

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



Sixteenth meeting of the Plants Committee
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Annotations for plants species included in Appendices II and III

ANNOTATIONS FOR MEDICINAL PLANTS IN APPENDICES II AND III

Revision of the # Annotations for medicinal and aromatic plants included in the CITES Appendices

1. This document has been prepared by the IUCN/SSC Medicinal Plant Special Group (IUCN/MPSG) at the request of the Plants Committee inter-sessional working group.

Background

2. At its 12th meeting (Santiago, 2002), the Conference of the Parties decided that "The Plants Committee shall consider the Annotations in Appendices I and II relating to species of plants used for medicinal purposes and shall make recommendations to clarify the Annotations, for consideration at the 13th meeting of the Conference of the Parties" [Decision 11.118 (Rev. CoP12)].
3. Document PC14 Inf.3 on Revision of the # Annotations for medicinal and aromatic plants included in the CITES Appendices (in English only), was prepared by the IUCN/SSC Medicinal Plant Specialist Group under a contract with the Secretariat and was approved at the 14th meeting of the Plants Committee (PC14, Windhoek, February 2004). The recommendations in the report of the Plants Committee, document CoP13 Doc. 58, on annotations for medicinal plants in the Appendices were approved with amendments at the 13th meeting of the Conference of the Parties (CoP13; Bangkok, 2004).
4. At CoP13, the Parties adopted Decisions 13.50 to 13.52, which direct the Plants Committee to review existing Annotations for CITES listed medicinal plant species as follows:

13.50 The Plants Committee shall prepare amendments to annotations for medicinal plants included in Appendix II that adequately reflect the current commodities in international trade and their relative impact on the wild populations in range States.

13.51 The amended annotations shall focus on those commodities that first appear in international trade as exports from range States and on those that dominate the trade and the demand for the wild resource.

13.52 The Plants Committee shall draft proposals to amend the Appendices in this respect for the Depository Government to present for consideration at the 14th meeting of the Conference of the Parties.

5. The trade in medicinal plants consists of a large variety of commodities which range from raw plant material, such as root or bark, to processed drugs such as extracts or even finished pharmaceutical products ready to be sold. The analysis of existing CITES trade data for the medicinal species provides an overview of the commodities that dominate the trade and which of those that are only marginal (see Table 4 in document PC14 Inf. 3).

Recommendations by the Plants Committee at its 15th meeting (Geneva, 2005)

6. At its 15th meeting (PC15, Geneva, 2005), the Plants Committee considered document PC15 Doc. 17 on Annotations for medicinal plants included in Appendix II and established a working group chaired by Uwe Schippmann (Germany). The findings of the working group 5 were supported by the Committee (see document PC15 WG5), and are summarized in Tables 1 and 2 of the Annex to the present document.
7. *Taxus chinensis*, *T. fuana*, *T. cuspidata*, *T. sumatrana*, and *T. wallichiana* (#10): The chemical derivative or extract (e.g., crude, semi-purified and active pharmaceutical ingredient) is the commodity actually exported in *Taxus* species, rather than plant biomass. However, the Conference of the Parties in 2000 exempted "chemical derivatives and finished pharmaceutical products" from the provisions of the Convention. In 2004, at CoP13, this situation was greatly improved: the then new annotation #10 included all parts and derivatives but excludes finished pharmaceutical products.

Delegates from China and United States of America, the proponent countries for the inclusion of these species in Appendix II and its annotation #10, summarized that the intention of the annotation was to exclude the retail trade in packaged medicines from CITES controls. The term 'finished pharmaceutical products' was found to be too ambiguous and to provide a possible way for circumvention of controls. The proposed revised version of #10 amends this term to read "packaged and ready for retail trade".

The proposed revision of annotation #10 was supported by the Plants Committee at its 15th meeting and found appropriate for other taxa as well.

8. *Adonis vernalis* (#2): Trade is mainly in the dried, whole or cut herb, sometimes also in the powdered herb. With Annotation #2 the relevant trade is covered by CITES controls. The proposed revision of annotation #10 serves the same purpose.
9. *Guaiacum* spp. (#2): Mainly timber and pieces of heartwood are in trade. The products of *Guaiacum* advertised in trade, e.g. on the Internet and in company brochures, include wood, bark, resin powder, fluid extract and tinctures. To what extent the non-timber commodities figure in international trade remains unclear. Germany annually imports up to 40 tonnes of heartwood resin and wood chips as aromatic substances for use in the liqueur industry. *G. coulteri* is also imported into the United States to be used in diagnostic kits for detecting hidden gastrointestinal bleeding (resin of the heartwood of *G. coulteri* is used in the kits). Verification of the nature of the international trade in *Guaiacum* medicinal products has proved to be very difficult. It remains unclear where the processing of medicinal products takes place and which commodities appear in international trade beside timber.

With Annotation #2, the trade in resin and oil is excluded from CITES controls. It has been suggested that the regulation of commodities such as oils and resins should be considered as there is apparently some demand for these on the international market (P. Davila, Scientific Authority Mexico, pers. comm. 26.3.2004). The proposed revision of annotation #10 serves this purpose.

10. *Nardostachys grandiflora* (#3): The main commodities in international trade are unprocessed rhizomes, with smaller amounts of trade in processed products such as oil. Quantitative information on trade volumes is limited because much of the trade is apparently unregulated or occurring outside established trade controls, and therefore undocumented.

With Annotation #3, CITES permits and certificates are only requested for trade in whole and sliced or parts of 'roots'. Therefore, oil and powder are excluded from CITES controls. In recent years, the technology to produce essential oils was introduced in Nepal, which has led to an increased local production of and trade in 'Jatamansi oil'.

The proposed revision of annotation #10 will bring this sector of trade under CITES controls as this appears to be a significant product as well as a commodity that first appears in international trade as an export from range States.

11. *Panax ginseng*, *P. quinquefolius* (#3): Mainly dried, whole roots are in trade, also to some extent powdered roots and fresh roots. This range of trade commodities is adequately covered by annotation #3. The focus of CITES controls on roots and parts of roots was found to be appropriate and the first part of #3 to be well phrased. It was agreed that the annotation could be further improved by deleting the second part of the annotation after the comma which lists a number of undefined terms while not adding relevant substance. The proposed revision of annotation #3 positively defines what is included in CITES controls.
12. *Picrorhiza kurroa* (#3)¹: The main trade commodity is the unprocessed rhizome, with smaller amounts of trade in processed products such as oil. Quantitative information on trade volumes is limited, as much of the trade is apparently unregulated and therefore undocumented. With annotation #3, extract and oil are excluded from CITES controls. Given that the vast majority of international trade appears to involve unprocessed rhizomes, the current Annotation seems generally appropriate. However, annotation #3, which designates whole and sliced roots and parts of roots, does not explicitly include rhizomes. Therefore, the proposed revision of annotation #10, which designates all parts, positively defines what is included in CITES controls.
13. *Pterocarpus santalinus* (#7): This tree species is in demand outside India as a high quality timber, a source of dyes and, less importantly, for other uses such as incense. The colourant is extracted from the heartwood, which is first reduced to chips or powder and the colourant then extracted. The international trade in *Pterocarpus santalinus* involves tens if not hundreds of tonnes of wood, wood chips and powder each year. Legal export of wild-sourced material is limited to value-added products, i.e. other than timber. It has been imported into Germany in the form of powder or as an extract (oleoresin).

With the exception of seizures of timber, CITES implementation for trade in the species appears to be non-existent. However, even if the current listing were implemented, the exclusion of extracts in accordance with annotation #7 would mean that a significant proportion of the trade, mainly in powder, would be outside CITES trade controls.

The Plants Committee agreed that trade in powder and extracts should be covered by CITES controls. It also agreed that finished products such as furniture and musical instruments should remain exempt from CITES controls. The chairman and the delegate from COMURNAT were asked to draft an appropriate annotation. The Committee recommended to annotate this species with the rephrased the proposed revision of annotation #7.

14. *Rauvolfia serpentina* (#2): The part used and traded is the dried root. As a consequence of the ban on the export of raw material in some range States, export of alkaloids extracted from the roots increased. The few CITES trade records for the 1990-1997 period are mainly for 'derivatives', although they were always exempted from CITES controls. Current international trade in *Rauvolfia serpentina* is still significant, although lower than in earlier decades. It concerns mostly extracts, with India and Thailand as main suppliers. All this is not adequately reflected by CITES monitoring owing to the exemption of 'chemical derivatives' under Annotation #2. The Plants Committee recommended at PC15 to annotate the species with the proposed revision of annotation#10 to improve this situation.
15. **Orchidaceae spp.** (#8): Current Annotations #1 and #8 for orchids are basically identical: they only differ in part d) which relates to the exclusion of *Vanilla* fruits. The Plants Committee recommended to move the *Vanilla*-related text of #8(d) to #1, and to annotate Orchidaceae ssp. in Appendix II with the proposed revision of annotation #1 (cf. table 2 in the Annex). This makes annotation #8 redundant, thereby reducing the overall number of annotations.

¹ The trade name for *Picrorhiza kurroa* is 'kutki' which is usually a mixture of *Picrorhiza kurroa* and *Neopicrorhiza scrophulariiflora* (Pennell) D.Y. Hong (syn. *P. scrophulariiflora* Pennell); the latter is not covered by CITES. As the rhizomes of the two species are morphologically similar and used for similar purposes, they are not distinguished in trade and an effective implementation of CITES for *P. kurroa* is therefore difficult.

Remaining issues

16. *Hydrastis canadensis* (#3): The working group at PC15 reached consensus to include powder in the annotation. Representatives of Canada and United States indicated a need to consult internally on the best way forward. Meanwhile Canada and the United States provided the supervisory group with an analysis of trade and a proposal to amend the annotation.

Canada and the United States, the two range states of *H. canadensis*, recognize that powder is an important commodity in trade, in addition to rhizomes and roots. This is based on information from Canadian, the United States, and international traders and the herbal products industry, as well as the abundant availability of powder for sale on the Internet. Industry experts also indicate that companies are powdering roots to avoid CITES controls. *H. canadensis* powder primarily consists of ground-up rhizomes and roots, along with leaves and stems in some cases. Therefore, to regulate this commodity in trade, it is proposed that the annotation for *H. canadensis* include powder.

Canada and the United States propose a new annotation for *H. canadensis*: "Designates rhizomes and roots: intact, parts and powdered". Alternative options are: "Designates roots: intact, parts and powdered", or "Designates underground organs: intact, parts and powdered".

In *H. canadensis* it is the rhizome that is used medicinally although true roots arise from the rhizome, which are also used. In common parlance, a 'root' normally means the underground portion of a plant. Morphologically, however, a rhizome is an underground stem. To avoid any unnecessary confusion, it is important to include a definition for rhizome in the glossary. If the revised annotation does not specify 'rhizome' in the annotation itself, it is advisable that an explanation be provided that the term 'roots' refers to underground organs, including rhizomes.

17. *Podophyllum hexandrum*: This species was proposed for inclusion in the Review of Significant Trade, but not selected. No information was available at PC15, and the drafting of an appropriate annotation was deferred to IUCN/MPSG and the supervisory group. Further enquiries involving Indian plant experts have not provided additional data. In this case, it is proposed to use the proposed revision of annotation #10 for this species.

Plants Committee

18. The inter-sessional working group requests the Plants Committee to discuss and decide upon the following recommendations:
- a) to endorse the recommendation made at PC15, as laid out in paragraphs 7) to 15) above and in Tables 1 and 2 in the Annex;
 - b) to decide upon an appropriate annotation for *Hydrastis canadensis*; and
 - c) to review possibly new data for *Podophyllum hexandrum*, and to decide upon an appropriate annotation for this species.

Table 1: Proposed revised Annotations for medicinal plant species in Appendix II

Taxon	Current annot.	Problem	Proposed revised annotation to be used
<i>Adonis vernalis</i>	#2	Resin, extract and oil currently exempt but should be covered by controls.	#10
<i>Guaiacum</i> spp.	#2	Resin and oil currently exempt but should be covered by controls.	#10
<i>Hydrastis canadensis</i>	#3	Abundant availability of powder in trade but not included in CITES. Companies are powdering roots to avoid CITES controls.	#11 new
<i>Nardostachys grandiflora</i>	#3	Oil and powder currently exempt but should be covered by controls.	#10
<i>Panax ginseng</i> , <i>Panax quinquefolius</i>	#3	Existing annotation works well, text after comma not needed.	#3
<i>Picrorhiza kurrooa</i>	#3	Oil currently exempt but should be covered by controls.	#10
<i>Podophyllum hexandrum</i>	#2		#10
<i>Pterocarpus santalinus</i>	#7	Powder and extract should be covered by CITES controls. Furniture and musical instruments should remain exempt.	#7
<i>Rauvolfia serpentina</i>	#2	Alkaloids extracted from the roots currently exempt but should be covered by controls.	#10
<i>Taxus chinensis</i> , <i>T. fuana</i> , <i>T. cuspidata</i> , <i>T. sumatrana</i> , <i>T. wallichiana</i>	#10	Term "finished ... product" not precise enough.	#10
Orchidaceae spp.	#8	The merging of #1 and #8 makes #8 redundant.	#1

Table 2: Current and proposed revised Annotations for medicinal plants

	Current version	Revised version
#1	Designates all parts and derivatives, except: a) seeds, spores and pollen (including pollinia); b) seedling or tissue cultures obtained <i>in vitro</i> , in solid or liquid media, transported in sterile containers; and c) cut flowers of artificially propagated plants.	Proposed revision of annotation #1 add: d) fruits and parts and derivatives thereof of artificially propagated plants of the genus <i>Vanilla</i> .
#2	Designates all parts and derivatives, except: a) seeds and pollen; b) seedling or tissue cultures obtained <i>in vitro</i> , in solid or liquid media, transported in sterile containers; c) cut flowers of artificially propagated plants; and d) chemical derivatives and finished pharmaceutical products.	[redundant]
#3	Designates whole and sliced roots and parts of roots, excluding manufactured parts or derivatives such as powders, pills, extracts, tonics, teas and confectionery.	Proposed revision of annotation #3 Designates whole and sliced roots and parts of roots.
#7	Designates logs, wood-chips and unprocessed broken material.	Proposed revision of annotation #7 Designates logs, wood-chips, powder and extracts.
#8	Designates all parts and derivatives, except: a) seeds and pollen (including pollinia); b) seedling or tissue cultures obtained <i>in vitro</i> , 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 <i>Vanilla</i> .	[redundant]
#10	Designates all parts and derivatives except: a) seeds and pollen; and b) finished pharmaceutical products.	Proposed revision of annotation #10 Designates all parts and derivatives except: a) seeds and pollen; and b) finished pharmaceutical products packaged and ready for retail trade.
#11	[Designates whole and sliced roots and parts of roots, excluding manufactured parts or derivatives such as powders, pills, extracts, tonics, teas and confectionery.]	Proposed new annotation #11 "Designates rhizomes and roots: intact, parts and powdered". <u>or:</u> "Designates roots: intact, parts and powdered". <u>or:</u> "Designates underground organs: intact, parts and powdered"

Table 3: Definitions of terms used in the revised versions of Annotations #3, #7, #10, and #11

Term	Definition / Explanation	Used in
Extract	A concentrated preparation from raw plant material in the form of a tincture, fluid, solid or powder.	revised #7
Finished pharmaceutical product	A preparation packaged, labelled and ready for retail market.	revised #10
Log	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. [Explanatory note: Definition given in Resolution Conf. 10.13 (Rev. CoP13) and in PC14 Doc. 7.5.2 (Rev. 1) prepared by the United States. Cf. HS Code 4403.]	revised #7
Powder	A dry, solid substance in the form of fine or coarse particles.	revised #7
Rhizome	Underground stem.	new #11
Root	The underground organ or part of a plant, including primary and secondary roots, and underground stems such as rhizomes, bulbs, corms, caudices, and tubers.	revised #3
Wood-chip	A small piece broken or cut from a woody part of a plant.	revised #7
<p>Sources consulted: Anon., 1971. <i>The Compact Edition of the Oxford English Dictionary</i>. Oxford University Press. Morris, W. 1971. <i>The American Heritage Dictionary of the English Language</i>. American Heritage Publishing and Houghton Mifflin. Sharp, D.W.A. 1988. <i>The Penguin Dictionary of Chemistry</i>. Penguin Books. U.S. FWS. 2001. Definitions of the technical terms used in the annotations. PC11 Doc. 9.4. Document prepared for the 11th meeting of the Plants Committee, Langkawi (Malaysia). World Customs Organization, Harmonized Commodity Coding System (HS), http://www.foreign-trade.com/reference/hscod.htm (accessed 25.3.2006)</p>		