary.php)) and in Resolution Conf. 10.13 (Rev. CoP18) on *Implementation of the Convention for tree species* ([https://cites.org/eng/res/index.php](https://cites.org/eng/res/index.php)). Transformed wood includes unassembled shaped or worked wood, such as tongue and groove planks and decking strips and planks, whether they are in their final packaging or not. The use of the common name ‘African mahogany’ or ‘acajou d’Afrique’ can lead to confusion with other CITES and non-CITES species using this name, including *Afzelia* species, recently listed on Appendix II/ Annex B. Finished products such as furniture are not subject to CITES regulations, but care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

*Khaya* sp.  

Finished musical instruments (guitars and ukuleles)
Identification

Using anatomical characteristics, all Khaya species are considered indistinguishable so identification is to genus level only. However, as the whole genus is listed on Appendix II/Annex B, identification to species level may not be necessary in every case. Look-alike species include other African species, such as Entandrophragma spp., Blighia sapida and Carapa procera (all non-CITES), and the Central and South American ‘true’ mahoganies, Swietenia spp. (CITES listed). Differentiation between Khaya, Entandrophragma and Swietenia is possible using anatomical characteristics. Although certain Khaya species have diagnostic chemotypes and molecular markers have recently been developed that can be used to differentiate between the wood of K. anthotheca, K. grandifoliola, K. ivorensis and K. senegalensis, these techniques require a laboratory setting with specialist equipment, reference collections and trained staff (see the IDENTIFICATION and KEY RESOURCES sections in this guide for more information on timber identification and forensic laboratories).

Plantations / artificial propagation

There are plantations and enrichment plantings of Khaya species throughout its native range and internationally. These are both pure and mixed plantings and timber from them is in international trade. However, Khaya species are prone to a shoot borer (Hypsipyla robusta), particularly in pure stands. Plantations have also been established in parts of Australia, Cuba, Fiji, Puerto Rico, Sri Lanka, South Africa, Asia (Indonesia, Malaysia) and South and Central America (Brazil). As the Appendix II/Annex B listing is for ‘African populations only’, timber or products from plantations established outside of Khaya spp. African range States are excluded from regulation.

CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions, export quotas or reservations in place for these species.

EU Decisions

There are no current EU suspensions or opinions for these species.

See Species + for details https://speciesplus.net/
<table>
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<td>Cameroon: N’Gollon</td>
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|                                | Appendix D 19/01/2022 (Khaya spp.) | |
|                                | Annotation §5 Live specimens and logs, sawn wood, veneer sheets, plywood and transformed wood. Transformed wood defined by Harmonized System code 44.09: Wood |
|                                | Appendix II 23/02/2023 (African populations only) |
|                                | Annex B See Species+ |
|                                | Annotation #17 Logs, sawn wood, veneer sheets, plywood and transformed wood. |

**NOTE:**
The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.

*Pictures credits:* see *KEY RESOURCES* section.
Distribution

There are five species in the genus *Osyris* and this is the only species listed under CITES. The original distribution of this small, evergreen, semi-parasitic shrub or small tree is unclear but is likely to have been Africa and parts of southern Europe. The current distribution is more widespread possibly due to the introduction of the species. It is now considered to be present in many sub-Saharan countries in Africa (Algeria to Ethiopia and south to South Africa), in restricted parts of southern Europe and in Asia (India to China). Outside the main production areas for international trade (Kenya, Tanzania, South Sudan and Uganda), where it is now locally rare, the species seems to be widespread and common. Only the populations of Burundi, Ethiopia, Kenya, Rwanda, Uganda and Tanzania are regulated.

Uses

The heartwood and roots are distilled to produce an aromatic essential oil. It is increasingly being used as a substitute for other ‘sandalwood’ producing genera (for example *Santalum* and *Pterocarpus* species) which are either banned from export or are in increasingly short supply. The tree is harvested in Burundi, Kenya, Tanzania and other countries, semi-processed in Tanzania and the product is exported, often illegally, through Mombasa, Kenya to Indonesia, India, South Africa, France, Germany and east Asian countries for the cosmetic and pharmaceutical industries.
Trade

The main products in international trade are essential oils or fragrances, cosmetics and toiletries containing the oil, handicrafts made from the timber and sawdust used in the manufacture of incense which may be compressed into cones or incense sticks. The main exporter of oil and powder is Uganda and the main importer is United Arab Emirates (UAE). Large amounts of logs were exported from the Republic of Congo and South Sudan to Uganda in 2017-2019, subsequently re-exported to India and UAE as oil. Range States have been encouraged to provide information, data and experience in order to address the issue of continuing illegal and unsustainable trade.

The #2 annotation states that all parts and derivatives are regulated except seeds, pollen and finished products packaged and ready for retail trade. The definition of ‘finished products packaged and ready for retail trade’ can be found in the Interpretation section to the Appendices and EU Annexes and in the CITES Glossary (http://www.cites.org/eng/resources/terms/glossary.php). Any product that requires no alteration or re-packaging and is ready for immediate use or retail sale is not regulated.

Identification

Using anatomical characteristics, identification is to genus level only. Research has been carried out to reliably distinguish the woods of O. lanceolata from the similar species Santalum album on the basis of anatomical structure, colour of the hot water extract, chemical constituents of oil (mainly santalol content), and DNA fingerprinting (see the IDENTIFICATION and KEY RESOURCES section in this guide and the CITES Timber Identification Resources and Tools page https://cites.org/eng/timber/timber-ID-repository#manuals for more information on timber identification).
Plantations /artificial propagation

There are no commercial plantations of this species meaning all trade is wild in origin.

CITES international trade suspensions, export quotas and reservations

There are no current CITES international reservations, trade suspensions or export quotas in place for this species.

EU Decisions

There is a current EU suspension or opinion for this species.

See Species + for details [https://speciesplus.net](https://speciesplus.net)

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12/06/2013 (Populations of Burundi, Ethiopia, Kenya, Rwanda, Uganda and the United Republic of Tanzania) |
| **Family:** Santalaceae | Annex B | Annex B  
10/08/2013 (Populations of Burundi, Ethiopia, Kenya, Rwanda, Uganda and the United Republic of Tanzania) |
| **Common names:** | | | |
| English: East African sandalwood | | Annotation  
#2 All parts and derivatives, except:  
a) seeds and pollen; and  
b) finished products packaged and ready for retail trade |
| French: bois de santal est-africain | | NOTE: The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing. |
| Spanish: sándalo de África Oriental | | |
| CITES Standard reference: | | |
| See Resolution Conf. 12.11 (Rev. Cop 19) Standard Nomenclature and Species + for details (Reference tab) | | |

Picture Credits: See KEY RESOURCES
**Paubrasilia echinata**

**Pernambuco, pau-Brasil**

**Distribution**

Originally listed as *Caesalpinia echinata*, this species was renamed in 2016 as *Paubrasilia echinata* and is the only species in the genus *Paubrasilia*. It is endemic to the eastern region of Brazil in the threatened Atlantic Coastal Rainforest (Mata Atlântica) in the states of Pernambuco, Bahia, Espírito Santo and Rio de Janeiro.

**Taxonomy**

*Paubrasilia echinata* was originally listed as *Caesalpinia echinata*, which was subject to a nomenclatural change in 2019, following taxonomic changes adopted at CoP18.

**Uses**

Historically valued in Europe as a source of red dye, the wood is flexible but durable and was also used for construction purposes. Since the late 18th century, it has been the preferred wood for the manufacture of high-quality violin bows.

**Trade**

At CoP19 in 2023 annotation #10 relating to this species was amended to cover all parts, derivatives and finished products, except re-export of finished musical instruments, finished musical instrument accessories and finished musical instrument parts. See #10 in *UNDERSTANDING A CITES LISTING* section for more information.
Prior to this amendment, the main products in trade were timber and carvings, including wood blanks for the manufacture of violin bows, with all exports originating from Brazil, the majority of which was source code ‘O’, or pre-Convention. The main importers were China, Switzerland and to a lesser extent the EU, Japan and the USA. The biggest re-exporters were the USA and Germany. There are small volumes of wild-sourced timber re-exported from the USA to France, China and Australia. There are concerns about the sustainability and legality of trade in this species.

### Identification

Species of *Handroanthus*, known as ipe and included in Appendix II, are considered to have similar mechanical, physical and acoustic properties to *Paubrasilia echinata* and timber from this genus is also used for the manufacture of bows for stringed instruments.

### Plantations / artificial propagation

There are no large-scale commercial plantations of this species. Smaller replanting and conservation initiatives, such as those being carried out by the International Pernambuco Conservation Initiative ([http://www.ipci-usa.org/index.html](http://www.ipci-usa.org/index.html)), are in place in Brazil, but as yet no wood from these sources is in international trade.

### CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.

### EU Decisions

There are no current EU suspensions or opinions for this species.

See Species + for details [https://speciesplus.net/](https://speciesplus.net/)

Unfinished bow blanks

Re-exported finished violin bows
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<td><strong>Appendix II</strong>&lt;br&gt;23/02/2023&lt;br&gt;<strong>Annex B</strong>&lt;br&gt;See Species+&lt;br&gt;<strong>Annotation - amended at CoP19 in 2022</strong>&lt;br&gt;#10 All parts, derivatives and finished products, except re-export of finished musical instruments, finished musical instrument accessories and finished musical instrument parts.</td>
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**Pericopsis elata**

**Afrormosia**

**Distribution**

*Pericopsis elata* is one of four species in the genus *Pericopsis* and the only one listed under CITES. It is native to the west and central African countries of Cameroon, Central African Republic, Cote d’Ivoire, Congo, Democratic Republic of Congo (DRC), Ghana and Nigeria.

**Uses**

Highly prized for its durable wood, the species has been used as a substitute for teak (*Tectona* species) hence its common name ‘African teak’. The principal uses for the timber are for the manufacture of flooring, furniture, window/door frames, decorative veneers and boatbuilding.

**Trade**

The main exporter is the DRC, with Cameroon and the Congo exporting smaller amounts. The main importers are the EU, in particular Belgium, with additional high import volumes recorded by China and Vietnam. India and the USA import a large amount of veneer. Discrepancies are evident in the trade data reported by exporters and importers. All trade is in wild specimens.
The #17 annotation means only logs, sawn wood, veneer sheets, plywood and transformed wood are regulated. Definitions of these timber terms are found in the CITES Glossary (https://cites.org/eng/resources/terms/glossary.php) and in Resolution Conf. 10.13 (Rev. CoP18) on Implementation of the Convention for tree species (https://cites.org/eng/res/index.php). Transformed wood includes unassembled shaped or worked wood, such as tongue and groove planks and decking strips and planks, whether they are in their final packaging or not. Finished products such as furniture are not subject to CITES regulations, but care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

This species has been included in the Review of Significant Trade for many years and as of March 2023 was retained in the process in relation to Congo and Côte d’Ivoire

**Identification**

Using anatomical characteristics, identification is to genus level only. Anatomically, *Pericopsis elata* cannot be differentiated from other *Pericopsis* species (*P. angolensis*, *P. laxiflora*, *P. mooniana*—all non CITES) and *Acosmium* species. Mass spectrometry can differentiate between *P. elata* and *P. angolensis*. Other similar genera include *Tabebuia* and *Handroanthus* species (recently listed in CITES with a 24 month delay in implementation), which can be identified from *Pericopsis* by anatomical features (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository https://cites.org/eng/timber/timber-ID-repository for more information on timber identification).

**Plantations /artificial propagation**

There are no large commercial plantations of this species but the species is grown in enrichment agroforestry systems and small plantations within its native range (e.g. Cameroon, Côte d’Ivoire, Ghana and DRC).
CITES international trade suspensions, export quotas and reservations

There are current CITES international trade suspensions and export quotas in place for this species.

EU Decisions

There are a number of EU opinions for this species.

See Species + for details [https://speciesplus.net](https://speciesplus.net)

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NOTE:
The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.

Picture Credits: See KEY RESOURCES section
**Pilgerodendron uviferum**

**Guaitecas cypress**

**Distribution**

This slow-growing, evergreen conifer belongs to the Cypress family and is the only species in the genus *Pilgerodendron*. It is native to the temperate rainforests and sub-polar forests of Argentina and Chile.

**Uses**

The yellow-reddish timber of this species is decay resistant and has been heavily exploited for construction and the manufacture of carvings, house shingles, bridges, poles, fencing, boats and furniture.

**Trade**

This species is listed in Appendix I/Annex A and the international trade in wild-sourced specimens for commercial purposes is prohibited. Commercial trade in artificially propagated specimens is permitted. There has been no trade in this species reported in the CITES Trade Database 2016-2021.

First introduced to in Britain in 1849, this species remains rare in cultivation and trade from nurseries. However, specimens and seed have been released into trade (UK and Ireland) through conservation programmes since the 1990s.
Identification

Using anatomical characteristics, identification to species level is possible, particularly when differentiating between Austrocedrus chilensis (non CITES), Pilgerodendron uviferum and Fitzroya cupressoides (CITES listed), all genera in the Cupressaceae from southern South America and all of which initially appear similar. Wood anatomy in conjunction with chemistry can also help separate this species from Fitzroya cupressoides (DART TOFMS analysis).

Plantations /artificial propagation

There are no known commercial plantations of this species. This species is planted as an ornamental tree and artificially propagated material (live plants and seed) is available from plant nurseries and for sale on the Internet.

CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.

EU Decisions

There are no current EU suspensions or opinions for this species.

See Species + for details https://speciesplus.net/

Logs

Roughly squared logs
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<td><strong>French</strong>: cèdre du Chile, cyprès du Chili</td>
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**Picture credits**: see KEY RESOURCES section.
**Pinus koraiensis**

**Korean pine**

**Distribution**

This is the only species of pine in the genus *Pinus* (some 175 species) listed under CITES. The Korean pine is an evergreen conifer that can grow up to 30 metres in height. It is native to China, Japan, Democratic People’s Republic of Korea, Republic of Korea and the Russian Federation.

**Uses**

The soft, straight grained and easily worked timber is used in the manufacture of telephone poles, railway sleepers, wooden bridges, boat building, flooring, plywood and veneers and can be chipped for particleboard manufacture or pulped for the paper industry. It is also used in the manufacture of furniture, sports equipment and musical instruments. Resin extracted from the wood pulp is used to produce turpentine. The over-harvesting for its timber and edible seeds or ‘pine nuts’ that are used in the food processing industry has resulted in a dramatic loss of habitat for the Siberian tiger (*Panthera tigris altaica*); a previous logging ban in the Russian Federation territories to assist the conservation of this species of which the pine forests are its key habitat appears to be no longer in place. Live plants and seed of cultivated varieties of this species are found in international trade and are for sale on the Internet. This species is the source of the majority of pine nuts imported into Europe and the USA.

**Trade**

The CITES Trade Database indicates that all trade is wild in origin and logs, sawn wood and timber are the main products in trade. Russia is the only exporter and exported over 30,000 m³ of logs to China between 2022-21. This species has been present in illegal trade, and due to the Russian invasion of Ukraine, timber from Russia should be considered ‘conflict timber’ with many restrictions and sanctions currently in place.
The #5 annotation means only logs, sawn wood and veneer sheets are regulated. Finished products such as furniture are not subject to CITES regulations, but care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

**Identification**

Using anatomical characteristics, identification is possible to a group of species within the *Pinus* genus "white pine" group (*Pinus*, sect. strobus), including *P. cembra*, *P. lambertiana*, *P. monticola* and *P. strobus* (all non CITES), but not to species level. There is a lack of *P. koraiensis* reference samples to use mass spectrometry as an identification tool (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository https://cites.org/eng/timber/timber-ID-repository for more information on timber identification).

**Plantations /artificial propagation**

There are commercial plantations of this species in China and the Republic of Korea. Timber and pine nuts from these sources are in international trade.

**CITES International trade suspensions, quotas and reservations**

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.

**EU Decisions**

There are no current EU suspensions or opinions for this species.

See Species + for details [https://speciesplus.net/](https://speciesplus.net/)
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*Pinus koraiensis* Siebold & Zucc. | Appendix III  
14/10/2010 | Appendix III  
14/10/2010 |
| Family: Pinaceae | | |
| Common names:  
English: Korean pine  
Korean: 잣나무 | Annex C  
14/02/2012 | Annex B  
See Species+ |
| CITES Standard Reference:  
See [Resolution Conf. 12.11 (Rev Cop 19)](http://www.cites.org)  
[Standard Nomenclature](http://www.cites.org) and [Species+](http://www.cites.org) for details (Reference tab) | | Annotation  
#5 Logs, sawn wood and veneer sheets. |
| If you require further guidance, contact the CITES Secretariat. | | **NOTE:** The first listing of a species may relate to a different CITES Appendix / EU Annex, population, commodity, or annotation than those applicable to the current listing |

**Picture credits:** see [KEY RESOURCES section](http://www.cites.org).
**Distribution**

*Platymiscium parviflorum* is one of 19 species in the genus *Platymiscium*. It is the only species from this genus listed under CITES and is native to Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

**Taxonomy**

This species was originally listed under its synonym *Platymiscium pleiostachyum*.

**Uses**

The wood of this species is an attractive red to reddish brown in colour and is used in the manufacture of panelling, flooring, cabinet making, furniture and musical instruments (drums).

**Trade**

According to the CITES Trade Database 2016-2021 there have only been low levels of trade in this species with Nicaragua the only exporter and China the main importer (logs and sawnwood).

The #4 annotation means that all parts and derivatives, live or dead, are regulated except for seeds, tissue cultured plants in sterile containers and cut flowers from artificially propagated flowers.
**Identification**

Using anatomical characteristics, identification is to genus level. Identification using mass spectrometry is also only to genus level. The heartwood of *Platymiscium* species is very variable and some can be mistaken for *Dalbergia* species. The CITES listing of only *P. parviflorum* (one of 19 species) is further complicated by the impossibility of differentiating the genus macroscopically from other genera of the family Leguminosae / Fabaceae, such as *Centrolobium*, which includes seven species from tropical South America (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository [https://cites.org/eng/timber/timber-ID-repository](https://cites.org/eng/timber/timber-ID-repository) for more information on timber identification).

**Plantations /artificial propagation**

There are no known commercial plantations of this species and any trade will be wild in origin.

**CITES international trade suspensions, export quotas and reservations**

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.

**EU Decisions**

There are no current EU suspensions or opinions for this species.

See Species + for details [https://speciesplus.net](https://speciesplus.net)
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<td><strong>Spanish:</strong> ambar, cachimbo, coyote, cristóbal, granadillo, guayacan trebol, jacaranda do brejo, macacuba, macawood, ñambar</td>
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<td>a) seeds (including seedpods of Orchidaceae), spores and pollen (including pollinia). The exemption does not apply to seeds from Cactaceae spp. exported from Mexico, and to seeds from <em>Beccariophoenix madagascariensis</em> and <em>Dypsis decaryi</em> exported from Madagascar;</td>
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<td></td>
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<td>b) seedling or tissue cultures obtained in vitro transported in sterile containers;</td>
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<td>c) cut flowers of artificially propagated plants;</td>
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<td></td>
<td></td>
<td>d) fruits, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genus <em>Vanilla</em> (Orchidaceae) and of the family Cactaceae;</td>
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<td>e) stems, flowers, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genera <em>Opuntia</em> subgenus <em>Opuntia</em> and <em>Selenicereus</em> (Cactaceae);</td>
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<td>f) finished products of <em>Aloe ferox</em> and <em>Euphorbia antisiphilitica</em> packaged and ready for retail trade; and</td>
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<td></td>
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<td>g) finished products derived from artificial propagation, packaged and ready for retail trade of cosmetics containing parts and derivatives of <em>Bletilla striata</em>, <em>Cycnoches cooperi</em>, <em>Gastrodia elata</em>, <em>Phalaenopsis amabilis</em> or <em>Phalaenopsis lobbii</em>.</td>
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<td><strong>NOTE:</strong> The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.</td>
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*Picture Credits: See KEY RESOURCES section*
**Podocarpus neriifolius**

Podocarp

**Distribution**

This is one of two species in the genus *Podocarpus* listed under CITES. This conifer is native to Brunei Darussalam, Cambodia, China, Fiji, India, Indonesia, Lao People’s Democratic Republic, Malaysia (Peninsular Malaysia, Sabah, Sarawak), Myanmar, Nepal, Papua New Guinea, the Philippines, the Solomon Islands, Thailand, and Vietnam.

**Uses**

The timber is used for house building, carpentry and for the manufacture of paper, oars and masts of sailing vessels. Higher grades of timber are used for veneer, furniture making, cabinet making, household utensils, musical instruments and carvings.

**Trade**

The CITES Trade Database indicates very low levels of international trade in this species in the period 2011–2021. The main exporters of live plants are Myanmar, Malaysia and Denmark. The main importers are China and Switzerland.

The #1 annotation means all parts and derivatives are regulated apart from seeds, tissue cultured plants in sterile containers and cut flowers from artificially propagated plants.
Identification

Using anatomical characteristics, identification is only possible to genus level due to the similarity with other *Podocarpus* species (all non CITES except for *P. parlatorei* in CITES App. I). Macroscopically the wood of both *P. neriifolius* and *P. parlatorei* is very similar to the other species of *Podocarpus* and to the genera included in the family Podocarpaceae (*Acmopyle*, *Afrocarpus*, *Dacrycarpus*, *Dacrydium*, *Falcatifolium*, *Halocarpus*, *Lepidothamnus*, *Manoao*, *Microcachrys*, *Nageia*, *Parasitaxus*, *Pherosphaera*, *Prumnopitys*, *Retrophyllum* and *Saxegothaea*), except for three genera of this family from which it can be differentiated with a 400x lens because they have window-like cross-field pits (*Lagarostrobos*, *Phyllocladus* and *Sundacarpus*). The sapwood and heartwood of both CITES listed *Podocarpus* species is similar in colour (yellowish brown).

Lack of reference samples inhibits identification using mass spectrometry (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository [https://cites.org/eng/timber/timber-ID-repository](https://cites.org/eng/timber/timber-ID-repository) for more information on timber identification).

Plantations /artificial propagation

There are no known commercial plantations of this species. Live plants are artificially propagated and in trade for use in the horticultural industry.

CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions, export quotas or reservations in place for this species. There is a trade suspension in place for the export of all wild specimens of Appendix I, II and III species from India (see Notification 1999/039 [https://cites.org/sites/default/files/notif/E-Notif-2018-031.pdf](https://cites.org/sites/default/files/notif/E-Notif-2018-031.pdf)). However, export permits will be issued for cultivated varieties of plant species included in Appendices I and II.
Check Species + for details or check the annual Export Quota Tool on the CITES website (https://cites.org/eng/resources/export_quotas).

**EU Decisions**

There are no current EU suspensions or opinions for this species.

See Species + for details https://speciesplus.net

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<td>English: brown pine, black pine podocarp</td>
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**CITES Standard Reference:**

See Resolution Conf. 12.11 (Rev COP 19) Standard Nomenclature and Species + for details (Reference tab)

If you require further guidance, contact the CITES Secretariat.

**Annotation**

#1 All parts and derivatives, except:

a) seeds, spores and pollen (including pollinia);

b) seedling or tissue cultures obtained in vitro, in solid or liquid media, transported in sterile containers;

c) cut flowers of artificially propagated plants; and

d) fruits, and parts and derivatives thereof, of artificially propagated plants of the genus *Vanilla*

**NOTE:**

The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.
**Podocarpus parlatorei**

*Parlatore’s podocarp*

**Distribution**

This is one of two species of the genus *Podocarpus* listed under CITES. This conifer is native to Argentina, Bolivia and Peru.

**Uses**

The timber is light in colour, lightweight and relatively soft. It is used to make fence posts, utensils, houses and pencils.

**Trade**

This species is listed in Appendix I/Annex A and the international trade in wild-sourced specimens for commercial purposes is prohibited. Commercial trade in artificially propagated specimens is permitted. The CITES Trade Database reports no trade between 2016-2021.

As an Appendix I/Annex A species all parts and derivatives are regulated.
Identification

Using anatomical characteristics, identification is possible only to genus level due to the similarity with other *Podocarpus* species (all non CITES except for *P. neriifolius* in CITES App. III). Macroscopically the wood of both *P. neriifolius* and *P. parlatorei* is very similar to the other species of *Podocarpus* and to the genera included in Podocarpaceae (*Acmopyle, Afrocarpus, Dacrycarpus, Dacrydium, Falcatifolium, Halocarpus, Lepidothamnus, Manoao, Microcachrys, Nageia, Parasitaxus, Pherosphaera, Prumnopitys, Retrophyllum* and *Saxegothaea*), except for three genera of this family from which it can be differentiated with a 400x lens because they have window-like cross-field pits (*Lagarostrobus, Phyllocladus* and *Sundacarpus*). The sapwood and heartwood of both CITES listed *Podocarpus* species is similar in colour (yellowish brown).

Lack of reference samples inhibits identification using mass spectrometry, but using DNA barcoding *P. parlatorei* can be distinguished from other species (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository [https://cites.org/eng/timber/timber-ID-repository](https://cites.org/eng/timber/timber-ID-repository) for more information on timber identification).

Plantations /artificial propagation

There are no known commercial plantations of this species and any trade in timber will be wild in origin.

CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.
**EU Decisions**

There are no current EU suspensions or opinions for this species.

See Species+ for details [https://speciesplus.net](https://speciesplus.net)

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**Picture Credits**: See *KEY RESOURCES* section.
**Prunus africana**  
African cherry, pygeum

**Distribution**

The African cherry, a wild relative of plums, cherries and almonds, is the only species in the genus *Prunus* listed under CITES. It is native to Angola, Burundi, Cameroon, Comoros, Democratic Republic of Congo, Equatorial Guinea, Eswatini, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Rwanda, Sao Tome and Principe, South Africa, South Sudan, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.

**Uses**

Extracts from its pungent bark are traded internationally as a herbal remedy for benign prostrate hyperplasia. There are many brand name products using *Prunus africana* bark extract as an ingredient. High street herbal products containing *Pygeum africanum*, which is a synonym of *Prunus africana*, are readily available over the counter or for sale on the Internet.

**Trade**

The main products in international trade are unprocessed dried bark and processed medicines. The traditional importers have been European companies, but there are emerging Asian markets in China and India. The major exporters of bark are Cameroon, Uganda and DRC, and the main importer is France, with Spain and Italy importing lower volumes. The main re-exporters of extracts are France and Spain.
The #4 annotation means that all parts and derivatives are regulated except seeds, tissue cultured plants in sterile containers and cut flowers from artificially propagated plants. This means that crude (unprocessed bark, powders) or processed products (pills), even if finished and ready for retail trade, are regulated.

**Identification**

This species is mainly in trade as bark rather than wood making identification difficult. Using anatomical characteristics the identification of wood is possible to genus level, but new detailed anatomical data is now available for future comparisons of wood and bark that may be useful for taxonomic and phylogenetic studies, as well as the practical identification of raw materials (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository [https://cites.org/eng/timber/timber-ID-repository](https://cites.org/eng/timber/timber-ID-repository) for more information on timber identification).

**Plantations /artificial propagation**

There are no commercial plantations of this species and the majority of harvested bark comes from wild trees.

Small scale propagation schemes and trees planted as part of agroforestry or small agricultural farms systems, particularly in western Cameroon, have been ongoing since the 1970s. Bark from these sources is unlikely to be in international trade. Bark from source code Y is in trade from Uganda.

**CITES international trade suspensions, export quotas and reservations**

There are no current reservations in place for this species. There are current CITES international trade suspensions and export quotas in place for this species. Check the annual export quotas on the CITES website ([http://www.cites.org/eng/resources/quotas/index.php](http://www.cites.org/eng/resources/quotas/index.php)).
EU decisions

There are a number of current EU opinions for this species.

See Species + for details [https://speciesplus.net](https://speciesplus.net)

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<td>Appendix II 23/02/2023</td>
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**NOTE:**
The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.
**Pterocarpus** (African populations)

**African rosewoods**

**Distribution**

*Pterocarpus* is a genus of around 40 species found in tropical and subtropical regions across the globe, of which 12 are native to Africa, distributed in Angola, Benin, Botswana, Burkina Faso, Cameroon, Central African Republic (CAR), Cote d’Ivoire, Chad, Congo, Democratic Republic of Congo (DRC), Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Senegal, Sierra Leone, Sudan, South Africa, Tanzania, Togo, Uganda, Zambia and Zimbabwe. The species are found in tropical lowland evergreen rain forest, seasonally dry forest, woodland, thicket and wooded grassland.

Two African species, *Pterocarpus erinaceus* and *P. tinctorius*, were listed in CITES in 2016 and 2019 respectively with the remaining African populations included in 2022. The Indian endemic *Pterocarpus santolinus* was listed in 1995.

**Uses**

Some species are of high socio-cultural importance in the region and are widely used locally in construction and furniture making, as medicine, for musical instruments, charcoal, dyes and fodder for livestock. Several species are among the timber species classified under China’s National Hongmu Standard and are used in the manufacture of luxury, deep red coloured Hongmu furniture, highly sought after in China.
Trade

The recent listing in 2022 means that there is no CITES trade data available for the majority of species, but analysis of customs data reveals that the main importer for most of these species is China and Vietnam. The main species in trade are *Pterocarpus angolensis*, *P. soyauxii* and *P. tessmannii*. As a result of unsustainable and illegal trade in *Pterocarpus erinaceus* from west Africa to China and Vietnam there is currently a trade suspension or zero export quota in place from all range States.

The #17 annotation means only logs, sawn wood, veneer sheets, plywood and transformed wood are regulated. Definitions of these timber terms are found in the CITES Glossary (https://cites.org/eng/resources/terms/glossary.php) and in Resolution Conf. 10.13 (Rev. CoP18) on Implementation of the Convention for tree species (https://cites.org/eng/res/index.php). Transformed wood includes unassembled shaped or worked wood, such as tongue and groove planks and decking strips and planks, whether they are in their final packaging or not. Finished products such as furniture are not subject to CITES regulations, but care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

Identification

Using only anatomical characteristics, identification is likely only to genus level as *Pterocarpus* species are often anatomically similar to each other and certain *Dalbergia* species. The major timber producing African species are *P. erinaceus* (vène, kosso), *P. tinctorius* (mukula), *P. angolensis* (muninga) and *P. soyauxii* (padouk). The wood of these species shows only minor differences in the macroscopically recognizable structural features. On the other hand, they show a wide range of variation in appearance (colour, grain) and technical aspects (normal density, strength properties), which can be very helpful in identifying a wood that can be assigned to the genus *Pterocarpus*.
The use of x400 lens with a smartphone may help enhance anatomical features to assist identification. The use of DART-TOFMS paired with discriminant analysis of principal components (PCA), used to distinguish *Pterocarpus erinaceus* (CITES Appendix II), *P. santalinus* (CITES Appendix II), *P. tinctorius* (CITES Appendix II), *P. indicus*, *P. macrocarpus*, *P. dalbergioides*, and *P. soyauxii* anatomy in combination with PCA applied to fluorescence spectra, could be used to classify CITES Appendix II species. In the absence of access to DART-TOFMS, a combination of wood anatomy and fluorescence spectrometry can permit more accurate identification than anatomy alone (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository https://cites.org/eng/timber/timber-ID-repository for more information on timber identification).

**Plantations /artificial propagation**

There do not appear to be any known large scale commercial plantations of *Pterocarpus* species and all products in trade are assumed to be wild in origin.

**CITES international trade suspensions, export quotas and reservations**

There are current export quotas or reservations for some of these species. There is a trade suspension for all range States who have not agreed a zero voluntary quota for *Pterocarpus erinaceus* due to consistent and pervasive illegal trade.

**EU Decisions**

There are no current EU opinions for this species.

See Species + for details https://speciesplus.net/

Finished furniture made from *Pterocarpus* spp. (African populations)  Roughly sawn wood and pre-cut blocks
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See Species+ for individual species names | **Pterocarpus erinaceus:**  
Appendix III: 09/05/2016 (#1)  
Annex C: 26/11/2016 | **Appendix II (populations of Africa)**  
23/02/2023 |
| **Family:** Leguminosae/ Fabaceae | **Pterocarpus erinaceus:**  
Appendix II: 02/01/2017 (#1)  
Annex B: 04/02/2017 | **Annex B (populations of Africa)**  
See Species + for details |
| **Common names:**  
English: kosso, African rosewood, barwood  
French: bois de vène, palissandre du Sénégal  
Spanish: palo de rosa africano | **Pterocarpus tinctorius:**  
Appendix II: 26/11/2019 (#6)  
Annex B: 14/12/2019 | **Annotation**  
#17 Logs, sawnwood, plywood, veneer sheets and transformed wood |
| CITES Standard Reference:  
See Resolution Conf. 12.11 (Rev Cop 19) Standard Nomenclature and Species + for details (Reference tab) | **Pterocarpus macrocarpus**  
Annex D: 19/01/2022  
§4 Live specimens and all parts and derivatives, except:  
(a) seeds and pollen;  
(b) finished products packaged and ready for retail trade. | **NOTE:**  
The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing. |

**Picture credits:** see KEY RESOURCES section.
**Pterocarpus santalinus**

**Red sandalwood**

**Distribution**

Of the forty species in this genus, distributed globally, this is the only Asian *Pterocarpus* species currently listed under CITES. It is endemic to India, but has been introduced on a small scale to Bangladesh and Sri Lanka. The African populations of this genus are also included in Appendix II.

**Uses**

This species is renowned for its claret-red heartwood. The wood is used to make traditional instruments (‘shamisen’) and name seals (‘hankos’) in Japan and it yields a red pigment, santalin, used as a dye and colouring agent in cosmetics, pharmaceutical preparations and foodstuffs. This species is among the timber species classified under China’s National Hongmu Standard for use in the manufacture of luxury deep red coloured Hongmu furniture.

**Trade**

The main products in trade are timber, wood chips and powder. There should be no commercial trade in wild specimens of this species due to a zero export quota set by India for this and other native species. However, extensive seizures and auctions of illegally harvested timber means wild-sourced specimens are in trade. Nearly all recent trade between 2016-2021 is in logs from India to China and Hong Kong, with a large number of seizures.
The #7 annotation means that only logs, woodchips, powder and extracts are regulated. The definition of wood chips, extract and powder can be found in the Interpretation section of the Appendices and EU Annexes or in the CITES Glossary (http://www.cites.org/eng/resources/terms/glossary.php).

Identification

Using anatomical characteristics, identification of *Pterocarpus santalinus* to species level is very difficult as the timbers of the *Pterocarpus macrocarpus* and *P. santalinus* cannot be safely distinguished macroscopically and anatomically. *P. satalinus* is similar to other species of the genus *Pterocarpus* and to certain *Dalbergia* species (*Dalbergia louvelii, D. maritima* – both CITES-listed). The wood of *Pterocarpus soyauxii* and *P. santalinus* can be distinguished from each other using anatomical characteristics. Mass spectrometry (DART-FTICR-MS) can differentiate between *Pterocarpus santalinus* and the African *Pterocarpus* species, *P. tinctorius* (also CITES-listed). The use of a three-step infrared spectrum method for wood identification can provide a rapid and effective method of identifying *P. santalinus* (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository https://cites.org/eng/timber/timber-ID-repository for more information on timber identification).

This species is traded under the common name of sandalwood and may be confused with other sandalwood producing tree species and genera, which are CITES-listed (*Osyris lanceolata*) and non CITES-listed (*Amyris balsamifera, Baphia nitida, Fusana spicatus* and *Santalum* species).

Plantations /artificial propagation

There are commercial plantations of this species in India (approximately 3,000 hectares mainly in the states of Andhra Pradesh and Tamil Nadu). It is also cultivated on farmland but no comprehensive inventories of this type of production have been made. Material from other sandalwood producing genera grown in plantations may be in trade and confused with *Pterocarpus santalinus*, for example *Santalum album* (known as Indian sandalwood) which is grown in plantations mainly in India and Australia.
CITES international trade suspensions, export quotas and reservations

This country/species combination is currently retained in the Review of Significant Trade. There is a trade suspension and a zero export quota in place for the export of all wild specimens of Appendix I, II and III species from India (see Notification 2018/031 https://cites.org/sites/default/files/notif/E-Notif-2018-031.pdf). There is a current export quota in place for artificially propagated specimens of this species from India. Check Species + for details or check the annual export quotas on the CITES website (http://www.cites.org/eng/resources/quotas/index.php).

EU decisions

There are current EU opinions for both wild and artificially propagated specimens from India.

See Species + for details https://speciesplus.net/

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<td>#7 Logs, woodchips, powder and extracts</td>
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**NOTE:**
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Picture Credits: see KEY RESOURCES section.
**Quercus mongolica**

**Mongolian oak**

**Distribution**

Of some 600 species of oak, this is the only one regulated under CITES. This species is native to China, Japan, Republic of Korea, Mongolia and the Russian Federation (Primorye, Sakalin Island).

**Uses**

The hard, heavy, straight-grained timber is durable and decay resistant and is used in the manufacture of furniture, veneer, mine and telegraph poles, stakes and sports equipment, boats, agricultural tools, bridges and cooperage (whisky barrels).

**Trade**

Most of the large trade in this species is in logs, sawn wood and timber, with the majority exported by Russia and imported by China. There is a much smaller trade in veneer and wood products.

This species is considered to be present in illegal trade. Due to the Russian invasion of Ukraine, timber sourced from Russia should be considered ‘conflict timber’ and several restrictions and sanctions are currently in place.
The #5 annotation means only logs, sawn wood and veneer sheets are regulated. Finished products such as furniture are not subject to CITES regulations, but care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.

**Identification**

Using anatomical characteristics, identification is possible to genus level. However, this species is a member of the ‘white oak’ section of the genus *Quercus*, which means it can be separated anatomically from red oak species (e.g. *Q. rubra* – non CITES), but probably not from other white oaks, such as *Q. alba* and *Q. robur* (non CITES). Mass spectrometry can also identify timber to genus level only (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository [https://cites.org/eng/timber/timber-ID-repository](https://cites.org/eng/timber/timber-ID-repository) for more information on timber identification).

**Plantations /artificial propagation**

There are plantations of this species in China which are producing large quantities of timber. The species is used in afforestation projects in Japan. Artificially propagated live plants and seed are available from horticultural nurseries worldwide and may be found in international trade, although there may be plant health restrictions on the import of oak species into certain countries.

**CITES international trade suspensions, export quotas and reservations**

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.

**EU Decisions**

There are no current EU suspensions or opinions for this species.

See Species + for details [https://speciesplus.net/](https://speciesplus.net/)
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If you require more formal guidance, contact the CITES Secretariat.

**Picture credits:** see *KEY RESOURCES* section.
**Swietenia**

**Distribution**

There are three species in the genus *Swietenia* (*S. macrophylla*, *S. humilis* and *S. mahagoni*) all of which are listed under CITES. These species are native to the Neotropics (Central and South America and the Caribbean). See Species + for individual species distribution.

All these species have been naturalized outside of their native range.

**Uses**

The timber from *S. humilis* is used for veneers, restoration and musical instruments. Timber from *Swietenia macrophylla* is in trade for the manufacture of furniture, panelling and musical instruments (e.g. guitars, ukuleles) and sports equipment (e.g. billiard tables). *Swietenia mahagoni* is used in the manufacture of musical instruments, in particular guitars, and as veneer and in carpentry in general. The common name “mahogany” may also refer to non-CITES listed timber species or genera – see IDENTIFICATION section below.

**Trade**

Big leaf mahogany (*Swietenia macrophylla*) is the most heavily exploited and common *Swietenia* species in international trade. Between the years 2016-2021 trade data for *Swietenia humilis* indicates that Japan is the main importer with the UK as the main exporter of wood products. For *Swietenia mahagoni*, which...
is considered commercially extinct, trade is mainly in pre-Convention timber/specimens and antiques, except for some large volumes of logs from Palau to China in 2018 and from Barbados to the UK in 2017. The major products of *S. macrophylla* seen in trade are timber (sawn wood and veneer) and lower volumes of carvings, logs and plywood. The main exporters are Brazil, Belize and Guatemala and the main importers are the Dominican Republic and the USA. Sunken logs of *Swietenia macrophylla* are salvaged from rivers in Honduras and Belize where there has been a history of logging this species since the early 20th century.

**Annotations**

*Swietenia humilis*: The #4 annotation means all parts and derivatives originating from anywhere in the world are regulated apart from seeds, pollen, tissue cultured plants in sterile containers and cut flowers from artificially propagated plants.

*Swietenia mahagoni*: The #5 annotation means logs, sawn wood and veneer sheets originating from anywhere in the world are regulated.

*Swietenia macrophylla*: The #6 annotation, only covering populations from the Neotropics, means only logs, sawn wood, veneer sheets and plywood are regulated from trees grown and harvested in the Neotropics. Any timber of *S. macrophylla* grown, harvested and exported from outside of the Neotropics is not regulated.

Identification

Using anatomical characteristics, identification for a non-expert is likely only to genus level. The main identification issues for *Swietenia* species are identifying the species apart and identifying them from other CITES (e.g. *Khaya* sp.) and non-CITES listed species traded under the common name ‘mahogany’, and often in the same family (Meliaceae), including *Entandrophragma* species (known as African mahogany); *Shorea* (meranti); *Dysoxylum spectabile* (New Zealand mahogany or kohekohe); *Toona sinensis* (Chinese mahogany); *Toona sureni* (Indonesian mahogany); *Toona ciliata* (Indian mahogany); *Toona calantas* (Philippine mahogany); *Melia azedarach* (chinaberry); *Guarea* (pink mahogany); *Chukrasia velutina* and *Carapa guianensis* (crabwood). However, work using anatomical characteristics and x400 lens with smartphones has improved differentiation between these genera and mass spectrometry can separate out the three *Swietenia* species. *Swietenia macrophylla*, *Carapa guianensis*, *Cedrela odorata* (Spanish cedar – CITES-listed), and *Micropholis melinoniana* (Curupixá) can be differentiated using near infrared spectroscopy (NIRS) associated with multivariate statistics analysis (PLS-DA).

See the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository [https://cites.org/eng/timber/timber-ID-repository](https://cites.org/eng/timber/timber-ID-repository) for more information on timber identification.

Plantations /artificial propagation

Commercial plantations of *Swietenia macrophylla* are found in China, Fiji, Bangladesh, India, Indonesia, the Philippines and Sri Lanka and timber is in international trade from some of these countries, in particular Fiji. Small amounts of timber or artefacts made from specimens of all three species, which have been planted as ornamentals both within and outside of their natural range, may be in trade.

Measuring sawn wood for export
CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions or reservations in place for these species.

There are several current export quotas in place for *S. macrophylla*. Check Species + for details or check annual export quota tool on the CITES website ([https://cites.org/eng/resources/export_quotas](https://cites.org/eng/resources/export_quotas)).

**EU Decisions**

There are several current EU opinions for *S. macrophylla*.

See Species + for details [https://speciesplus.net](https://speciesplus.net)

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<td><em>S. macrophylla</em> Appendix III 16/11/1995</td>
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<td><strong>Spanish:</strong> caoba, mara, aguano or ahuano (<em>S. macrophylla</em>), cobano, caoba de Honduras, caoba de Pacífica (<em>S. humilis</em>), caoba Española, acajou de Santo Domingo, caoba Americana (<em>S. mahagoni</em>)</td>
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<tr>
<td><strong>CITES Standard reference:</strong></td>
<td></td>
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<tr>
<td>See Resolution Conf. 12.11 (Rev Cop)</td>
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</tr>
</tbody>
</table>

Annotation
*S. humilis*

#4 All parts and derivatives, except:

a) seeds (including seedpods of Orchidaceae), spores and pollen (including pollinia). The exemption does not apply to seeds from Cactaceae spp. exported from Mexico, and to seeds from *Beccariophoenix madagascarriensis* and *Dypsis decaryi* exported from Madagascar;

b) seedling or tissue cultures obtained in vitro transported in sterile containers;

c) cut flowers of artificially propagated plants;
| Standard Nomenclature and Species + for details (Reference tab) | d) fruits, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genus *Vanilla* (Orchidaceae) and of the family Cactaceae;  
| | e) stems, flowers, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genera *Opuntia* subgenus *Opuntia* and *Selenicereus* (Cactaceae);  
| | f) finished products of *Aloe ferox* and *Euphorbia antisypilitico* packaged and ready for retail trade; and  
| | g) finished products derived from artificial propagation, packaged and ready for retail trade of cosmetics containing parts and derivatives of *Bletilla striata*, *Cycnoches cooperi*, *Gastrodia elata*, *Phalaenopsis amabilis* or *Phalaenopsis lobbii*.  
| S. *macrophylla* (Populations of the Neotropics)  
| #6 Logs, sawn wood, veneer sheets and plywood  
| S. *mahagoni*  
| #5 Logs, sawn wood and veneer sheets  
| **NOTE:**  
| The first listing of a species may relate to a different CITES Appendix / EU Annex, population, commodity, or annotation than those applicable to the current listing.  

**Pictures credits:** see KEY RESOURCES section.
**Distribution**

There are some twelve species in the genus *Taxus* but only five are currently listed under CITES. These species are trees and shrubs native to Asia - Afghanistan, Bhutan, China and Taiwan, Democratic Republic of Korea, India, Japan, Malaysia, Myanmar, Nepal, Pakistan, the Philippines, Republic of Korea, Russian Federation and Vietnam. See Species + for individual species distribution.

**Taxonomy**

The taxonomy of the genus is under review. Plants of the World Online recognize *Taxus fuana* as a synonym of *T. contorta* and *T. sumatrana* as a synonym of *T. wallichiana*.

**Uses**

These species are grown for use as horticultural ornamentals, hedging plants, in particular *Taxus cuspidata*, and bonsai trees. Chemical extracts, such as paclitaxel, produced from the needles, leaves and bark are used in anti-cancer drugs, the most famous trademarked under the name Taxol. The extracts are also used in traditional Chinese medicines (TCMs).
Trade

Products in trade include live plants, finished pharmaceutical products, dried material (needles, twigs, bark, leaves), a tar-like substance (sometimes referred to as “brown liquor”) shipped in drums, a light brown powder and pure paclitaxel that is a whitish or yellowish, crystalline material. The CITES Trade Database indicates that the main exporters of artificially propagated live plants is Japan with China the main importer. The main exporter of extracts and powder is China and the main importer the US.

The #2 annotation means all timber and parts and derivatives are regulated except seeds, pollen and those products traded as finished products packaged and ready for retail trade (see the CITES Glossary for a definition of this term [http://www.cites.org/eng/resources/terms/glossary.php]). Live, artificially propagated hybrids and cultivars of *T. cuspidata*, traded in pots or other small containers, must meet the criteria laid out in the annotation to be considered exempt from regulation. CITES controls also apply to the infraspecific taxa (cultivated varieties) for all these species, except *T. wallichiana*.

Identification

Using anatomical characteristics, identification is to genus level and this method can be used to differentiate between *Taxus* and other softwood genera with the same features, e.g., all those included in the family Taxaceae (*Amentotaxus*, *Cephalotaxus*, *Pseudotaxus* and *Torreya*) except *Austrotaxus*. However, use of anatomical characteristics using a 400× lens on a phone would allow inspectors to raise suspicions and send a sample to the laboratory for more detailed investigation. The lack of reference samples means mass spectrometry cannot be used for identification purposes (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository [https://cites.org/eng/timber/timber-ID-repository] for more information on timber identification).

*Taxus cuspidata* – bonsai tree

Medicine – finished product
**Plantations /artificial propagation**

Commercial plantations have been established in China and Vietnam to supply material for the production of anti-cancer drugs. The crude and finished medicines are traded for the domestic markets but may also be in international trade. Live artificially propagated varieties of these species are in international trade, in particular of *Taxus cuspidata*.

**CITES international trade suspensions, export quotas and reservations**

There are no current CITES international trade suspensions, export quotas or reservations in place for these species.

There are stricter domestic measures in place for India. The Government of India has banned the export for commercial purposes of all wild-taken specimens of species included in Appendices I, II and III, except cultivated varieties of plant species included in Appendices I and II accompanied by a CITES Comparable Certificate issued by the competent authorities of India (see CITES Notification No. 2018/031 [https://cites.org/sites/default/files/notif/E-Notif-2018-031.pdf](https://cites.org/sites/default/files/notif/E-Notif-2018-031.pdf)).

**EU Decisions**

There are no current EU suspensions or opinions for these species.

See Species + for details [https://speciesplus.net](https://speciesplus.net)
### SCIENTIFIC AND COMMON NAMES

<table>
<thead>
<tr>
<th>Scientific names and authors:</th>
<th>DATE OF LISTING</th>
<th>CURRENT LISTING AND ANNOTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Taxus chinensis</em> (Pilg.) Rehder</td>
<td><strong>Appendix II</strong></td>
<td><strong>Appendix II</strong></td>
</tr>
</tbody>
</table>

**Family:** Taxaceae

**Common names:**

**Chinese:** ximalaya, hongdoushan  
**English:** Himalayan yew (*T. wallichiana*), Japanese yew (*T. cuspidata*), Chinese yew (*T. chinensis* and *T. sumatrana*)  
**French:** if de l’Himalaya  
**Spanish:** tejo del Himalaya

**CITES Standard reference:**
See Resolution Conf. 12.11 (Rev Cop 19), Standard Nomenclature and Species+ for details (Reference tab).

If you require further guidance, contact the CITES Secretariat.

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**Picture Credits:** see KEY RESOURCES section.
**Widdringtonia whytei**

**Mulanje cypress**

**Distribution**

This species is a conifer endemic to the upper altitude Afromontane forests of the Mount Mulanje massif in south-eastern Malawi, an area of approximately 650 km². It is the national tree of Malawi. It is one of only four species in the genus *Widdringtonia*, all found within southern Africa - *Widdringtonia nodiflora* is found in Lesotho, Malawi, Mozambique, South Africa and Zimbabwe; *W. wallichii* and *W. schwarzi* are only found in South Africa.

**Uses**

Due to its decay- and insect-resistant properties, the easily worked, fragrant, light-to-moderately-heavy yellow-brown wood is highly prized. It has been commercially harvested for over 100 years and is used for agricultural implements, furniture, flooring, boxes/trunks, cabinet making, musical instruments, roof shingles, cigar boxes, boat building, panelling, flooring, light construction, carvings, crafts, including those for tourists, such as walking sticks. An oil called “Mulanje tar” or “Mulanje oil” can be distilled and used as a preservative. Derivative products can also be made from its resin.
Trade

This species is listed in Appendix II/Annex B. The CITES Trade Database does not contain any data on trade in this species as it was only listed in CITES from 2019. As of 2018, population surveys did not find a single standing, reproductively mature tree on the Mulanje Mountain and any wood of this timber in trade likely to be from salvaged timber previously cut or much smaller pieces illegally cut from replantings.

Trade may be seen as logs, sawnwood, or smaller dimensional pieces of timber salvaged from dead or live trees. Derivative products can also be made from its resin and crafts made from the timber, such as boxes, essential oils made from the sawdust waste of Mulanje cedarwood. Items, such as boxes, made from this species have been for sale on various Internet auction sites e.g. eBay, WorthPoint and Facebook. Mulanje cypress is a protected species in Malawi and there has been a ban on native hardwood log exports since 2008, so any trade is illegal.

The listing has no annotation. Therefore, all parts and derivatives, live or dead, finished or unfinished, are regulated and care should be taken in sourcing timber to ensure compliance with the due diligence requirements of national and international legislation relating to timber imports and exports.
Identification

Using anatomical characteristics, identification is possible to genus level. *Widdringtonia whytei* is morphologically similar to other members of the Cupressaceae family (*Fitzroya cupressoides* – CITES App. I) and genera in the Podocarpaceae family (*Podocarpus neriifolius* and *P. parlatorei* – CITES listed).

*Widdringtonia whytei* was long thought to be the same species as the more widespread *Widdringtonia nodiflora*, which has a more narrow and multi-stemmed growth form. However, genetic analysis at the University of Cape Town has conclusively shown that they are distinct species. Both species grow on Mount Mulanje (see the IDENTIFICATION and KEY RESOURCES sections of this guide or the CITES Timber Identification Repository https://cites.org/eng/timber/timber-ID-repository for more information on timber identification).

Plantations /artificial propagation

Commercially exporting plantations of large-scale trees do not exist due to the tree’s slow growth and mismanagement due to a lack of understanding of the species’ needs. Some of these plantings may be mixed plantings of *W. whytei* and the less commercially valuable species *W. nodiflora* probably due to misidentification and are found in Malawi (Zomba, Chicangawa), but also in Tanzania. There are numerous seedling growing projects to safeguard this species and seed has been exchanged with botanic gardens outside of Malawi.

CITES international trade suspensions, export quotas and reservations

There are no current CITES international trade suspensions, export quotas or reservations in place for this species.

EU Decisions

There are no current EU suspensions or opinions for this species.

See Species + for details  https://speciesplus.net/
**Scientific and Common Names**

<table>
<thead>
<tr>
<th>Scientific name and author:</th>
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<tbody>
<tr>
<td><em>Widdringtonia whytei</em> Rendle 1984</td>
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<tr>
<td><strong>Synonyms:</strong></td>
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<tr>
<td><em>Widdringtonia nodiflora</em> var. <em>whytei</em> (Rendle) Silba</td>
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| Family: | Cupressaceae |  |

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<tr>
<td><strong>English:</strong> Mulanje cypress, Mulanje cedar, Mulanje cedarwood, clanwilliam cypress</td>
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<tbody>
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<td>See <a href="https://www.cites.org/eng/app/12.11">Resolution Conf. 12.11 (Rev Cop 19)</a> Standard Nomenclature and <a href="https://www.cites.org/eng/app/12.11">Species +</a> for details (Reference tab)</td>
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<td>If you require more formal guidance, contact the CITES Secretariat.</td>
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<td>Appendix II 26/11/2019</td>
<td>Appendix II 26/11/2019</td>
</tr>
<tr>
<td>Annex B 14/12/2019</td>
<td>Annex B See Species+</td>
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</table>

**Annotation**

The listing has no annotation. Therefore, all parts and derivatives, live or dead, finished or unfinished, are regulated.

**NOTE:**

The first listing of a species may relate to a different CITES Appendix/ EU Annex, population, commodity or annotation than those applicable to the current listing.

**Picture credits:** see [KEY RESOURCES section](#).
TIMBER IDENTIFICATION

Identification can help determine whether a raw, semi-finished or finished timber specimen is regulated under CITES and to assess the sustainability and legality of the timber or part and derivative (see REGULATING THE TIMBER TRADE section). When processing a timber inspection or seizure consider using appropriate forensic methods and procedures throughout the entire investigation from inspection to prosecution. This will help strengthen the data’s reliability and acknowledgement in court.

This section covers some of the key questions to ask before, during and after an inspection or seizure, when dealing with paperwork associated with timber shipments and the types of identification techniques currently available to enforcement and policy agencies (see KEY RESOURCES for more information on all the topics raised in this section, including best practice for forensic identification).

What species is the product made from?

In order to ascertain if a timber is listed in the Appendices / EU Annexes and requires permits, you first need to know its scientific name (e.g. *Swietenia macrophylla*). If available, check documentation, airway bills, websites, invoices, etc to ascertain this. If unavailable, ask the shipping agent, trader, etc to provide one. Common names (e.g. rosewood, mahogany) are unreliable as they can refer to more than one CITES or non-CITES listed species. Also check that the species name matches the type of product normally manufactured from that species, whether it is normally transported using that particular transport mode and whether the import/ (re)-export and transit routes are known and likely to be legal. These can all highlight illegalities, including misdeclaration of species.

Is the product regulated?

Once you have a name, check the CITES Appendices and/ or the EU Annexes to see if that species is regulated and to check the scope of the listing (see UNDERSTANDING A CITES LISTING section for more information). For example, is the listing annotated and, if so, are raw, semi-processed and/ or finished products regulated?
NOTE: roughly sawn wood or logs that are often banned from export under national laws or are regulated under CITES, may be superficially planed prior to (re)export. This timber is then presented as ‘worked’ or “transformed” wood in order to circumvent the scope of a CITES listing.

What questions to ask?

Given there may be time, monetary and resource constraints, it is important to ensure questions asked, particularly early on in a case, provide as much information as possible to inform future actions:

- *What species / genus / family is it?* — no information is available on the sample;
- *Is it species X / genus X / family X?* — to confirm that the sample matches a CITES-listed species / genus / family or the paperwork / permits;
- *Which country is the sample from?* — necessary when only specific timber populations are CITES-listed;
- *Is the sample from a particular timber concession, region or group of trees?* — to confirm if trees or concessions that have been identified for export are in trade or the timber is from an illegally felled area;
- *Is the sample from artificially propagated (cultivated / plantation) or wild-sourced timber?* — to confirm if certain sources of timber are in trade; and
- *How old is the sample?* — to confirm the timber pre-dates implementation of any applicable CITES legislation.

Other topics to check

- *Expert versus non-expert identification either on or offsite* - Preliminary rapid field identification by a non-expert may be sufficient to proceed the case and detain / seize the timber. Check if identification by an expert on or offsite is required following initial rapid identification;
- *Sampling size* — A 2-3cm³ of wood is often required to carry out identification, but check as smaller samples may be sufficient. Check that samples can be taken or whether the item is considered too precious / delicate to carry this out (e.g. artwork, artifacts, thin veneers). Also check what is considered one sample (e.g. one paintbrush or a batch of paintbrushes)?
• The location of the nearest expert timber identification laboratory / institute
  – Check availability in-country or abroad and the facility’s area of expertise
    (e.g. basic wood identification using only visual aids versus fully equipped,
    forensic laboratory);
• Whether the facility has verified vouchered samples or comparative
  reference profiles / databases in place to aid identification – This may limit
  the questions that they can answer;
• Costs – Check if the laboratory test and off / onsite identification is free or
  not and the costs per sample. Also check whether there is in-country
  funding or match funding from national / international sources (e.g. NGOs
  or IGOs);
• Time taken for completion of tests - Important if a shipment / product has
  been detained; and
• Evidence – Check if the report produced from the identification is known to
  be suitable for presentation in court or sufficient to seize the material.

Identification techniques

See KEY RESOURCES for more information on identification techniques and the
questions they can and cannot answer.

Anatomical identification

Where the characteristics (type, distribution and arrangement) of the wood’s
physical structure are used to identify the wood sample. This method can identify
the sample to genus and / or family level and sometimes to species level depending
on expertise and availability of validated reference samples. It uses either:

Macroscopic characteristics — visible to the unaided eye or with the help of x10
power and above hand lens. This type of identification can be carried out in the field
or images of the wood structure can be captured by front-line enforcement officers
and sent to a timber expert offsite; OR

Microscopic characteristics — these are too small to be seen with the unaided eye
or with a hand lens. A light or electron microscope is required. This is carried out in
a laboratory and can include identification of fibres.
When identifying a wood sample using anatomical characteristics it is necessary to understand which plane (referred to as “face”, “section” or “surface”) you are looking at. The transverse or cross section is the most useful for viewing the wood’s structure. If the sample has been heavily processed or is very thinly sliced there may be difficulty in identifying it. For anatomical identification, where possible, take samples that are at least 2–3cm³ in size.

**Chemical identification**

**Mass spectrometry** — analysis of the chemicals synthesised by a plant. This produces a chemical profile which can be matched against reference material/datasets. This method can potentially identify a sample to species/ genus level and differentiate between cultivated versus wild material if sufficient reference material and databases are available. One such application is Direct Analysis in Real Time (DART) Time-of-Flight Mass Spectrometry (TOFMS) or DART-TOFMS. This method requires much smaller samples for testing, providing rapid species identification and may be able to provide geographic source identification at large geographic scales, such as country and continent.

**Radiocarbon dating** — used to calculate the age of the sample. This is important in determining whether the timber is exempt as it was harvested before the
Implementation of legislation or not.

**Stable isotopes** — measurement of the ratios of different stable isotopes to produce an isotopic fingerprint that often relates to specific geographic and climatic variables. This method can be used to identify geographic provenance where appropriate reference databases exist. Stable isotopes have no ability to determine genus, species or individuals.

**Near infrared spectroscopy (NIRS)** — this method measures the chemical characteristics in a sample after it has been subjected to near infrared electromagnetic energy. This method can be used to identify to family level, different species within a genus and region and individuals of different genera, but is dependent on sufficient validated reference samples being available.

**Genetic identification**

DNA analysis can usually identify a sample to species level, and may allow the determination of provenance if sufficient comparative reference profiles are available. Methods include:

**DNA sequencing (or DNA bar coding)** — this method generates a DNA sequence for a specific gene that is typically characteristic of the taxon or geographic region of origin of the sample. The DNA sequence for an unknown sample can be compared against reference data to allow identification. This method can be used to identify a sample to species, genus and family level and occasionally broad geographic origin.

**DNA profiling (or DNA fingerprinting)** — this method is used to identify genetic differences among biological populations or individuals. DNA profiles can be used to provide a unique identification for individual trees, or to assign a sample to its population of origin. The method can also be used as the basis for exclusion testing in supply chain authentication applications.

**Other techniques**

**Computer and/ or phone vision-based wood identification** — Automated and / or interactive macroscopic wood identification that allows a user to perform wood identification, matching macroscopic images of wood, and sometimes charcoal,
samples with the images available in a database. These applications can be paid for or free, open source and are often available as mobile phone apps, which are useful for fieldwork. Examples include the Xylorix series, CITESwoodID, InsideWood, MyWood-ID and the XyloTron. See [https://www.mdpi.com/1999-4907/13/12/2041/htm](https://www.mdpi.com/1999-4907/13/12/2041/htm) and the CITES Timber Identification Repository for a list of timber identification tools, links and resources [https://cites.org/eng/timber/timber-ID-repository](https://cites.org/eng/timber/timber-ID-repository).

**Detector dogs** — use of dogs to detect timber and timber products by odour e.g. agarwood in the UK, big-leaf mahogany in Germany [https://www.traffic.org/site/assets/files/2272/wwf-wildlife-detector-dogs-guidelines.pdf](https://www.traffic.org/site/assets/files/2272/wwf-wildlife-detector-dogs-guidelines.pdf)

See **KEY RESOURCES** section for more information, papers and publications on timber forensics, timber identification tools and institutions carrying out identification.
TIMBER MEASUREMENT

Timber is traded in many different forms and often the amounts recorded on invoices, permits, etc are in different terms (e.g. carvings, sawn wood, logs, etc) and units (m², m³, kg, g). To assist you when verifying the quantity invoiced on the shipment’s documents matches the quantity recorded on the CITES permit or certificate we recommend that you use the various conversion formulas available. These conversions should also be made by the importer or exporter to ensure not only that the quantities match, but that they are expressed in the same unit of measurement found on the CITES documentation.

A number of the units used are specific to certain countries and may not be used in your country. For example, board feet is a unit of volume often used in the USA and Canada. With conversion ratios, certain factors, such as the wood’s physical properties (e.g. wood density, shrinkage, moisture content), the presence or lack of bark and even the species in question, may affect these ratios. Thus, while they can be exact (e.g. cubic feet to cubic metres), they should also be seen as offering a good average and guidance.
For conversion ratios, formulas and discussion on wood conversion factors, see the following (NOTE: some of the CITES publications will be updated post CoP19, Nov. 2022 so please check for new editions / amendments):


- Conversion ratios from NGOs / IGOs etc, such as FAO, ITTO and United Nations. 2020. Forest product conversion factors. Rome. https://doi.org/10.4060/ca7952en

- Conversion ratios from national, regional or international wood products associations and forestry agencies.

- Conversion ratios from CITES Management and Scientific Authorities.
CITES DOCUMENTATION

The basic requirements for export of CITES Appendix II listed taxa is that a valid export permit should be issued by a Management Authority confirming that the specimen was obtained legally, following the advice of the Scientific Authority that the specimen was sustainably harvested. Stricter measures, such as requiring import permits for Appendix II species and implementing stricter domestic legislation, can be applied by CITES Parties (e.g. the European Union).

Information on CITES requirements and permits can be found at:

- Permits and Certificates [https://cites.org/sites/default/files/documents/E-Res-12-03-R19.pdf](https://cites.org/sites/default/files/documents/E-Res-12-03-R19.pdf) and CITES permit system [https://cites.org/eng/prog/Permit_system](https://cites.org/eng/prog/Permit_system)

Information on the European Union Wildlife Trade Regulations implementation of CITES can be found at:


Where an export and import document is required you should check for the following:

- That the importer and exporter details match.
- That the country of import and the country of export match.
- That the issuing Management Authority of export is the same as shown in box 24 of the import permit.
- That the descriptions of the specimens are the same.
- That the scientific name is the same on both documents.
- That the common name is the same on both documents. NOTE: These may vary, some species have multiple common names.
- If box 16 of the import permit is completed the export permit referred to must be the one presented.
- That the CITES Appendix recorded on both documents are the same.
- The source code may differ, you will need to clarify this with your CITES Management Authority.
- That the purpose recorded on both permits is the same.
- Although the quantity may vary, the Import permit must cover (i.e. be equal to or less than) the amount on the export permit.
- Export permit Box 14/15 completed at the point of export. Failure to do so may mean the permit is invalid at import point.

**CITES standard permit/certificate forms**
European Community standard permit/certificate form

<table>
<thead>
<tr>
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<td>RE-EXPORT</td>
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<th>Convention on International Trade in Endangered Species of Wild Fauna and Flora</th>
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<td>5. Country of import</td>
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<tr>
<td>6. Authorized location for live wild-taken specimens of Annex A species</td>
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<td>7. Issuing Management Authority</td>
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<th>8. Description of specimens (incl. marks, sex/date of birth for live animals)</th>
<th>9. Net mass (kg)</th>
<th>10. Quantity</th>
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<tr>
<td>15. Country of origin</td>
<td>16. Permit No</td>
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<td>21. Scientific name of species</td>
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</tr>
<tr>
<td>23. Special conditions:</td>
<td></td>
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</tr>
</tbody>
</table>

This permit/certificate is only valid if live animals are transported in compliance with the CITES Guidelines for the Transport and Preparation for Shipment of Live Wild Animals, or, in the case of air transport, the Live Animals Regulations published by the International Air Transport Association (IATA).

24. The (re-)export documentation from the country of (re-)export: has been surrendered to the issuing authority has to be surrendered at the border customs office of introduction

25. The importation re-exportation re-exportation of the goods described above is hereby permitted.

Signature and official stamp: Name of issuing official:

26. Bill of Lading / Air Waybill Number: Place and date of issue:

27. For customs purposes only

<table>
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<td></td>
<td>Date:</td>
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</table>
European Community standard form for non-commercial exchange by scientific institutions

There is an exemption from the provisions regulating trade in CITES species that facilitates the loan, donation and exchange of scientific material for non-commercial purposes between scientific institutes. This may include specimens of CITES-listed tree species. Further information regarding the use of this exemption as well as related simplified procedures can be found here: https://cites.org/sites/default/files/eng/prog/exemptions/E_SimplifiedProcedures_endorsed_SC73.pdf.

The label below is an example of the type used by EU registered institutes when they exchange scientific material. No CITES standard form exists, so non-EU institutes may prepare their own labels. These may differ slightly in their layout.

This label can be used instead of a CITES permit for live or dead plant material, but only between registered institutes. For a list of registered institutes check https://cites.org/eng/common/reg/e_si.html. Once registered an institute is given a unique 5-digit registration number. For example, the Royal Botanic Gardens, Kew (UK) is GB 005.

For more information on the criteria an institute must meet to be eligible for this scheme, what information must be displayed on the label and how they can register with their Management Authority see Resolution Conf. 11.15 (Rev. CoP18) Non-commercial loan, donation or exchange of museum, herbarium, diagnostic and forensic research specimens https://cites.org/eng/res/index.php, Article 7(4) of Council Regulation 338/97 and Article 52 of Commission Regulation (EC) No 865/2006 (as amended) – https://environment.ec.europa.eu/topics/nature-and-biodiversity/wildlife-trade_en
Constitution on International Trade in Endangered Species of Wild Fauna and Flora

Article VII(6)

SCIENTIFIC MATERIAL

1. Contents:

2. From (full name and address):

3. Registration No:

4. To (full name and address):

5. Registration No:
   Label No:

This part to be returned to the management authority immediately after use

Registration No of sender
Registration No of recipient

Contents:

Label No:
Non-commercial cross-border movement of musical instruments

To facilitate the non-commercial cross-border movement of musical instruments derived from CITES species, Parties can issue a musical instrument certificate (MIC) for a pre-Convention Appendix I, II or III musical instrument or for a musical instrument containing specimens of Appendix II or III species acquired after the effective listing date, to facilitate the frequent non-commercial cross-border movement of musical instruments for purposes including, but not limited to, personal use, paid or unpaid performance, display or competition (see Resolution Conf. 16.8 (Rev. CoP17) Frequent cross-border non-commercial movements of musical instruments https://cites.org/eng/res/index.php).

Parties may use their own certificate or the CITES standard (re)-export / import permit form (ticking the “Other” box). A travelling exhibition certificate can be used if an orchestra is moving material by freight (see Annex 3 of Resolution Conf. 12.3 (Rev. CoP19) Permits and certificates) or the instrument may qualify for a personal effects exemption (see Res. Conf 13.7 (Rev. CoP17) Control of Trade in personal and household effects) https://cites.org/eng/res/index.php.
CITES standard model travelling -
exhibition certificate

For the purpose of Res. Conf. 12.3 (Rev. CoP19) *Permits and Certificates*, the term ‘travelling exhibition’ includes, but is not limited to, travelling zoos, circuses, menageries, museum exhibitions, orchestras, plant exhibitions and other such exhibitions. Travelling-exhibition certificates should be based on the model certificate outlined below found in Res. Conf. 12.3 (Rev. CoP19) *Permits and Certificates*. Each Party may issue a travelling-exhibition certificate for CITES specimens belonging to a travelling exhibition based in its State, registered with the Management Authority and wishing to transport specimens of CITES species to other States for exhibition purposes only, on the condition that they were legally acquired and will be returned to the State in which the exhibition is based and that they were:

- Acquired before 1 July 1975 or before the date of inclusion of the species in any of the Appendices of the Convention;

- Bred in captivity as defined in Resolution Conf. 10.16 (Rev. CoP19); or

- Artificially propagated as defined in Resolution Conf. 11.11 (Rev. CoP18).
**CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA**

**TRAVELLING-EXHIBITION CERTIFICATE**

<table>
<thead>
<tr>
<th>1. Certificate no.</th>
<th>2. Valid until</th>
</tr>
</thead>
</table>

3. Owner of specimen(s) (name, permanent address and country of registration)

4. Name, address, national seal/stamp and country of issuing Management Authority

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Signature of owner

5. Special conditions:
   a) Valid for multiple cross-border movements. Owner to retain original form
   b) The specimen(s) covered by this certificate may not be sold or otherwise transferred in any State other than the State in which the exhibition is based and registered. This certificate is non-transferable. If the specimen(s) dies/die, is/are stolen, destroyed, lost, sold or otherwise transferred, this certificate must be immediately returned by the owner to the issuing Management Authority
   c) This certificate is not valid unless accompanied by a continuation sheet.

If for live animals, this certificate is valid only if the transport conditions comply with the IATA Live Animals Regulations; if for live plants, with the IATA Perishable Cargo Regulations; or, in the case of non-air transport, with the CITES Guidelines for the Non-Air Transport of Live Wild Animals and Plants

6. Country of import
   Various

7. Purpose of the transaction
   Q


9. Scientific name (genus and species) and common name of species

10. Description of specimen(s), including identifying marks or numbers, age, sex

11. Quantity

12. Appendix no. and source

13. Country of origin

14. Permit no. and date

15. Exhibition registration number

16. Date of acquisition, if pre-Convention

17. This certificate is issued by:

<table>
<thead>
<tr>
<th>Place</th>
<th>Date</th>
<th>Security stamp, signature and official seal</th>
</tr>
</thead>
</table>

18. Additional conditions

19. Customs endorsement (see Continuation sheet)
<table>
<thead>
<tr>
<th>1. Original certificate no.</th>
<th>4. Name, address, national seal/stamp and country of Management Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. This certificate is issued by:</td>
<td>Place ______ Date ______ Security stamp, signature and official seal</td>
</tr>
<tr>
<td></td>
<td>Port of export or re-export Date Signature Official stamp</td>
</tr>
<tr>
<td></td>
<td>Port of export or re-export Date Signature Official stamp</td>
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<td></td>
<td>Port of export or re-export Date Signature Official stamp</td>
</tr>
</tbody>
</table>
KEY RESOURCES

TIMBER IDENTIFICATION

The CITES Secretariat has developed an online resource containing manuals, guides, identification keys and links to relevant collections, databases, institutions, organisations, networks and consortiums to support Parties with the identification of CITES-listed timber species. See Timber Identification Resources and Tools

In addition, the following materials may be useful:

**Agarwood**


**Aniba rosaeodora**


**Osysis lanceolata**


**Prunus africana**


**Pterocarpus santalinus**

**Rosewood**


**General**


**TIMBER MEASUREMENT**

Information on methodology for developing national volume conversion tables (standing volume & export grade sawnwood) – Conversion Table for Sawn Mahogany (*Swietenia macrophylla*) [https://cites.org/sites/default/files/eng/com/pc/17/E-PC17-16-01-03.pdf](https://cites.org/sites/default/files/eng/com/pc/17/E-PC17-16-01-03.pdf)


ENFORCEMENT

EU-TWIX – The EU-TWIX database assists national enforcement agencies, including CITES Management Authorities and prosecutors, in their task of detecting, analyzing and monitoring illegal activities related to trade in fauna and flora covered by the EU Wildlife Trade Regulations. http://eu-twix.org/

ICCWC – The International Consortium on Combating Wildlife Crime: a collaborative effort of five inter-governmental organizations coordinating support to national wildlife law enforcement agencies and to the sub-regional and regional networks defending natural resources https://www.iccwc-wildlifecrime.org/

UNODC – United Nations Office on Drugs and Crime: publications on forensic identification of timbers and forest crime https://www.unodc.org/

CITES INFORMATION

Non detriment findings (NDFs)

A nine step guide has been developed by TRAFFIC and BfN for timber https://www.9steps-cites-ndf.org/. A course is available at https://www.traffic.org/_resources/courses/cites-ndf-timber/index.html#/

Legal Acquisition Findings (LAFs)

Forest Trends and CIEL have prepared a handbook to support Parties in making legal acquisition findings, which includes information related to the trade in timber. Available at: https://www.forest-trends.org/wp-content/uploads/2022/01/Legal-Acquisition-Findings-Handbook-English_Final.pdf

Annotations

Schippmann, U. (2020). Plant annotations in the CITES Appendices – implementation manual. BfN (Federal Agency for Nature Conservation, Germany) https://cites.org/sites/default/files/eng/com/pc/25/Inf/E-PC25-Inf-09.pdf NOTE: The annotations in this Manual may have been amended, deleted or new annotations have been included in the Appendices following the latest COP (CoP19, Nov. 2022). Check the CITES Appendices / EU Annexes for the most up-to-date annotations.

USEFUL CONTACTS


EU Commission. Contact: The European Commission’s DG-Environment (Wildlife trade /CITES) env-cites@ec.europa.eu

Environmental Investigation Agency (EIA). http://eia-international.org/

EU-TWIX. Contact: Vinciane Sacré vinciane.sacre@traffic.org

Chatham House Forest Governance and Legality https://forestgovernance.chathamhouse.org/

TRACE Wildlife Forensics Network: Rob Ogden rob.ogden@tracenetwork.org
http://www.tracenetwork.org/

African Wildlife Forensics Network: Armand A Biko'o armand.bikoo@tracenetwork.org https://africanwildlifeforensics.org/

UK Border Force (CITES Team). Guy Clarke guy.clarke@hmrc.gsi.gov.uk

UNEP-WCMC (Species +) http://www.unep-wcmc.org/ and https://speciesplus.net/species

Royal Botanic Gardens, Kew: Contact Dr. Peter Gasson p.gasson@kew.org

Thünen Centre of Competence on the Origin of Timber: Dr Gerald Koch gerald.koch@thuenen.de holzherkuenfte@thuenen.de https://www.thuenen.de/en/

US Fish and Wildlife Forensic Laboratory: Contact Ed Espinosa ed.espinoza@fws.gov http://www.fws.gov/lab

Global Timber Tracking Network (GTTN): https://globaltimbertrackingnetwork.org/
The authors would like to thank the following individuals and companies for providing pictures for use in this publication:

**Introduction**: Environmental Investigative Agency (EIA) (unloading Hongmu furniture)

**Abies guatemalensis**: Erik Fernando Alvarado Orellana (plantation, Christmas decoration); Victor Grigas (roof shingles – public domain); Madeleine Groves (tool handles); Andrew McRobb, RBG, Kew (port).

**Afzelia**: Forest Trends (logs, sawn wood); Madeleine Groves (Finished boat); Armel Donkpegan (Afzelia bipindensis)

**Aniba rosaedora**: Paulo Carmo (plantation, seedlings, logs, oil distillation, unfiltered oil); Catherine Rutherford (essential oil).

**Aquilaria and Gyrinops**: Madeleine Groves (seedlings, resinous heartwood, compressed exhausted powder, essential oil); Andrew McRobb, RBG, Kew (wood chips, perfume); Uwe Schippmann (prayer beads, bracelet).

**Araucaria araucana**: Andrew McRobb, RBG, Kew (A. araucana tree); Christoper Notley, Chichester College (veneer sheet); Robert Bishop, Kraftinwood; Mila Zenkova (petrified cone – this file is licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license); XenoVon (seeds – this file is licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license).

**Cedrela**: Terry Pennington (Cedrela fissilis); Rainbow Music, Essex (guitars); RBG, Kew (sawn wood)

**Dalbergia**: Madeleine Groves (guitars); RBG, Kew Madagascar Conservation Centre (logs on beach) Samantha Gunasekara, Sri Lankan Customs (seized Sri Lankan logs, rosewood log); Environmental Investigation Agency (EIA) (tables, chair); Robert Smith, Timberline (D.latifolia guitar set); EIA (logs, furniture unloading); RBG Kew (table); Ana Isabel Fiona Ruiz (D. stevensonii logs); EIA (logs); Madeleine Groves (chess set); Madeleine Groves, RBG, Kew (seized D. retusa); Jim Hafferty (gun blank).

**Diospyros**: RBG, Kew (tree); Jansamurai (ebony ornaments – public domain); Peter Beare (Violin with ebony fingerboard); Madeleine Groves (all remaining)

**Dipteryx**: Ojo Publico (trunk); EIA (forest); Madeleine Groves (decking); Creative Commons Licence, Mecredis / Fred Benenson (tonka beans); Panatrees (Dipteryx logs)

**Fitzroya cupressoides**: Madeleine Groves (boxes); Corporación Nacional Forestal – CONAF (Chile) (remaining).

**Fraxinus mandshurica**: Eric Meier, http://www.wood-database.com/ (box, veneer). Christopher Notley, Chichester College (veneer sheet); Andrew McRobb, RBG, Kew (port).

**Gonopterodendron sarmientoi**: Andrew McRobb, RBG, Kew (firewood in Brazil, utensils); Miles Gilmer, Gilmer Wood Company (logs); Lance Cruse, Border Force (essential oil drum); Madeleine Groves (essential oil); Margaret Rutherford (mosquito coil).

**Gonystylus**: EIA (logs); RBG, Kew (sawn wood); Christoper Notley, Chichester College (veneer sheet); Lucy Garrett, RBG, Kew (remaining).

**Guaiacum**: Miles Gilmer, Gilmer Wood Company (pen blanks); Transforesta SA de CV, Mexico (logs, bearings); Madeleine Groves (pulley, alcohol).

**Guibourtia**: Jean Louis Doucet (Guibourtia tessmannii); Quentin Merneur (Guibourtia demeusei); Robert Smith, Timberline (guitar set); George Post, Mark Doolittle Studio (artwork); Les Cuisine Lucas (kitchen)

**Handroanthus**: Leonardo “Leguas” Carvalho under Creative Commons License (tree); Wiki Creative Commons (tree); J.Gibson Mcllvain Company (logs); Madeleine Groves (transformed and sawn wood).

**Khaya**: Madeleine Groves (sawn wood, musical instruments); Gael Bouka (Khaya tree and fruit and seed)

**Osyris lanceolata**: Quentin Luke (O. lanceolata); Tim Pearce, RBG Kew (logs); Transforesta SA de CV, Mexico (sawdust); Catherine Rutherford (essential oil).

**Paubrasilia echinata**: RBG, Kew (Pernambuco tree); Fauna and Flora International (unfinished violin bow blanks); Peter Beare (finished violin bows).

**Pericopsis elata**: Botanic Gardens Conservation International – BGCI (species); CITES Management Authority, Belgium (logs, sawn wood); Madeleine Groves (flooring); Christoper Notley, Chichester College (veneer sheet).
Pilgerodendron uviferum: Paulo Carmo (house singles); Forest Corporación Nacional Forestal (CONAF), Chile (remaining images).

Pinus koraiensis: Aljos Farjon, RBG, Kew (cones); Madeleine Groves (pine nuts); Andrew McRobb, RBG, Kew (plywood); Victor Sound (logs on lorry – this file is licensed under the Creative Commons Attribution-Share Alike 2.0 Generic license); Christine Johnstone (telegraph poles – this file is licensed under the Creative Commons Attribution-Share Alike 2.0 Generic license).

Platymiscium pleiostachyum: Christoper Notley, Chichester College (veneer sheet); Madeleine Groves (port); Wikipedia (panelling and flooring – files are licensed under the Creative Commons Attribution-Share Alike 2.0 Generic license); Christine Johnstone (telegraph poles – this file is licensed under the Creative Commons Attribution-Share Alike 2.0 Generic license).

Podocarpus nerifolius: Aljos Farjon (species); Madeleine Groves (oars, utensils, boat); RBG, Kew (table).

Podocarpus parlatorei: Stefan Sauzak (species – this file is licensed under the GNU Free Documentation License); Andrew McRobb, RBG Kew (fenceposts, port); Catherine Rutherford (pencils); Madeleine Groves (household utensils).

Prunus africana: UK Border Force (medicine); Terry Sunderland, CIFOR (all remaining).

Pterocarpus santalinus: M. Garg (species – this file is licensed under the Creative Commons Attribution-Share Alike 2.0 Generic license); Angie Harms (hanko seals – this file is licensed under the GNU Free Documentation License, Version 1.2); Madeleine Groves (powder); RBG, Kew (essential oil); EIA (Hongmu chair carving).

Pterocarpus (Africa): Dr Luis Catarino, Instituto de Investigação Científica Tropical (logged tree); Robert Some, Environment and Fish, Burkina Faso (logs); EIA (roughly squared logs, logs, kitchen, logs with bark), Forest Trends (all remaining).

Quercus mongolica: Richard Wilford, RBG, Kew (species); Christine Johnstone (telegraph poles – this file is licensed under the Creative Commons Attribution-Share Alike 2.0 Generic license); EIA (logs); Madeleine Groves (tool handles); Gerald Prins (barrels – this file is licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license).

Swietenia: Madeleine Groves (candle sticks); Rainbow Music, Essex (guitars); Pat Ford, U.S. Fish and Wildlife Service (all remaining).

Taxus: Madeleine Groves (live plants, medicine); Aljos Farjon, RBG, Kew (seeds); Sage Ross (bonsai – this file is licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license).

Widdringtonia: Alex Hudson, BGCI (all)

Identification: Linda Gurr (cross section line drawing); Madeleine Groves (remaining).

Timber measurement: Ismail Parlan, Forest Research Institute – FRIM (tree measurement); Andrew McRobb, RBG Kew (guitar blank); Madeleine Groves (remaining).

Cover: Andrew McRobb, RBG Kew (forest in Sabah).

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