

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



Fourteenth meeting of the Conference of the Parties  
The Hague (Netherlands), 3-15 June 2007

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Merging and amendment of annotations #1, #4 and #8 to read:

| Taxon  | Proposed annotation  | Current Annotation |
|--|--|--------------------|
| Cactaceae spp. (#4) and Orchidaceae spp. (#8) in Appendix II, and all taxa annotated with #1 | Designates all parts and derivatives, except: <ul style="list-style-type: none"> <li>a) seeds, spores and pollen (including pollinia), except seeds of Mexican Cactaceae spp. originating in Mexico;</li> <li>b) seedling or tissue cultures obtained <i>in vitro</i>, in solid or liquid media, transported in sterile containers;</li> <li>c) cut flowers and cut leaves (excluding phylloclades and other stem parts, and pseudobulbs) of artificially propagated plants;</li> <li>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>, <i>Hylocereus</i> and <i>Selenicereus</i> (Cactaceae);</li> <li>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);</li> <li>f) finished products that are packaged and ready for retail trade (excluding whole or grafted specimens, seeds, bulbs and other propagules) of <i>Aloe</i> spp., <i>Aquilaria malaccensis</i>, 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., Orchidaceae spp. and <i>Prunus africana</i>; and</li> <li>g) non-living herbarium specimens for non-commercial purposes.</li> </ul> | #1, #4, #8         |

B. Proponent

Switzerland

## C. Supporting statement

### 1. Taxonomy

Cactaceae spp. (#4)

Orchidaceae spp. (#8)

Taxa of Appendix II 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.

It is not meaningful for the scope of this proposal to give further taxonomical details, as all taxa concerned are already listed in Appendix II and these listings are not affected.

### 2. Overview

#### 2.1 Background

The regulation of “all parts and derivatives, except...” in some annotations of plant taxa is absolute and therefore likely in some cases not to be well targeted at commodities which are relevant for conservation and sustainable use of wild flora; regulation of irrelevant commodities however is quite likely to create unintended administrative side-effects: paperwork like permitting and reporting, and other activities of CITES Authorities with no obvious positive impact on the conservation of wild flora. This leads to an inefficient allocation of resources and may also possibly compromise the credibility of the Convention. In order to avoid the most obvious unintended side-effects, a number of exemptions are needed; some are already in place.

On the other hand, relevant commodities were missed by other, less inclusive annotations in some instances. The problem of annotations that are not well targeted became very obvious for a number of plants that were listed for their specific exploitation for medicinal purposes. The Conference of the Parties therefore decided at its 12th meeting (CoP12, Santiago, 2002) 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)]. This was in order to improve terms for certain commodities, but also to have better targeted CITES regulations.

In fact, for improved targeting of CITES, the Plants Committee, at its 14th meeting (PC14, Windhoek, February 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 (CoP13, Bangkok, 2004), these guiding principles were discussed in Committee I (see 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.

Delegates approved the incorporation of these principles into the decisions and the Secretariat offered to find an appropriate place for incorporation into a resolution or decision [see document

CoP13 Com. I Rep. 7 (Rev. 1)]. At the same meeting, the Conference of the Parties also adopted Decisions 13.50 to 13.52 that direct 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 in July 2006 (Lima), the Plants Committee agreed on a number of changes for annotations of medicinal plants. A corresponding proposal was elaborated by the working group and forwarded to the Depositary Government for submission to the Secretariat. The working group identified a considerable number of problems and has proposed some sound and well-founded solutions, with the potential to significantly improve the clarity and targeting of annotations of medicinal plants. The mandate however still allows for a few further options and there are more options for reviewing annotations of plants outside the mandate, e.g. annotations of non-medicinal, ornamental plants. In order to enable the Conference of the Parties to consider these options as well, an additional and complementary proposal is presented here.

## 2.2 Rationale

The proposal of the working group covers all taxa that were listed in Appendix II for their specific exploitation for medicinal purposes and annotated with #2, #3, #7 and #10. Several higher taxa that are listed in Appendix II also contain medicinal plants. Of these, Orchidaceae spp., annotated with #8 and containing a number of species that are significantly traded for medicinal purposes (e.g. *Bletilla striata*, *Dendrobium* spp. or *Gastrodia elata*) were also considered by the working group.

Several taxa included in Appendix II have multiple uses, *inter alia* for medicinal purposes, for instance certain species in the family Cactaceae (e.g. *Opuntia* spp. or *Selenicereus* spp.), annotated with #4 or in the genera *Aloe* spp., *Cyclamen* spp., *Euphorbia* spp. and *Galanthus* spp., the latter all annotated with #1. Medicinal plants within higher taxa however may be quite cryptic and some species might still remain unrecognized and unconsidered. Also, some medicinal plants were annotated with the all inclusive annotation #1: *Aquilaria malaccensis*, *Cibotium barometz*, *Cistanche deserticola*, *Dionaea muscipula* (also frequently traded as an ornamental plant) and *Prunus africana*.

It is proposed here to merge annotations #1, #4 and #8. It is further proposed to exempt finished products of several medicinal plants annotated with #1, a number of frequently traded commodities that are not harvested from natural populations, such as fruits and ornamental cut leaves, and non-living scientific samples for non-commercial purposes. In the last two mentioned instances, this proposal goes beyond the mandate of the Plants Committee.

It has to be emphasized that this proposal is not in contradiction with the proposal on annotations of medicinal plants, as proposed by the working group of the Plants Committee, but well coordinated and complementary to it.

To allow easier understanding, the proposed, merged and amended annotation is divided in the table shown in Annex 1 into:

- a) transferred elements of current annotation #1,
- b) transferred elements of current annotation #4,
- c) transferred elements of current annotation #8, and
- d) additional, new elements.

## 2.3 Effects

The most obvious effect of the proposed annotation is a further reduction of the number of annotations, which was not an objective, but is a positive side-effect of the revision of annotations.

The merging allows to eliminate duplicated wording of annotations #1, #4 and #8, whereas no existing elements of these annotations are eliminated (see Annex 1):

- 1) paragraph a) (seeds etc.) exists three times in parallel, with one additional element in annotation #4;
- 2) paragraph b) (*in vitro* cultures) exists three times in parallel;
- 3) paragraph c) (cut flowers) exists three times in parallel; and
- 4) paragraph d) (fruits) exists twice in parallel, with specific genera added in annotations #4 and #8.

Five new elements are added. This allows to eliminate from CITES some frequently-traded commodities with no obvious or direct negative impact on wild flora, and it helps botanical sciences; it facilitates enforcement and reduces unintended administrative side-effects, and thus alleviates the burden of CITES Authorities and allows more effective allocation of resources. The new 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., *Cystanthe 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).

### 3. Species characteristics

Not meaningful for the scope of this proposal.

### 4. Status and trends

Not applicable.

### 5. Threats

Not applicable.

### 6. Utilization and trade

Only the newly introduced elements are commented here, i.e. artificially propagated cut leaves, *Hylocereus* and *Selenicereus* fruits, other parts and derivatives of *Selenicereus*, finished products of medicinal plants annotated with #1, #4 and #8, and non-living, non-commercial herbarium specimens.

**Artificially propagated cut leaves:** At PC14, Switzerland consulted Parties about the issue of artificially propagated cut flowers, as addressed in paragraph c) of annotation #1 of Appendices II and III; and 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 in document PC15 Doc. 18.2 for consideration by the Plants Committee at its 15th meeting (PC15, Geneva, May 2005). Generally there was support of the idea, although some concerns were raised. The United States pointed out that it was maybe 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.

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 florist 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, 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 actually would be 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.

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 should similarly create no new enforcement problems.

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 (see 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. The genus *Banksia* was deleted from Appendix II in 1985 however, along with *Conospermum*, which was reported with lesser frequency. Export of leaves of *Cycadaceae* spp. from Japan was 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 started and from the same year onwards, the source of *Macrozamia* leaves was indicated as wild-collected. From 1995, the source of *Bowenia* leaves was indicated as wild-collected. In one occasion (1995), export of *Zamia* leaves from Mexico and *Cycas* spp. from Thailand, the latter in low quantities, was reported as well as one shipment of wild-collected fronds of *Dicksonia antarctica* that were exported from Australia in 1999. Wild-collected leaves of Australian *Macrozamia*, *Bowenia* and *Calochlaena* were last reported in 2000. Such wild-collected leaves are however outside the scope of this proposal. The same year, *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 available data (2002), but is outside the scope of this proposal. 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. Significant reporting of trade in artificially propagated leaves started in 1999 (see Annex 2). Export of artificially propagated cut leaves of *Cycas revoluta*, *C. circinalis* and *C. thouarsii* and also of *Zamia* spp. from Costa Rica to many countries is reported until the most recent available data.

In conclusion, actual reported trade is principally composed of artificially propagated cycad leaves that are exported from Costa Rica, and of wild-collected, dead (before harvest) *Aloe ferox* leaves that are exported from South Africa (such wild-collected, dead "cut" leaves are outside the scope of this proposal).

***Hylocereus* spp. and *Selenicereus* spp. fruits (pitaya, pitahaya, strawberry pear, dragon fruit):** 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 and originating in 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 (see 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 fruits 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 a smaller scale in South America and is especially popular in Colombia. Trade is very common, for instance, from Southeast Asia to the European region. It would help to clarify the situation, if fruits of *Hylocereus* spp. and *Selenicereus* spp. would be explicitly excluded, along with fruits of the genus *Opuntia* subgenus *Opuntia*. Considering the fact that this trade is actually taking place without CITES documents [requirement depends on the interpretation of paragraphs d) and e) of annotation #4] and apparently that this has no negative impact on wild flora, there is no obvious conservation concern.

**Parts and derivatives of *Selenicereus* spp.:** The CITES trade database contains a number of records of non-living material of *Selenicereus* spp. (see 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 export of (artificially propagated) *Selenicereus grandiflorus* (for medicinal purposes) from Morocco and United States (Annex 3). Considering the fact that this trade apparently has no negative impact on wild flora and is going on outside of possible range States, there is no obvious conservation concern.

**Finished products** of *Aloe* spp., *Aquilaria malaccensis*, *Cactaceae* spp. (e.g. *Opuntia* spp., *Selenicereus* spp.), *Cibotium barometz*, *Cistanche deserticola*, *Cyclamen* spp., *Dionaea muscipula*, *Euphorbia* spp., *Galanthus* spp., *Orchidaceae* spp. (e.g. *Bletilla striata*, *Dendrobium* spp., *Gastrodia elata*) and *Prunus africana*, packaged and ready for retail trade: The working group 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. Taxa annotated with #1, #4 and #8 were not the focus of the working group. However, it is quite logical that all plants listed in Appendix II that are in trade for medicinal purposes should be treated the same way, as far as possible.

**Herbarium specimens** of taxa listed in Appendix II (wild-collected) for non-commercial purposes: At CoP12 (Santiago, 2002), 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. It therefore would be an alternative way forward to exempt from CITES controls herbarium specimens of taxa listed in Appendix II and currently annotated with #1, #4 and #8, if they are not in trade for commercial purposes (although they are commercially tradable under CITES). This would exclusively apply to non-living material.

7. Legal instruments

Not applicable.

8. Species management

Not applicable.

9. Information on similar species

Parts and derivatives of plants are normally identified through the Customs declaration, invoice, labels on packages, etc.

## 10. Consultations

The process of the review of annotations of medicinal plants is open to all Parties. It is carried out by the Plants Committee with a mandate adopted at CoP12 and CoP13 and discussed in a working group of the Plants Committee.

The Plants Committee identified the need to review the annotations for medicinal plant species in the Appendices as early as 1997 and discussed the issue at several of its meetings, which lead to the adoption of Decision 11.118 at CoP11 (Gigiri, 2000) and its renewal at CoP12 (see Section 2.1 above). The subsequent report of the Plants Committee (see document CoP13 Doc. 58) was approved in Committee I at CoP13 in Bangkok in 2002 [see document CoP13 Com. I Rep. 7 (Rev. 1)]. At PC15, the Plants Committee established an intersessional working group which has coordinated the review ever since. The working group comprises the PC representatives of North America and of South and Central America and the Caribbean, and the observers from Austria, Canada, China, Mexico, Switzerland, the United Kingdom of Great Britain and Northern Ireland, and the United States.

At PC14, Switzerland consulted Parties about the issue of artificially propagated cut leaves, and submitted a draft proposal to exempt artificially propagated cut leaves from CITES at PC15 (see document PC15 Doc. 18.2) in order to raise awareness of the issue.

## 11. Additional remarks

If this proposal and the proposal on annotations of medicinal plants of the working group of the Plants Committee both should be adopted, this would have implications for the proposal on annotations of medicinal plants in a way that the proposed merging of annotations #1 and #8 would have to be replaced by the merging and amendment of annotations #1, #4 and #8, as proposed here.

## 12. References

Document PC15 Doc. 18.2 (submitted by Switzerland): Technical proposals for the 14th meeting of the Conference of the Parties. ARTIFICIALLY PROPAGATED CUT LEAVES.

CITES-Commissie (Scientific Authority of the Netherlands) (2004): Figures on cut leaves, provided by the Dutch flower traders.

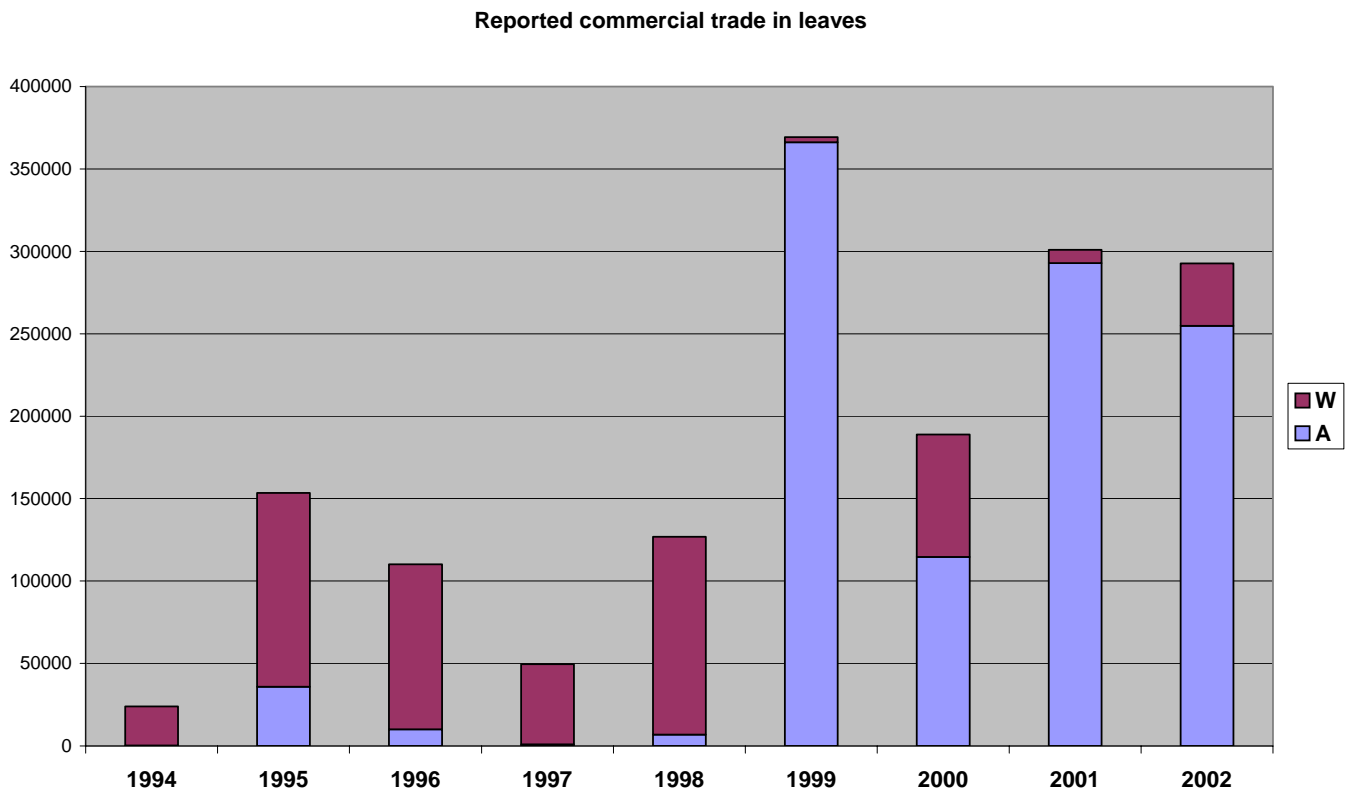
Document CoP12 Doc. 56 (submitted by the United States): Exemptions and special provisions: NON-COMMERCIAL LOAN, DONATION OR EXCHANGE OF MUSEUM AND HERBARIUM SPECIMENS.

COMPARISON TABLE

|                             | Elements of #1   | Elements of #4<br>(Cactaceae spp.)  | Elements of #8<br>(Orchidaceae spp.)   | Proposed merged annotation<br>(additional elements in bold)  |
|-----------------------------|--|---|--|--|
|                             | Designates all parts and derivatives, except:  | 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 and pollen (including pollinia);  | a) seeds, spores and pollen (including pollinia), except seeds of Mexican Cactaceae spp. originating in 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; | 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 of artificially propagated plants; and  | c) cut flowers <b>and cut leaves (excluding phylloclades and other stem parts, and pseudobulbs)</b> of artificially propagated plants;   |
| d) fruits                   |  | d) fruits and parts and derivatives thereof of naturalized or artificially propagated plants; and   | 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 of the genera <i>Vanilla</i> (Orchidaceae), <i>Opuntia</i> , subgenus <i>Opuntia</i> , <b><i>Hylocereus</i> and <i>Selenicereus</i> (Cactaceae)</b> ;   |
| 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), <b>stem sections and flowers</b> and parts and derivatives thereof of naturalized or artificially propagated plants of the genera <i>Opuntia</i> subgenus <i>Opuntia</i> , <b>and <i>Selenicereus</i> (Cactaceae)</b> ;  |
| f) finished products        |  |   |  | f) <b>finished products that are packaged and ready for retail trade (excluding whole or grafted specimens, seeds, bulbs and other propagules) of <i>Aloe</i> spp., <i>Aquilaria malaccensis</i>, 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., Orchidaceae spp. and <i>Prunus africana</i>; and</b> |
| g) scientific samples       |  |   |  | g) <b>non-living herbarium specimens for non-commercial purposes.</b>  |



REPORTED TRADE IN CUT LEAVES (CITES TRADE DATA)



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

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

| Year | Quantity | Unit | Parts and derivatives | Importing country | Country 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)

