CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Delisting from Appendix II of Prickly Pear cacti: *Cactaceae*, Subfam. *Opuntioideae* (all species).

B. Proponent

Switzerland.

C. Supporting statement

1. Taxonomy

1.1 Class: *Angiospermae* (Angiosperms; Flowering Plants)

1.2 Order: *Caryophyllales*

1.3 Family: Cactaceae

1.4 Subfamily: Opuntioideae Schumann, all species

(361 species, of which 156 are only provisionally accepted at species level, according to the CITES Cactaceae Checklist, 2nd edition, most species belonging to the genus Opuntia Miller, few to the additionally accepted genera Pereskiopsis Britton & Rose, Pterocactus Schumann, Quiabentia Britton & Rose and Tacinga Britton & Rose) [Anderson (2001) now accepts many more genera: Austrocylindropuntia Backeberg, Brasiliopuntia (K. chumann) A. Berger, Consolea Lemaire, Cumulopuntia F. Ritter, Cylindropuntia (Engelmann) F. M. Knuth, Grusonia F. Reichenbach ex Britton & Rose, Maihueniopsis Spegazzini, Miqueliopuntia Fric ex F. Ritter, Opuntia Miller, Pereskiopsis Britton & Rose, Pterocactus K. Schumann, Quiabentia Britton & Rose, Tacinga Britton & Rose, Tephrocactus Lemaire and Tunilla D. R. Hunt & Illiff. This concept is not yet generally accepted].

1.5 Scientific synonyms: none

1.6 Common names: Nopal, Cholla, Prickly Pear, Tuna, Tunilla

Further (for certain *Opuntia* spp. in certain regions): airampo, ayrampu, alfilerillo, catalinaria, tasajillo, tasajo, cardoncillo, velas de coyote, clavelilla, xoconostle, joconostli, cardenche, coyonostle, coyonostli, entreña, cardón, abrojo, tencholote, coyonoxtle, organillo, viejo, sacasil, cardo, nopal cardoso, vixivixio, nopal de tortuga, nopal de culebra, cegador, cuija, coyotillo, pak'an, yaaxpakan, nopal de caballo, nopal duraznillo, duraznillo blanco, nopal colorado, nopal crinado, nopal de crines, nopal cascarón, tuna chaveña, nopal memelo, tempranilla, nopal tapón, bartolona, nopal camueso, arrastradillo, nopal serrano, oveja echada, chuchampe, perrito, gatito, puskaye, puscaya, puskayo, espina, jala-jala, leoncito

Further (for certain *Nopalea* spp.): zacam, nopal de lengüita, lengua de vaca, nopal chamacuero, tuna de playa

Further (for certain *Pereskiopsis* spp.): alfilerillo, chapistle, tzompahuiztle, alcajes, xoconoxtle, rosa amarilla, alcahuésar, tuna de agua, chirrioncillo, tasajillo, joconoxtle, patilón

Further (for *Quiabentia* spp.): quiabento

1.7 Code numbers:

2. Biological parameters

2.1 Distribution

The subfamily *Opuntioideae* is native to North- and South America, from southern Canada to Patagonia, and to the Caribbean from sea level to 5200 m altitude in the Andes of South America. Various species are introduced in many other regions of the world with mediterranean or semiarid climates, such as Australia, South Africa, Madagascar or the Mediterranean region.

2.2 Habitat availability

Opuntioids inhabit diverse types of vegetation, but are most frequent in semi-deserts, tropical seasonal forests, succulent and thorn scrub and dry grasslands, inhabiting climax vegetation, but also frequently degraded habitats, such as overgrazed graslands or plowed land, where they are sometimes even favoured.

2.3 Population status

Mexico

In Mexico, **six species of *Opuntia*** (of ca. 129 native spp.) are officially **classified as rare, none as endangered** (SEMARNAP). This assessment is however not generally applicable, as some taxa are not recognized as good species, but rather have to be referred to other, accepted taxonomical species with a wide geographical range. The taxa classified as rare are (* = endemic to MX): *Opuntia anteojoensis* Pinkava* (only provisionally accepted as a good species according to the CITES Cactaceae Checklist, 2nd edition), *O. arenaria* Engelmann (referred to *O. polyacantha* Haworth in the CITES Cactaceae Checklist, 2nd edition), *O. bravoana* Baxter*, *O. excelsa* Sanchez-Mejorada*, *O. rosarica* Lindsay*, *O. santamaria* (Baxter) Wiggins*. None of these rare taxa has been reported in international trade so far.

United States of America

In the United States of America, **a single species of *Opuntia*** (of ca. 81-87 native spp.), the Bakersfield cactus (*Opuntia treleasei* Coulter) is nationally listed under the Endangered Species Act as **endangered by habitat loss** (US Fish and Wildlife Service, endangered species homepage). This taxon is only provisionally accepted as a good species according to the CITES Cactaceae Checklist, 2nd edition. It has not been reported in international trade. Further, 44 taxa (either species or subspecies or varieties) are reported to be rare on the level of single states, but not on national level, as reported by the Management and Scientific Authorities (in lit.).

Chile

The Management Authority of Chile reports (in lit.), that **five species of *Opuntia* are classified as rare in Chile, due to a restricted distribution**. This assessment is however not generally applicable, as some taxa are not recognized as good species, but rather have to be referred to other, accepted taxonomical species with a wide geographical range. The taxa are: *O. echinacea* (Ritter) A. E. Hoffmann (referred to *O. boliviana* Salm-Dyck in the CITES Cactaceae Checklist, 2nd edition,

distributed in Peru, Bolivia, Argentina and Chile), *O. ovata* Pfeiffer (a good species, distributed in Argentina and Chile according to the CITES Cactaceae Checklist, 2nd edition), *O. conoidea* (Backeberg) Rowley (an invalid name for a taxon that is only provisionally accepted at species level according to the CITES Cactaceae Checklist, 2nd edition), *O. atacamensis* Philippi (only provisionally accepted at species level according to the CITES Cactaceae Checklist, 2nd edition) and *O. leoncito* Werdermann (referred to *O. glomerata* Haworth in the CITES Cactaceae Checklist, 2nd edition, distributed in Bolivia, Argentina and Chile).

Brazil

In Brazil, some native species of the caatinga vegetation are reported in literature to suffer from forest clearance for agriculture: *Opuntia palmadora* Britton & Rose, *Tacinga braunii* Esteves Pereira and *T. funalis* Britton & Rose. Further, *Opuntia werneri* Eggli is reported to be threatened through granite quarrying (Taylor, Kiesling & Kraus in Oldfield, ed., 1997).

Other range States

In north-eastern Argentina, eastern Paraguay and especially Uruguay, *Opuntia* spp. and other cacti are reported to be seriously affected by agricultural practices and forest clearance. (Taylor, Kiesling & Kraus in Oldfield, ed., 1997).

In the Cactus and Succulent Plants - Status Survey and Conservation Action Plan of the IUCN/SSC Cactus and Succulent Specialist Group (Oldfield, ed. 1997), Opuntioids are not mentioned as of concern.

Non-range States

Outside the natural range, *Opuntia stricta* (Haworth) Haworth, originating from North America is classified by IUCN among 100 of the worlds worst **invasive alien species**. One South American species, *Opuntia aurantiaca* Lindley figures on the Regulated Plant Pest List of the U. S. Department of Agriculture (APHIS), where it is classified as a weed. In South Africa, *Opuntia stricta* is classified as an invasive alien.

2.4 Population trends

Not applicable.

2.5 Geographic trends

Wide spread outside the natural range through human activity. Strongly invasive in some regions of the world, e.g. Australia, South Africa, Madagascar, China and the Mediterranean Region.

2.6 Role of the species in its ecosystem

Opuntia spp. are reported to be used extensively as a source of nutrition by many animals, such as deer, javelina (peccaries), rodents and birds (Anderson 2001). Many cacti are dependent on nurse plants that create a suitable microclimate for the establishment of young plants (CONABIO in lit.). Several species of *Opuntia* are a principal nectar and polen resource for a great number of bee species (CONABIO in lit.).

2.7 Threats

In some regions inside and outside the natural range, Opuntioids are **actively combated and eradicated**, especially by cutting and burning of vegetation, in order to improve the land for cattle grazing. Further, habitats are destroyed by conversion into agricultural land and by other activities

such as road construction, urbanisation etc. This has been reported to threaten certain locally endemic species (see 2.3).

Opuntias are also **combated on big scale** with biological pest control agents (using species-specific insects from the alien plant's country of origin, e.g. *Cactoblastis cactorum* caterpillar), chemical agents and mechanical methods in regions, where they are classified as **invasive aliens**, e.g. in Australia and South Africa. This would not threaten native populations, but the South American *Cactoblastis* is reported to be out of control and to have reached North American *Opuntia* populations, where it could cause considerable negative impact (CONABIO in lit.).

Conclusion

Restricted distribution and natural rareness are regarded as a point of concern in several cases. Habitat destruction is considered a threat in one case. Invasive *Opuntia* pest *Cactoblastis* could in the near future threaten North American *Opuntia* populations. Trade is not reported to negatively affect populations.

3. Utilization and trade

3.1 National utilization

As the geographical range of Opuntioids is very extensive, this account is most probably incomplete. Manly in Mexico, stems („nopalitos“) and fruits („tuna“ and “xoconostle”) of *Opuntia* spp. are widely used fur human consumption and Opuntias are locally used as medicinal plants (treatment for diarrhoea, diabetes, whooping cough, prostate problems, rheumatism and nose bleed) and for production of natural carmine dyes from the crushed bodies of the cochineal insect *Dactylopius coccus* („cochinilla del nopal“), which is parasitic on *Opuntia* spp. Large plantations of several species of *Opuntia* can be found in many places in Mexico, and fruits and young stems are also collected from wild plants. Fruits are processed into prickly pear honey („miel de tuna“) and prickly pear cheese („queso de tuna“). An other popular use is planting stems as fences or placing them on stone walls as a substitue for barbed wire in rural regions. In Cuba, a traditional red wine is made out of the fruits of *Opuntia dillenii* (Ker-Gawler) Haworth and the mucilage from the stems is still in use to make a paint. Such paint is also in use in Mexico. Fruits of *Opuntia schumannii* Weber ex Berger are used to colour ice cream and juices in northern South America and seeds of *Opuntia soehrensii* Britton & Rose are used as a red food colouring in South America. Outside the natural range, Opuntias are cultivated for the production of natural carmine dyes on Canary Islands. Further in the Mediterranean region, fruits of *Opuntia ficus-indica* (Linnaeus) Miller are used for human consumption. Especially on the island of Sicily, large plantations had been established. The fruits are also processed into syrup and jam. Commercial plantings of *Opuntia ficus-indica* are also found in Argentina, Brazil, Chile, Algeria and South Africa. In some regions of the world, inside and outside the natural range, stems of *Opuntia* spp. are used as cattle fodder and forage, especially during drought periods (Benson 1982, Bravo & Sanchez-Mejorada 1991, Valles ed. 1997, Fitz Maurice & Anderson in Oldfield, ed. 1997, Anderson 2001).

In Mexico, species like *Opuntia ficus-indica*, *O. megacantha*, *O. streptacantha*, *O. robusta* var. *larreyi* and *O. joconostle* are cultivated as a food source. For example in the region called “Bajio” in the Mexican state of Guanajuato allone, 16 species of *Opuntia* are cultivated as a source of stem segments that are consumed as “nopalitos” and of fruits, called “tunas” and “xoconostles”. Rural people there are able to identify 70 different cultivars. Opuntias are of economical importance. Up to 20 percent of the yearly income of rural people originates from *Opuntia* products in certain parts of Mexico (CONABIO in lit.).

3.2 Legal international trade

Reported trade (as compiled from the annual CITES reports of the parties, source: WCMC, John Caldwell, 2001) in wild-collected specimens has been compiled, checking the following genus names: *Airampoa, Austrocylindropuntia, Brasiliopuntia, Consolea, Corynopuntia, Cumulopuntia, Cylindropuntia, Grusonia, Maihueniopsis, Marenopuntia, Micropuntia, Miqueliopuntia, Nopalea, Opuntia, Pereskiopsis, Platyopuntia, Pterocactus, Puna, Quiabentia, Tacinga, Tephrocactus, Tunilla* (these names only partly represent accepted genera, as taxonomy is still unresolved; some genus names are considered as synonyms of *Opuntia* in the CITES Cactaceae Checklist, 2nd edition).

Taxon	Year	live*	Other (timber, carvings, fruits)
Austrocylindropuntia spp.	1999	3	2 fruits
Consolea spp.	1995	8	
	1996	4	
Cylindropuntia spp.	1995	2	
	1998		9 + 2000kg timber
	1999	1	
Maihueniopsis spp.	1999	3	
Nopalea spp.	1996		2
Opuntia spp.	1989	3	
	1991	72	
	1992	27	15 + 7054 pounds timber
	1993	23	45 timber
	1994	137	20'000 + 150 kg timber
	1995	43	122'867 timber
	1996	1515	44'485 timber
	1997	45	6750 + 1258 kg timber
	1998	11	8128 + 40 m3 + 2000 kg timber, carvings
	1999	22	11 fruits + 15 carvings
Pterocactus spp.	1992	57	
	1996	29	
Tephrocactus spp.	1996	19	
	1999	2	

* Mostly for scientific purposes

Live specimens

Reported trade in wild-collected live specimens is minimal, it mainly consists of exchange of specimens for scientific purposes.

Trade in artificially propagated live specimens for horticulture is extensive worldwide, but not affecting wild populations. Propagation is usually vegetative, by using cuttings (stem segments), that can be rooted very easily. This trade in "supermarket plants" is already partly excluded from CITES (see below, under 6.): The most important species in horticulture is *Opuntia microdasys* (Lehmann) Pfeiffer. Its cultivars are excluded from CITES with annotation °608 since 1997.

Timber

Reported commercial trade in wild-collected specimens is predominantly in timber (carvings) of *Opuntia* spp. (*Cylindropuntia* spp.). Most such timber has been exported from Mexico to Japan and the United States of America, and from the United States of America to Japan and Europe. This timber trade is in most common species of „Cylindropuntia". Harvest is restricted to dry „sceletons" (lignified vascular bundles), thus no direct impact on populations is presumed. Further, harvesting of „sceletons" has to be done in extensive populations of common species for economic reasons. Consequently, none of the involved species are listed as rare or endangered by their countries of origin:

Opuntia bigelowii Engelmann timber has been exported from the United States of America. The species is widely distributed in southwestern of the United States of America and northwestern Mexico (Benson 1982, Bravo 1978), forming extensive stands in Sonoran desert vegetation (Shreve & Wiggins 1964).

Opuntia cholla Weber and *O. fulgida* Engelmann timber has been exported from Mexico. *O. cholla* is widely distributed in the whole Peninsula of Baja California in Mexico (Bravo 1978). *O. fulgida* is widely distributed in southwestern of the United States of America and northwestern Mexico and locally common, forming extensive forests (Benson 1982, Bravo 1978).

Mexico informed the Secretariat (PC 12 Doc. 11.2.3), that all the exports of timber of *Opuntia bigelowii*, *Opuntia cholla*, *Opuntia fulgida* and *Opuntia imbricata* were approved in accordance with the provisions of Article IV, paragraph 2 a). The exported specimens were all taken from dead or dried out plants. The conclusion was, that in spite of the registered exports of significant quantities of timber, these species are **not of concern**.

Conclusion

Wild-collected timber pieces and carvings are traded internationally in significant quantities. Harvesting is only in dead specimens and thus has no direct impact on populations. Mexican exports have been approved in accordance with the provisions of Article IV, paragraph 2 a). The traded species are not of conservation concern.

3.3 Illegal trade

There is evidence for illegal trade in wild-collected Opuntias to the United States of America. The Management and Scientific Authorities of the United States of America report, that at least 740 specimens of *Opuntia* were seized in the period 1994-2002. Seizures contain six species of *Opuntia* originating from Mexico and range from less than 50 (1997) to about 150 (1999) specimens per year. In 1994 and 1998-2002, part of the seized specimens were of wild origin. In 2002, about 70-80 wild-collected *Opuntia* specimens have been seized, as can be seen from Figure 1 in the statement.

As no species names are linked to these figures, especially in the case of wild origin, These information are not qualified for showing, whether populations of certain species could have suffered a detrimental impact through international trade in unsustainable quantities of wild-collected specimens. However, quantities ar rather low to negatively affect most species.

Mexico reports on evidence of illegal trade in *Opuntia*, but no information on species names or quantities is provided (CONABIO in lit.).

3.4 Actual or potential trade impacts

No species has ever been reported to be threatened through international trade in unsustainable quantities of wild-collected specimens.

3.5 Artificial propagation for commercial purposes (outside country of origin)

Opuntias are very extensively propagated in horticulture in Europe and elsewhere. The main exporting countries of *Opuntia microdasys* (Lehmann) Pfeiffer from horticulture are Malta, Spain, Canada and China. The annual production of this species allone is estimated to be 23 million specimens. More than 30 cultivars of *Opuntia microdasys* have been named. The international trade in artificially propagated *Opuntia microdasys* cultivars is **already excluded from CITES** through annotation °608 (see below, under 6.).

Opuntia ficus-indica (Linnaeus) Miller and other species and cultivars are also planted for production of fruits in the Mediterranean region and in South Africa. The international trade in these fruits is **already excluded from CITES** through annotation #4 d (see below, under 6.).

4. Conservation and Management

Range States have been consulted according to Resolution Conf. 8.21 (see below, under 7.).

4.1 Legal status

4.1.1 National

Only few information have been received from range States upon consultation. The CITES Management Authority of Chile does not report on the national legal status. The Scientific Authority of the United States of America reports in a preliminary comment, that one species of *Opuntia* is listed under the Endangered Species Act (*O. treleasei*, native to California). The Management and Scientific Authorities of the United States of America don't give further information on the national legal status of *Opuntia* in their statement. The Scientific Authority of Mexico does not report on the national legal status.

4.1.2 International

Included in Appendix II of CITES in 1975, subsequently partly excluded from CITES through annotations #4 d and °608 (see below, under 6.).

4.2 Species management

No information have been received from range States upon consultation. The CITES Management Authority of Chile does not report on species management in its response. The Management and Scientific Authorities of the United States of America don't give information on species management of *Opuntia* in their statement. The Scientific Authority of Mexico does not report on species management.

4.2.1 Population monitoring

No information have been received from range States upon consultation. The CITES Management Authority of Chile does not report on population monitoring in its response. The Management and Scientific Authorities of the United States of America don't give information on population monitoring of *Opuntia* in their statement. The Scientific Authority of Mexico does not report on population monitoring.

4.2.2 Habitat conservation

No information has been received from range States. The CITES Management Authority of Chile does not report on habitat conservation in its response. The Management and Scientific Authorities of the United States of America don't give information on habitat conservation of *Opuntia* in their statement. The Scientific Authority of Mexico does not report on habitat conservation.

4.2.3 Management measures

No information has been received from range States. The CITES Management Authority of Chile does not report on management measures in its response. The Management and Scientific Authorities of the United States of America don't give information on management measures in their statement. The Scientific Authority of Mexico does not report on management measures.

4.3 Control measures

No information has been received from range States. The CITES Management Authority of Chile does not report on control measures in its response. The Management and Scientific Authorities of the United States of America don't give information on control measures in their statement. The Scientific Authority of Mexico does not report on control measures.

4.3.1 International trade

See under 3.

4.3.2 Domestic measures

No information has been received from range States. The CITES Management Authority of Chile does not report on domestic measures in its response. The Management and Scientific Authorities of the United States of America don't give information on domestic measures in their statement. The Scientific Authority of Mexico does not report on domestic measures.

Conclusion

No reports on national conservation or management efforts nor on national legislation nor on other domestic measures have been submitted by range States upon consultation.

5. Information on Similar Species

Morphological characters

Cactaceae, subfamily *Opuntioideae* **can be unequivocally defined by the presence of clear morphological characters**, which are exclusive in their combination, or some of them even on their own (as indicated below).

Opuntioids are terrestrial (non-epiphytic) cacti, showing **multiply segmented stems** (fig. a) with cylindrical (fig. b), globose or flattened (fig. a) stem segments and spiniferous areoles, which are not restricted to edges or ribs or pronounced tubercles of the stem, but regularly arranged on the whole stem surface (fig. a), partly on low elevations (fig. b) and which bear spines and **glochids** (small, barbed bristles occuring in the spiniferous areoles; exclusively found in Opuntioids; rarely concealed [only in *Opuntia clavarioides* Pfeiffer]) (fig. c) as well as deciduous or rarely persistent **leaves in new growth** (rudimentary to conspicuous) (figs. a and b), and produce seeds with a bony aril (exclusively found in Opuntioids) (fig. d).

Enforcement considerations

The Management and Scientific Authorities of the United States of America report, that the USDA Animal and Plant Health Inspection Service (APHIS) considers this proposal **enforcable for live plants**. APHIS has only concerns regarding their ability to distinguish between dried specimens of species that would remain under CITES controls (e.g. **rainsticks**, *Eulychnia* and *Echinopsis* spp.) and those that would be delisted should this proposal be adopted. However, timber of Opuntioids can not be confounded with the woody cylinders of Cactoids (e.g. *Echinopsis chiloensis* [Colla] Friedrich & Rowley, *Eulychnia acida* Philippi) that are used for the production of rainsticks (CITES Appendix II). Rainsticks are filled with fine gravel. But the woody cylinders of Opuntioids („Cylindropuntias") are very coarsely perforated and partly have very small cavities in the centre, as illustrated below (fig. e). Therefore, they could not be filled with gravel and consequently can not be used for the production of rainsticks. Moreover, rainsticks are not of much conservation concern, as has been demonstrated at earlier Plants Committee Meetings and CoPs, because only dead specimens are collected. This has, like in the case of *Opuntia* timber, no direct impact on populations.

6. Other Comments

Early listings of higher taxa

Taxa should generally be listed in the CITES Appendices, if there is evidence of international trade in possibly unsustainable quantities of wild-collected specimens. Listings should be based on scientific criteria on biology and trade, as given in Resolution Conf. 9.24. In the case of Prickly Pear cacti, no such analysis has ever been made, as they have been included under the higher taxon *Cactaceae* spp.

In fact, Prickly Pear cacti (subfamily *Opuntioideae*) have been included in Appendix II of CITES in 1975, because the entire family of the *Cactaceae* has been listed then, without differentiating between lower taxa with different conservation and trade status.

After 25 years of monitoring under CITES, the international trade in *Cactaceae* is better understood and moreover, has notably changed under the influence of CITES. It seems possible today to differentiate between various taxa of *Cactaceae* below family level and to concentrate the efforts of CITES on the subfamily *Cactoideae*, where there are serious conservation concerns.

Identification

The definition of Opuntioid cacti as given above is based on **clear morphological criteria** and most likely to define Opuntioid cacti accurately enough to prevent confusion with other cacti. Botanists agree, that *Opuntioideae* are the easiest group to identify within *Cactaceae*, even for non-experts.

The main concern is to avoid confusion with members of subfamily *Cactoideae*, which holds the species that are evidently negatively affected by international trade, e.g. all taxa listed in Appendix I. Confusion is not likely because of strong morphological differences. A CITES Identification Manual is now available for the *Cactaceae* that are listed in Appendix I. This further reduces the risk of confusion of Opuntias with endangered species of *Cactaceae* that are listed in Appendix I and for which stronger restrictions for international trade are in place.

There are some small epiphytic cacti with segmented, flattened stems, *Schlumbergera* Lemaire or certain spp. of *Hatiora* Britton & Rose. These however lack glochids as well as leaves in new-growth, are dwarf-sized, have pendant stems and a root system typical for epiphytes. They can therefore easily be told apart. The existing exemtions (annotation º608) for certain taxa of *Schlumbergera* and *Hatiora* already request capacity for their identification. Consequently, no new identification problem results from this proposal.

Further, some cereoid or columnar, shrubby or arborescent cacti like *Calymmanthium* Ritter, *Armatocereus* Backeberg or *Jasminocereus* Britton & Rose show segmented or nearly segmented stems, but they have strongly ribbed or winged stems with the spiniferous areoles restricted to the edges of the ribs and they lack glochids as well as leaves in new-growth. There is little possibility of confusion. Moreover, a detrimental international trade in these taxa is very unlikely, as demand is nearly zero.

It has to be considered, that the already existing, substantial exemptions of certain *Opuntia* specimens (annotations #4 d and °608, see below) request exactly the same kind of identification capacity, like it is resulting from this proposal. Up to now, this has not lead to reports to CITES on identification problems. A compete exclusion of Opuntioids is therefore not likely to lead to new enforcement problems.

Already existing exemptions of *Opuntioideae* spp. from the provisions of CITES (these two exemptions would no longer be needed, if all Opuntioid cacti would be delisted from Appendix II):

- **annotation #4 d: parts and products of introduced populations and artificially propagated specimens of all species of subgenus *Opuntia*.**

- **annotation °608: artificially propagated specimens of cultivars of *Opuntia microdasys*.**

Precautionary measures

There is no evidence indicating, that any Prickly Pear cactus (subfamily *Opuntioideae*) would be likely to qualify for inclusion in the Appendices in the near future. The only species that is nationally listed as endangered (see above, under 2.3) is not threatened through trade but rather through habitat destruction.

Conclusion

There is no obvious benefit in maintaining international trade in Prickly Pear cacti under CITES control:

- **Prickly Pear cacti are already partly exempted from CITES.**
- **This has never lead to reports on conservation or enforcement problems.**
- **International trade in wild-collected specimens is mainly in timber and thus has no direct impact on populations.**
- **Prickly Pear cacti have been listed in Appendix II without meeting the criteria that are in place today.**
- **The subfamily *Opuntioideae* is a readily identifyable taxonomical unit.**
- **Criteria concerning precautionary measures (Resolution Conf. 9.24) are met.**

7. Additional Remarks

Consultation with range States and non-range States

This proposal has been submitted to the Secretariat for consultation with range States and non-range States according to Resolution Conf. 8.21 and has been notified to all Parties with notification No. 2002/009 by the Secretariat. The executive summary of the 12th Plants Committee Meeting recommends that further cooperation between Switzerland and the range States takes place and that the final proposal be amended taking into account all comments from range States and non-range States. Answers have been received from four Parties, three range States and one non-range State. Some informal information has further been received. Copies of responses are attached to this proposal.

Chile

The important range State Chile (24 native species) recommends that the proposal should be withdrawn. As stated above, five species of *Opuntia* are classified as rare in Chile due to their restricted distribution in Chile. No information are provided however on national conservation and management measures for

these or other *Opuntia* species. Chile suspects, that many species could become endangered in the future, if they would no longer be protected by CITES. These concerns are seemingly not reflected in domestic measures. At least no according information is provided. Furthermore, such potential detrimental impact of international trade is not further substantiated by population data or other information. Chile is of the opinion, that the low level of exports is due to CITES. It would be useful in this context to have information on refused applications for export permits, but no such data are provided. It is therefore not quite obvious, why Chile takes this position.

United States of America

The response of the important range State United States of America (ca. 81-87 native species) does not contain evidence for a detrimental impact of international trade on populations of any *Opuntia* species. Unfortunately no information on national legal status and other domestic conservation and management measures are provided either. This would be important for an assessment of the position of the United States of America.

The statement says, that there is international demand for Opuntioid cacti. This is based on data of legal imports and exports. Thirty-one species of *Opuntia* of wild or unknown origin were recorded as having been cleared for import to the United States of America in the period 1994-2001 and eleven species originating from the wild were cleared for export. Unfortunately no quantities nor species names are indicated and it is therefore impossible to assess the possible impact of this trade. However, it is well known that the huge demand for Opuntias on the international market is mainly met by the millions of artificially propagated specimens per year.

The statement in the first place demonstrates the enforcement problems that can result from listings of higher taxa, such as *Cactaceae* spp. It is of great concern, that 39 percent of shipments of cacti of wild or unknown origin to or from the United States of America have only been identified to family level (*Cactaceae* spp.) in the period 1994-1999. It is concluded, that some shipments may have been *Opuntia*. But in fact, they theoretically may have been anything within *Cactaceae*, even specimens of species that are not allowed if wild-collected.

Further, it is reported that the Scientific Authority in 1998 has been unable to make a non-detriment finding for the export of 52'010 wild-collected Opuntias. Unfortunately no species name is indicated and it would be important to know in this context, whether collecting of these specimens from nature is regulated domestically.

Information on illegal trade have been cited above, under 3.3. It is concluded, that documented illegal trade serves as evidence that undetected illegal trade may also be occurring. This seems correct. But even if there is illegal trade, the question is rather, whether there is detrimental trade in certain species.

the United States of America opposes the proposal. The negative position of the United States of America, taking into account all the arguments that are provided, is not fully understood.

Mexico

The important range State Mexico (126 native species of *Opuntia*, 83 thereof endemic to Mexico) submitted a substantial comment. Mexico completely refuses this proposal and requests that it should be withdrawn. However, as several points still seem unclear it is preferred to discuss this further.

Mexico allowed the export of considerable quantities of wild-collected *Opuntia* timber and informed the Secretariat (PC 12 Doc. 11.2.3), that these exports were approved in accordance of Article IV, paragraph 2 a). As these exports are based on non-detriment findings, the exported species are not of conservation concern, as concluded in the mentioned document. Further exports of wild-collected material are in stem segments, fruits and powder derrived from dried stem segments, as stated by Mexico. Mexico further reports on exports of parts and products (stem segments and powder)

originating from artificial propagation. This trade is exempted from CITES through annotation #4 d. Mexico is worried, that these parts and products from artificial propagation could be mixed with material that originates from wild populations, as there is no possibility of identification. No evidence for such practise is however presented. But more important, this problem is not newly resulting from the proposal to delist Opuntias. It results from annotation #4 d, that is already in place.

As the whole subfamily *Opuntioideae* is proposed for delisting, identification problems within genus *Opuntia*, as they are correctly reported and illustrated by Mexico, are not relevant for the proposal. If Opuntioids should remain under CITES control, identification on species level is only important in the case of *Opuntia microdasys*, which is already exempted (cultivars thereof) from CITES through annotation °608.

Mexico concludes, that conservation of endemic *Opuntia* species is in first place a responsibility of Mexico. Such is also stated in the Preamble of the Convention. The question is, whether CITES can substantially contribute, or whether domestic conservation and management would be more effective. Mexico's statement unfortunately does not contain informations on such domestic measures.

Other Parties

No other range States participated in the consultation process. Non-range State Ukraine informed, that it agrees with the proposal.

8. References

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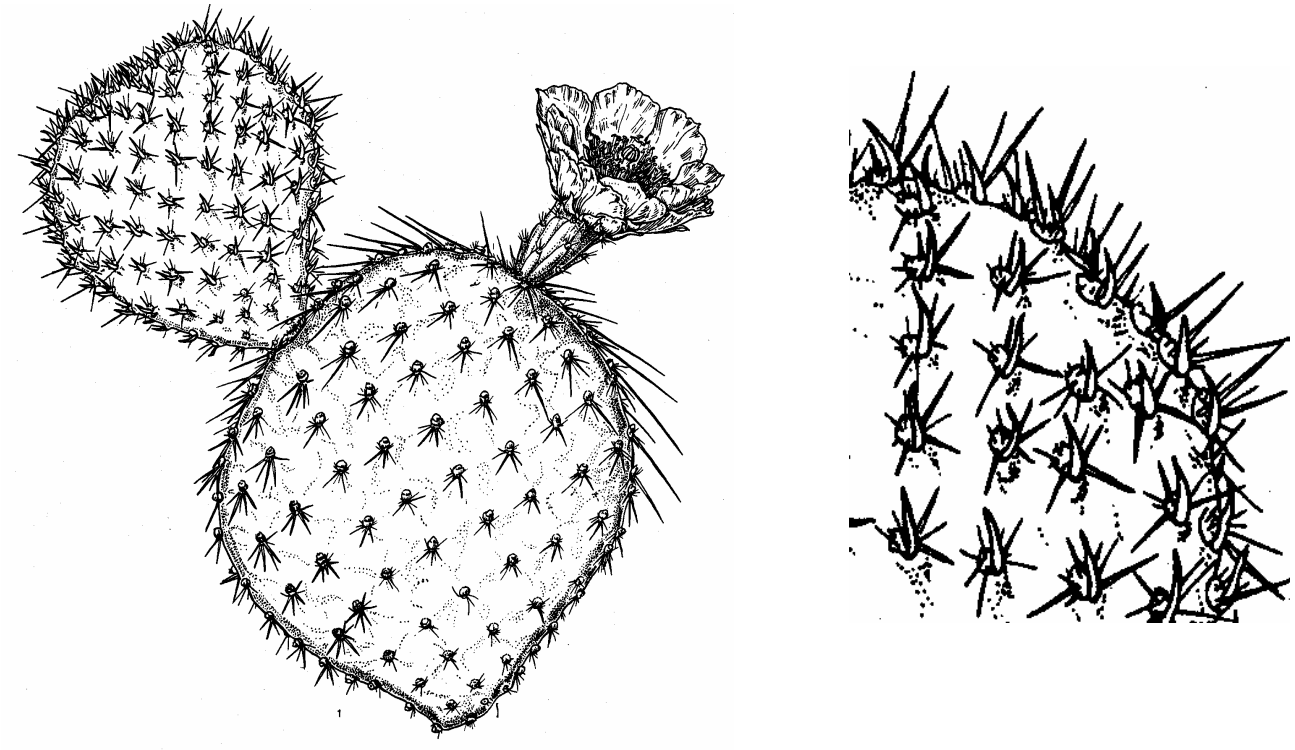
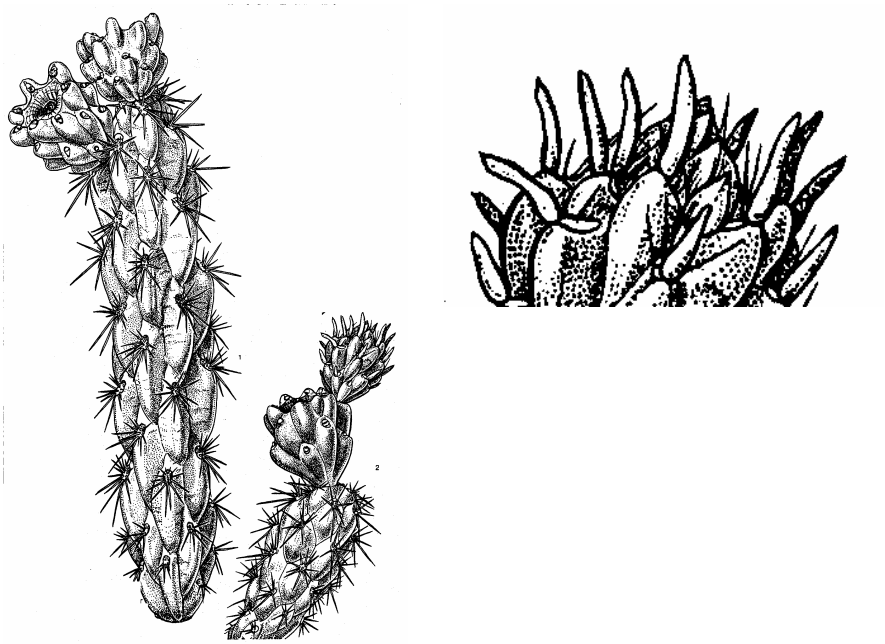
Illustrations:

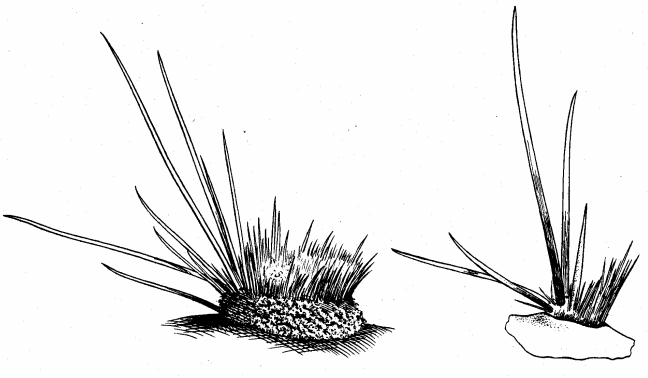
a) Segmented stem with rudimentary leaves on new growth (upper segment, enlarged at right) and spiniferous areoles distributed on the whole stem surface, stem flattened („Platyopuntia“)



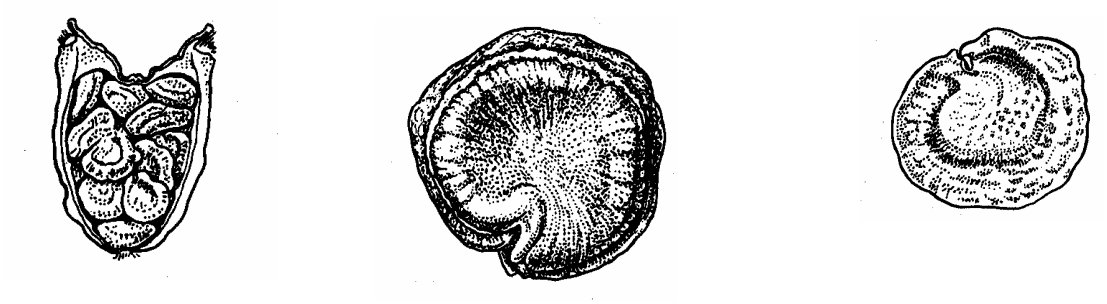
b) „Cylindropuntia“ with cylindric stem and spiniferous areoles on low tubercles; rudimentary leaves on new-growth (enlarged at right)



c) 2 spiniferous areoles, each with spines (left part) and glochids (right part). Glochids are small, barbed bristles, different from the spines, very easily breaking off, penetrating skin and sticking because of the barbs, only occuring in Opuntioids



d) fruit (left) and seeds (centre and right) with a bony aril



e) Cylindropuntia timber (lignified vascular bundles)

Statement of Range State Chile

NOT AVAILABLE ELECTRONICALLY.

Statement of Range State United States of America

NOT AVAILABLE ELECTRONICALLY.

Statement of Range State Mexico

NOT AVAILABLE ELECTRONICALLY.