

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



Seventeenth meeting of the Plants Committee
Geneva (Switzerland), 15-19 April 2008

Annotations

CACTACEAE AND ORCHIDACEAE: REVIEW OF ANNOTATIONS

1. This document has been submitted by the Management Authority of Switzerland.

Background

2. Plant taxa in Appendices II and III are currently annotated with 11 different annotations ("#-annotations") that define the parts and derivatives which are subject to the provisions of the Convention. The Plants Committee has identified the need to review the annotations for (originally only medicinal) plant species in the Appendices as early as 1997, and has discussed the issue at several meetings. The Plants Committee has been working towards a better harmonization and more effective targeting of these annotations since the 12th meeting of the Conference of the Parties (Santiago, 2002) [Decision 11.118 (Rev. CoP12)].
3. In fact, for improved targeting of #-annotations, the Plants Committee, at its 14th meeting (PC14, Windhoek, 2004), recommended that two main principles be followed as standard guidance when drafting future #-annotations for medicinal plants. At the 13th meeting of the Conference of the Parties (Bangkok, 2004), these guiding principles were adopted (document CoP13 Doc. 58):
 - a) Controls should concentrate on those commodities that first appear in international trade as exports from range States. Those commodities may range from crude to processed material; and
 - b) Controls should include only those commodities that dominate the trade and the demand for the wild resource.
4. Also at its 13th meeting, the Conference of the Parties adopted Decisions 13.50 to 13.52, directing the Plants Committee to review existing annotations for CITES-listed medicinal plant species. The Plants Committee gave a corresponding mandate to a working group. At its 16th meeting (Lima, 2006), the Plants Committee agreed on a number of changes for annotations of medicinal plants. A corresponding proposal was elaborated by the working group and adopted at CoP14 (The Hague, 2007) (submitted by the Depositary Government at the request of the Plants Committee, proposal CoP14 Prop. 27).
5. Furthermore, at its 14th meeting, the Conference of the Parties adopted Decision 14.148, giving the Plants Committee the mandate to review annotations of tree species (see document PC17 Doc. 13.3).
6. In this context of ongoing revisions of annotations, Switzerland submitted a proposal at CoP14 (proposal CoP14 Prop. 26) that was complementary to proposal CoP14 Prop. 27 and aimed at

further merging and amending #-annotations by addressing some ambiguous wording, avoiding inconsistent treatment of certain parts and derivatives, and exempting certain frequently traded commodities that are not likely to have a negative impact on the conservation status of species. This proposal was withdrawn and a decision directed to the Plants Committee was adopted to discuss these issues further (Decision 14.130).

Mandate and schedule

7. The Plants Committee shall:

- a) analyse the amendments of annotations #1, #4 and #8 of proposal CoP14 Prop. 26 in order to decide whether there is merit in further developing and refining them; and
- b) if appropriate, prepare a proposal on annotations for consideration at the 15th meeting of the Conference of the Parties.

8. Numbers of annotations indicated under paragraph a) above reflect the state before implementation of changes as adopted at CoP14. Annotation #8 for Orchidaceae was abandoned at CoP14 and consequently the issue now is to analyse amendments and merging of annotations #1 and #4 (see Annex 1).

Scope

9. Five elements are contained in proposal CoP14 Prop. 26. These elements are:

- 1) cut leaves of artificially propagated plants (*de facto* not applicable to Cactaceae spp. and other taxa, such as, for instance, *Avonia* spp., *Cistanche deserticola* and succulent *Euphorbia* spp.);
- 2) fruits of *Hylocereus* spp. and *Selenicereus* spp. (Cactaceae), in trade as 'pitaya' or 'dragon fruits' and especially produced in Southeast Asia, where they are very popular, but also in Central and South America, Oceania, North America (United States of America) and possibly other regions;
- 3) dried biomass and extract of *Selenicereus grandiflorus* and possibly other species of *Selenicereus* (Cactaceae) for medicinal purposes, produced in North Africa, North America (United States) and possibly in other regions;
- 4) finished products of taxa of medicinal plants annotated with #1, such as *Aloe* spp. (applies for instance to *A. ferox*, but not to *A. vera*); and
- 5) non-living herbarium specimens for non-commercial purposes (of commercially tradable taxa) for non-commercial purposes.

10. The new elements are shown in bold in the third column of the table and a possible way to include them in a merged annotation is shown. The general idea is to further harmonize and facilitate enforcement and to help botanical science by facilitating exchange of certain non-living scientific specimens (herbarium specimens).

11. The following taxa of Appendix II are concerned:

Cactaceae spp. (#4) taxa annotated with #1: *Agave victoriae-reginae*, *Aloe* spp., *Anacampseros* spp., *Aquilaria* spp., *Avonia* spp., *Bowenia* spp., *Caryocar costaricense*, *Cibotium barometz*, *Cistanche deserticola*, *Cyathea* spp., CYCADACEAE spp., *Cyclamen* spp., *Dicksonia* spp., DIDIEREACEAE spp., *Dionaea muscipula*, *Dioscorea deltoidea* #1, *Euphorbia* spp., *Fouquieria columnaris*, *Galanthus* spp., *Gonystylus* spp., *Gyrinops* spp., *Hedychium philippinense*, *Lewisia serrata*, *Neodypsis decaryi*, *Nepenthes* spp., *Oreomunnea pterocarpa*, *Orothamnus zeyheri*, *Pachypodium* spp., *Platymiscium pleiostachyum*, *Protea odorata*, *Prunus africana*, *Sarracenia* spp., *Shortia galacifolia*, *Sternbergia* spp., *Swietenia humilis*, *Tillandsia harrisii*, *Tillandsia kammii*, *Tillandsia kautskyi*, *Tillandsia mauryana*, *Tillandsia sprengeliana*, *Tillandsia sucrei*, *Tillandsia xerographica*, *Welwitschia mirabilis*, ZAMIACEAE spp.

Elements for analysis at PC17

12. According to proposal CoP14 Prop. 26 and following the mandate of Decision 14.130, the Plants Committee shall decide, whether some of the elements described below could be partly or entirely exempted from CITES and whether this could be done by merging and amending annotations #1 and #4 (see Annex 1).

Artificially propagated cut leaves

13. At PC14 (Windhoek, 2004) Switzerland consulted with Parties about the issue of artificially propagated cut flowers, as addressed in paragraph c) of annotation #1 of Appendices II and III and the similar issue of cut leaves. The present regulation exempts cut flowers, whereas cut leaves fall under CITES regulations. However, markets and trade patterns of these commodities are very similar. This leads to some misinterpretation and inconsistency in enforcement. There was considerable support for the idea of harmonizing regulations for artificially propagated cut flowers and cut leaves. Switzerland therefore submitted a draft proposal for consideration of the Plants Committee at its 15th meeting (document PC15 Doc. 18.2). Generally there was support of the idea, although some concerns were raised. The United States of America pointed out that it may be preferable to annotate certain taxa, e.g. cycads with an exemption for artificially propagated cut leaves instead of amending annotation #1 and generally treating cut leaves and cut flowers the same way. Australia, as exporting country of cut leaves of cycads, expressed no concerns.
14. Cut leaves of artificially propagated plants of many plant taxa are found in international trade. Most of these taxa are not listed in the CITES Appendices. Such cut leaves are used in flower shops along with cut flowers. Whereas cut flowers of artificially propagated plants of taxa that are annotated with #1 in the Appendices are exempt from CITES regulations, cut leaves of the same taxa are not covered by this exemption and have to be traded under CITES regulations. This constitutes an inconsistency, which may lead to certain enforcement problems. Experience shows that CITES is not consistently implemented in the sector of artificially propagated cut leaves. In practice, such specimens are often treated the same way as cut flowers and (incorrectly) considered as exempt from CITES. As harvesting of leaves is normally done in a non-destructive way, there is no detrimental impact, even if specimens were actually collected from natural populations, which is not the case for the material under consideration here. Gathering of trade data in this context is therefore not very meaningful for species conservation.
15. The data on all trade in leaves (1982-2002) of the CITES trade database have been analysed and taxa involved and volumes of traded specimens have been determined (Annex 2). Reported trade in leaves and reporting of purpose of trade starts in 1982, reporting of the source (wild-collected versus artificially propagated) starts in 1990. Early reported trade in leaves was mainly in *Banksia* spp. that were exported from Australia. However, the genus *Banksia* was deleted from Appendix II in 1985, along with *Conospermum*, which was reported with lesser frequency. Exports of leaves of *Cycadaceae* spp. from Japan were reported (without source) from 1983 up to 1993, and leaves of *Aloe ferox* from South Africa appear in 1983 and are still reported. From 1991, the source of these *Aloe* leaves is indicated as wild-collected. From 1984, exports of leaves of *Macrozamia* spp. from Australia is reported and from 1987 also *Bowenia serratula*. In 1990, reporting of exports of wild-collected fronds of *Calochlaena dubia* from Australia starts and from the same year onwards, the source of *Macrozamia* leaves has been indicated as wild-collected. From 1995, the source of *Bowenia* leaves was indicated as wild-collected. In one occasion (1995), exports of *Zamia* leaves from Mexico and *Cycas* spp. from Thailand, the latter in low quantities, were reported as well as one shipment of wild-collected fronds of *Dicksonia antarctica* that was exported from Australia in 1999. Wild-collected leaves of Australian genera *Macrozamia*, *Bowenia* and *Calochlaena* were last reported in 2000. Such wild-collected leaves are however outside the scope of this document. In the same year, the genus *Calochlaena* was deleted from Appendix II. Reporting on exports of wild-collected leaves of *Aloe ferox* from South Africa continues up to the most recent analysed data (2002), but is outside the scope of this document. According to information that was provided by the Scientific Authority of Germany (Bundesamt für Naturschutz, 2004) and originates from Traffic South Africa, this concerns dry (non-living) *Aloe* leaves that are harvested from dead plants, which disintegrate into hollow stem segments with leaves still attached. This commodity is used in the flower arranging industry. There is no evidence for a conservation problem. In 1999, significant reporting of trade in artificially propagated leaves started (see Annex 2). Exports of artificially propagated cut leaves of *Cycas revoluta*, *C. circinalis* and *C. thouarsii* and also of *Zamia* spp. from Costa Rica to many

countries are reported up to the most recent analysed data. In conclusion, actual reported trade is principally composed of artificially propagated cycad leaves that are exported from Costa Rica, and of wild-collected *Aloe ferox* leaves that are exported from South Africa (such wild-collected cut leaves are outside the scope of this document).

16. Considering the fact that cut flowers of artificially propagated plants of taxa annotated with #1 are already exempt from CITES and that there are no reports on specific enforcement problems related to this exemption, it can be expected that exemption of artificially propagated cut leaves would similarly create no new enforcement problems. It seems that there would be no conservation problem if artificially propagated cut leaves were exempted from CITES.

Hylocereus spp. and Selenicereus spp. fruits (pitaya, pitahaya, strawberry pear, dragon fruit)

17. It is not fully clear from the wording of paragraphs d) and e) of annotation #4 whether the restriction to the genus *Opuntia* subgenus *Opuntia* applies to fruits as well, but this has to be assumed. Otherwise the inclusion of seeds of Mexican Cactaceae spp. listed in Appendix II originating from Mexico could easily be circumvented by exporting fruits instead of seeds. At the other hand, the CITES trade database contains no records of fruits of *Hylocereus* spp. and it therefore seems that these fruits are traded outside CITES, because they constitute a commodity that is frequently found in international trade. Dragon fruits (Annex 4) are native to Central and South America where they are known as pitaya or pitahaya. They are also used to flavour drinks and pastries. Dragon fruits are now found worldwide and are commercially produced in tropical regions, especially in Southeast Asia. There are three species of dragon fruit in the genus *Hylocereus* and one species in the genus *Selenicereus*. Varieties of *Hylocereus guatemalensis*, *Hylocereus polyrhizus* and *Hylocereus undatus*, native to Central America, as well as hybrids of these three species are grown commercially worldwide. *Selenicereus megalanthus*, originating from northern South America is grown commercially on smaller scales in South America and is especially popular in Colombia. Trade is very common, for instance, from Southeast Asia to the European region.
18. It would help to clarify the situation, if fruits of *Hylocereus* spp. and *Selenicereus* spp. were explicitly excluded, along with fruits of the genus *Opuntia* subgenus *Opuntia*. Considering the fact that this trade is actually going on outside CITES and apparently has no correlation with management of wild flora, there would be no obvious conservation concern, if these fruits were exempted from CITES.

Parts and derivatives of Selenicereus spp.

19. The CITES trade database contains a number of records of non-living material of *Selenicereus* spp. (Annex 3). Dried biomass is used for production of extracts and tinctures (alcohol solution) for medicinal purposes. *Selenicereus grandiflorus* is sometimes recommended for urinary tract infections and heart conditions such as the crushing pain of angina. Although it exhibits proven effects on the heart, its value as a remedy has not been officially recognized. *Selenicereus* has digitalis-like effects; it boosts the heart and opens the blood vessels. It also stimulates the movement-governing nerves in the spinal cord, and may have an anti-inflammatory effect on the skin. Reported trade shows exports of artificially propagated *Selenicereus grandiflorus* for medicinal purposes from Morocco and the United States (produced in Florida) (Annex 3).
20. Considering the fact that this trade apparently has no correlation with management of wild flora and is going on outside of possible range States, there would be no obvious conservation concern if this material were exempted from CITES, along with parts and derivatives of naturalized and artificially propagated *Opuntia*.

Finished products of certain Medicinal and Aromatic Plants (MAP)

21. *Aloe* spp., *Aquilaria* spp. and *Gyrinops* spp., *Cactaceae* spp. (e.g. *Opuntia* spp. or *Selenicereus* spp.), *Cibotium barometz*, *Cistanche deserticola*, *Cyclamen* spp., *Dionaea muscipula*, *Euphorbia* spp. (e.g. candelilla wax), *Galanthus* spp., *Orchidaceae* spp. (e.g. *Bletilla striata*, *Dendrobium* spp., *Gastrodia elata*) and *Prunus africana*, packaged and ready for retail trade: The working group of the Plants committee proposed exemption from CITES for taxa that were listed in Appendix II for their specific exploitation for medicinal purposes and annotated with #2, #3, #7 and #10 (prior to CoP14). Taxa annotated with #1, #4 and #8 (prior to CoP14) were not the focus of the working group. However, it is quite logical that all plants in Appendix II that are in trade for medicinal purposes

should be treated the same way, as far as possible. Consequently the Plants Committee should analyse, whether there are certain taxa among the taxa concerned here that specifically require monitoring and control of finished products in international trade.

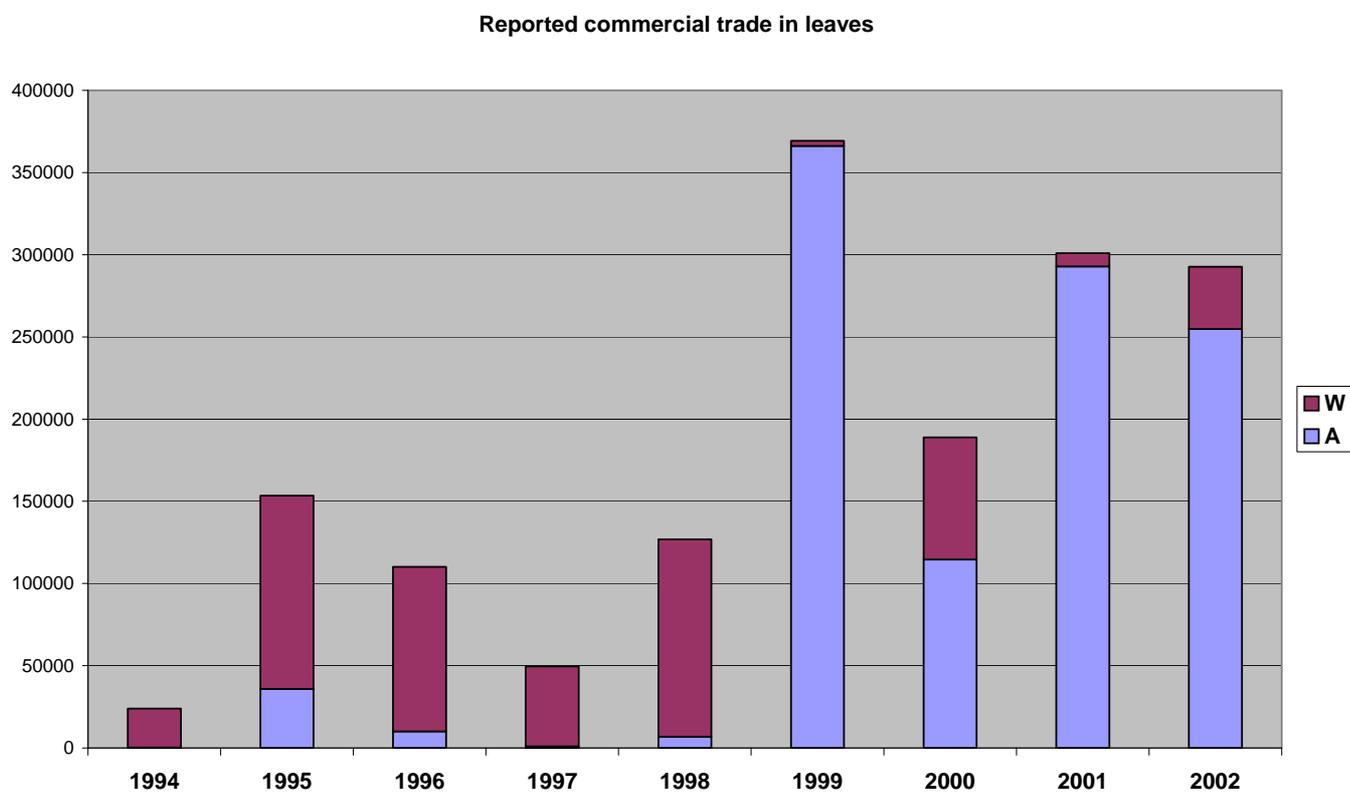
Herbarium specimens

22. Herbarium specimens of taxa listed in Appendix II (wild-collected) for non-commercial purposes: At CoP12, the United States expressed concerns about the implementation of the Convention for non-commercial loan, donation or exchange of herbarium specimens (see document CoP12 Doc. 56). The application of Article VII, paragraph 6, of the Convention is still not widespread. Less than 30 % of Parties, developing as well as developed countries, have registered scientific institutions. This situation has not improved since and there is no ongoing activity in this direction. An alternative way forward would therefore be to exempt from CITES controls herbarium specimens of taxa listed in Appendix II and currently annotated with #1 and #4, if they are not in trade for commercial purposes (although they are commercially tradable under CITES). This would exclusively apply to non-living material. The current regulation sets incentives for botanical sciences to rather investigate in non-CITES taxa. This is not the intention of the Convention and could be rather hindering for conservation biology.

MERGING AND AMENDMENT OF ANNOTATIONS #1 AND #4

	Elements of #1	Elements of #4 (Cactaceae spp.)	Proposed merged and amplified annotation (additional elements in bold)
	Designates all parts and derivatives, except:	Designates all parts and derivatives, except:	Designates all parts and derivatives, except:
a) seeds	a) seeds, spores and pollen (including pollinia);	a) seeds, except those from Mexican cacti originating in Mexico, and pollen;	a) seeds, spores and pollen (including pollinia), except seeds of Mexican Cactaceae spp. originating from Mexico;
b) <i>in vitro</i> cultures	b) seedling or tissue cultures obtained <i>in vitro</i> , in solid or liquid media, transported in sterile containers; and	b) seedling or tissue cultures obtained <i>in vitro</i> , in solid or liquid media, transported in sterile containers;	b) seedling or tissue cultures obtained <i>in vitro</i> , in solid or liquid media, transported in sterile containers;
c) cut flowers	c) cut flowers of artificially propagated plants;	c) cut flowers of artificially propagated plants;	c) cut flowers and cut leaves (excluding phylloclades and other stem parts, and pseudobulbs) of artificially propagated plants;
d) fruits	d) fruits and parts and derivatives thereof of artificially propagated plants of the genus <i>Vanilla</i> ;	d) fruits and parts and derivatives thereof of naturalized or artificially propagated plants; and	d) fruits and parts and derivatives thereof of naturalized or artificially propagated plants of the genera <i>Vanilla</i> (Orchidaceae), <i>Opuntia</i> , subgenus <i>Opuntia</i> (Cactaceae), <i>Hylocereus</i> and <i>Selenicereus</i> (Cactaceae) ;
e) stems		e) separate stem joints (pads) and parts and derivatives thereof of naturalized or artificially propagated plants of the genus <i>Opuntia</i> subgenus <i>Opuntia</i> ;	e) separate stem joints (pads), stem sections and flowers and parts and derivatives thereof of naturalized or artificially propagated plants of the genera <i>Opuntia</i> , subgenus <i>Opuntia</i> and <i>Selenicereus</i> (Cactaceae) ;
f) finished products			f) finished products, packaged and ready for retail trade (excluding live specimens, e.g. seeds, bulbs and other propagules) of <i>Aloe</i> spp., <i>Aquilaria</i> spp., Cactaceae spp., <i>Cibotium barometz</i> , <i>Cistanche deserticola</i> , <i>Cyclamen</i> spp., <i>Dionaea muscipula</i> , <i>Euphorbia</i> spp., <i>Galanthus</i> spp., <i>Gonystylus</i> spp., <i>Gyrinops</i> spp., Orchidaceae spp. and <i>Prunus africana</i> ; and
g) scientific samples			g) non-living herbarium specimens for non-commercial purposes.

REPORTED TRADE IN CUT LEAVES (CITES TRADE DATABASE)



Key: W: of wild origin, A: artificially propagated

REPORTED TRADE IN NON-LIVING, ARTIFICIALLY PROPAGATED MATERIAL OF
SELENICEREUS GRANDIFLORUS FOR MEDICINAL PURPOSES (CITES TRADE DATABASE)

Year	Quantity	Unit	Parts and derivatives	Importing country	Ccountry of origin
1997	300	kg	stems	DE	US
2003	100	kg	timber pieces	DE	US
2004	1200	kg	dried plants	DE	MA
2004	4000	kg	flowers	DE	MA
2004	350	kg	dried plants	DE	US
2004	50	kg	extract	DE	US
2004	100	kg	specimens	CH	MA (?)
2005	0.18	kg	derivatives (extract)	CA	DE (MA or US?)
2005	1	kg	dried plants	CH	MA
2005	160	kg	stems	CH	ES (MA?)
2005	25	kg	dried plants	IN	MA
2005	4.08	kg	dried plants	US	MA
2005	4000	kg	dried plants	DE	MA

(Material exported from Morocco is sometimes erroneously reported as wild-collected)

FRUITS OF *HYLOCEREUS* SP. (PITAYA, PITAHAYA, STRAWBERRY PEAR, DRAGON FRUIT)

