CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Delisting from Appendix II of **leaf-bearing cacti** (*Cactaceae*):

Subfam. *Pereskioideae* (all species) and the genus *Pereskiopsis* (all species) and the genus *Quiabentia* (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*

Subfamily: *Pereskioideae* Schumann incl. genera *Pereskia* Miller and *Maihuenia* (Philippi ex F. A. C. Weber) Schumann, all species
[comprising presently, according to the CITES Cactaceae Checklist: *P. aculeata* Miller, *P. aureiflora* Ritter, *P. bahiensis* Gürke, *P. bleo* (Knuth) De Candolle, *P. diaz-romeroana* Cardenas, *P. grandifolia* Haworth, *P. guamacho* Weber, *P. horrida* (Knuth) De Candolle, *P. lychnidiflora* De Candolle, *P. marcanoi* Areces, *P. nemorosa* Rojas, *P. portulacifolia* (Linnaeus) Haworth, *P. quisqueyana* Liogier, *P. sacharosa* Grisebach, *P. stenantha* Ritter, *P. weberiana* Schumann, *P. zinniiflora* De Candolle, *M. patagonica* (Philippi) Britton & Rose, *M. poeppigii* (Pfeiffer) Schumann]

and

1.4 Genus: *Pereskiopsis* Britton & Rose (subfamily *Opuntioideae* Schumann), all species
[comprising presently, according to the CITES Cactaceae Checklist: *P. aquosa* (Weber) Britton & Rose, *P. blakeana* J. G. Ortega, *P. diguetii* (Weber) Britton & Rose, *P. kellermanii* Rose, *P. porteri* (Brandegee ex Weber) Britton & Rose, *P. rotundifolia* (De Candolle) Britton & Rose, *P. spathulata* (Otto ex Pfeiffer) Britton & Rose]

and

Genus: *Quiabentia* Britton & Rose (subfamily *Opuntioideae* Schumann), all species
[comprising presently, according to the CITES Cactaceae Checklist: *Q. verticillata* (Vaupel) Vaupel and *Q. zehntneri* (Britton & Rose) Britton & Rose]

1.5 Scientific synonyms: The genus *Rhodocactus* (Berger) F. Knuth, originally described as a subgenus of *Pereskia*, is included in genus *Pereskia* (Hunt 1999);
Maihuenia has recently been treated as a new, separate subfamily

Maihuenioideae Fearn, but is usually still included in *Pereskioideae* (Leuenberger 1997)

1.6 Common names: English:
French:
Spanish:

Maihuenia: maihuen, chupa sangre, espina blanca, espina del huanaco, flor del guanaco, hierba del guanaco, luan mamell, quisquilla, quisquillo, siempre verde, siempre viva, yerba del guanaco

Pereskia: tsuma, bugambilia blanca, arbol del matrimonio, guititache, guichitache, guitache, manzanote, matial, patilón, cruz del matrimonio, cuncú, cuncu marín, mateado, amatilla, matiare, matiari, mateare, mateares, grosellero, jasmín de uvas, ramo de novia, camelia blanca, Barbados gooseberry, Surinam gooseberry, groseiller criole, groseille-pays, groseille-Barbade, groseiller-pays, groseiller de Barbades, groseiller de la Barbade, ora pro nobis, azedinha, lobolôbô, cipó estrela, padre nostro, curuzú ipochi, uturunku, cervetano, facho, ora pro nobis de mata, guamacho, supí, suspiro, suspire, siichí, erizo, abrojo, camelia roja, najú de culebra, najií or najú de espinas, bleo, chupa, bleo de chupa, chupa melón, amapola, mori, suruby-i, quisca del bosque, tuna quisca, sacharosa, cuguchi, guyapa, sabonete, quiabento, espinha de Santo Antônio, flor de cêra

Pereskiopsis: alfilerillo, chapistle, tzompahuiztle, alcajes, xoconoxtle, rosa amarilla, alcahuésar, tuna de agua, chirrioncillo, tasajillo, joconoxtle, patilón

Quiabentia: quiabento

1.7 Code numbers:

2. Biological parameters

2.1 Distribution

Pereskia: Central America and the eastern side of the Andes to northern Argentina, and eastward to the West Indies, Venezuela, Guyana, eastern Brazil, and northern Uruguay. Doubtfully native in Florida (AN, AR, BO, BR, CO, CR, CU, DO, EC, GF, GT, GY, HN, HT, MX, NI, PA, PE, PR, PY, SR, SV, TT, US, UY, VE, VI, WI, see distribution map below); *Maihuenia*: AR, CL (see distribution map below); *Pereskiopsis*: GT, HN, MX, *Quiabentia*: BR, AR, BO, PY (CITES Cactaceae Checklist, 2nd edition, Leuenberger 1986, 1997).

2.2 Habitat availability

Pereskia, *Pereskiopsis* and *Quiabentia* inhabit seasonally dry, deciduous tropical forests, *Pereskia* also semi-deciduous forests. *Maihuenia* inhabits temperate dry grasslands and Patagonian semi-deserts.

2.3 Population status

The only species of the genus *Pereskia* (containing 17 spp.) listed as endangered (E) in the 1997 IUCN Red List of Threatened Plants is the relatively recently (1977) discovered *Pereskia quisqueyana* Liogier from Dominican Republic. The species is naturally rare and could become

endangered due to its extremely small and exposed habitat on a shoreline near a village with sand beaches (Leuenberger 1986). It is now subject to a specific conservation program (Leuenberger 1992, García & Rodríguez 1999) and can be regarded as quite safe (Leuenberger, pers. comm. 2001). International trade in wild-collected specimens is not considered a threat. Only a few specimens have been exported for scientific purposes (see under 3.4).

In Brazil, *Pereskia aureiflora* Ritter, a native species of the caatinga vegetation, is reported to suffer from forest clearance for agriculture (Taylor, Kiesling & Kraus in Oldfield, ed., 1997). It is however probably not very rare (Leuenberger, pers. comm. 2001). International trade in wild-collected specimens is not considered a threat. No other species of *Pereskia* is listed as rare or endangered.

No species of neither *Pereskiopsis* nor *Quiabentia* is listed as rare or endangered. The Scientific Authority of Mexico (PC 11 Inf. 14) suspects, that the population of *Pereskia lychnidiflora* De Candolle in Mexico has probably declined because of habitat destruction. The species however has a wide distribution in Mexico, Guatemala, Honduras, El Salvador, Nicaragua and Costa Rica. For *Pereskiopsis aquosa* (Weber) Britton & Rose, *Pereskiopsis blakeana* J. G. Ortega and *Pereskiopsis rotundifolia* (De Candolle) Britton & Rose, the same source states, that no threats are presently known, although it is assumed, that habitat destruction could be a problem. For *Pereskiopsis diguettii* (Weber) Britton & Rose) and one population of *Pereskiopsis kellermanii* Rose, habitat distruction is indicated as a threat. No threats are known in the case of *Pereskiopsis porteri* (Brandegee ex Weber) Britton & Rose. There is no evidence of any negative impact of international trade in wild-collected specimens.

Both species of the genus *Maihuenia* are amply distributed and classified as neither rare nor endangered (Leuenberger 1997). The Management Authority of Chile (in lit.) reports that *Maihuenia poeppigii* (Pfeiffer) Schumann, the only species of the genus *Maihuenia* occurring in Chile, is classified as safe. It is suspected however, that this species could possibly in the future be collected as ornamental plant. There is no evidence of any negative impact on *Maihuenia poeppigii* through international trade in wild-collected specimens.

Conclusion

Habitat destruction is considered a threat in various cases.

2.4 Population trends

Not applicable.

2.5 Geographic trends

Not applicable.

2.6 Role of the species in its ecosystem

Not applicable.

2.7 Threats

(See 2.3).

3. Utilization and trade

3.1 National utilization

Leaf-bearing cacti generally are of little economic importance. *Pereskia grandifolia*, originating from Brazil, is popular in horticulture and has been widely introduced in tropical regions. Other species

are also cultivated in tropical regions outside their natural range. *Pereskia grandifolia*, *P. bahiensis* and *P. stenantha* in Brazil, *P. guamacho* in Venezuela and *P. lychnidiflora* in El Salvador are used for construction of livestock fences or as hedges around homesteads (Leuenberger 1986, Taylor, Kiesling & Kraus in Oldfield, ed., 1997). The leaves of *P. aculeata* are still widely used as a pot herb or vegetable in some rural areas of Brazil and even sold on markets. The fruits of *P. aculeata* and *P. guamacho* are reported to be edible (Leuenberger 1986).

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: *Maihuenia*, *Pereskia*, *Pereskiopsis*, *Quiabentia* and *Rhodocactus*.

Taxon	year	live*	Other
Maihuenia spp.	1992	12	
	1995	6	
	1996	9	
	1999	12	
Pereskia spp.	1995	12	
	1996	16	
	1997	1	
	1999		4 dried specimens

* Mostly for scientific purposes

Reported trade in wild-collected live specimens is minimal, it consists mainly of exchange of material for scientific purposes. The entire reported trade in wild-collected specimens is: *Maihuenia* spp. (1992-1999): 39 live specimens. *Pereskia* spp. (1995-1999): 4 dried specimens, 29 live specimens. It has to be noted, that "specimens" in these taxa usually refer to cuttings of branches and not even to whole individuals. **The trade level is minimal and therefore not likely at all to have any detrimental impact**.

Leaf-bearing cacti are generally not popular in under-glass collections, as they occupy a lot of space and lack the bizarre stem forms of the Cactoid cacti (subfamily *Cactoideae*). To the general public, they might not even be recognisable as cacti (cf. illustration). They are more commonly found in Botanical Gardens, mainly *Pereskia grandifolia* and *Pereskia aculeata*, and further are used to some extent as ornamental trees in tropical regions. Demand in international trade therefore is minimal, as clearly demonstrated by the above figures on reported trade.

Trade in artificially propagated specimens for horticulture is insignificant. The only widely distributed „species" in horticulture is *Pereskiopsis spathulata*, a taxon of unknown origin, which could even be a product of horticulture, as no natural population is known. It is very popular as stock for grafting of seedlings of rare species of Cactoid cacti and is most easily propagated in great quantities by cuttings.

3.3 Illegal trade

Not likely.

3.4 Actual or potential trade impacts

No species is reported to be endangered through international trade in wild-collected specimens. The only species listed as endangered (E) in the 1997 IUCN Red List of Threatened Plants is *Pereskia quisqueyana* Liogier from Dominican Republic, which is **naturally rare**. This species has been exported in very few specimens for scientific research (10 specimens 1995-1996) with CITES export permits, implying that this trade was non-detrimental. Most probably, the traded specimens were not whole individuals, but only cuttings of branches.

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

No significant production, demand or trade.

Conclusion

There is no evidence that any of the species discussed here are threatened through international trade in unsustainable quantities of wild-collected specimens, nor are they likely to be threatened through such trade in the future.

4. Conservation and Management

4.1 Legal status

4.1.1 National

Only few informations have been received from range States upon consultation. The 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 neither of the two *Pereskia* species native to the United States is listed under the Endangered Species Act (the CITES Cactaceae checklist, 2nd edition, only indicates one native species, whereas the other is considered to be int roduced). The Management and Scientific Authorities of the United States of America don't give information on the national legal status of *Pereskia*.

4.1.2 International

Included in Appendix II of CITES since 1975 under *Cactaceae* spp.

4.2 Species management

Only few informations have been received from range States. The Management Authority of Chile does not report on species management. The Scientific Authority of Mexico reports in PC11 Inf. 14, that no data on species management are available in the case of *Pereskiopsis* and no management is in place in the case of *Pereskia*. See also under 2.3. The Management and Scientific Authorities of the United States of America don't give information on species management of *Pereskia*.

4.2.1 Population monitoring

Only few informations have been received from range States. The Management Authority of Chile does not report on monitoring. The Scientific Authority of Mexico reports in PC 11 Inf. 14, that no data on monitoring are available in the case of *Pereskiopsis* and no management is in place in the case of *Pereskia*. See also under 2.3. The Management and Scientific Authorities of the United States of America don't give information on population monitoring of *Pereskia*.

4.2.2 Habitat conservation

Only few informations have been received from range States. The Management Authority of Chile does not report on habitat conservation. The Scientific Authority of Mexico reports in PC11 Inf. 14, that no conservation measures are known. The Management and Scientific Authorities of the United States of America don't give information on habitat conservation of *Pereskia*.

4.2.3 Management measures

Only few informations have been received from range States. The Management Authority of Chile does not report on management measures. The Scientific Authority of Mexico reports in PC11 Inf. 14, that no data on management measures are available in the case of *Pereskiopsis* and no management is in place in the case of *Pereskia*. The Management and Scientific Authorities of the United States of America don't give information on management measures.

4.3 Control measures

Only few informations have been received from range States. The Management Authority of Chile does not report on control measures. The Scientific Authority of Mexico reports in PC11 Inf. 14, that no data on national control measures are available in the case of *Pereskiopsis* and no such measures are in place in the case of *Pereskia*. The Management and Scientific Authorities of the United States of America don't give information on control measures.

4.3.1 International trade

No significant international trade, see under 3.

4.3.2 Domestic measures

Only few information have been received from range States. The Management Authority of Chile does not report on domestic measures. The Scientific Authority of Mexico reports in PC11 Inf. 14, that no data on domestic measures are available in the case of *Pereskiopsis* and no such measures are in place in the case of *Pereskia*. The Management and Scientific Authorities of the United States of America don't give information on domestic measures.

Conclusion

***Pereskia quisqueyana* from Dominican Republic is the only species that is reported to be of conservation concern. At the same time, it seems to be the only species for which conservation efforts have been (successfully) undertaken. International trade is not a relevant factor (see above, under 2.3).**

5. Information on Similar Species

The main concern is to avoid confusion with members of subfamily *Cactoideae*, which holds the species that are actually or potentially treattened through international trade, e.g. all taxa listed in Appendix I.

Leaf-bearing cacti (subfamily *Pereskioideae* and the genera *Pereskiopsis* and *Quiabentia*) can be defined morphologically by simple and easy to check characters, which are exclusive within the *Cactaceae*. They are terrestrial trees or shrubs, bearing **conspicuous leaves** (dorsiventrally flattened; or terete in *Maihuenia*) on woody, barely succulent, non-ribbed and non-tuberculate, spiny stems and branches.

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 numbers 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 leaf-bearing cacti, no such analysis has ever been made, as they have been included under the higher taxon *Cactaceae* spp.

In fact, leaf-bearing cacti (subfamily *Pereskioideae* and the genera *Pereskiopsis* and *Quiabentia*) 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 leaf-bearing cacti (subfamily *Pereskioideae* and the genera *Pereskiopsis* and *Quiabentia*) as given above, based on simple morphological criteria, is most likely to define this group accurately enough to prevent confusion with Cactoid cacti (with strongly succulent, ribbed or tuberculate stems and completely lacking well developed leaves).

A CITES Identification Manual is now available for the *Cactaceae* that are listed in Appendix I. This considerably reduces the risk of confusion of leaf-bearing cacti with endangered species of *Cactaceae* that are listed in Appendix I and for which stronger restrictions for international trade are in place.

Precautionary measures

There is no evidence indicating, that any leaf-bearing cactus (subfamily *Pereskioideae* and the genera *Pereskiopsis* and *Quiabentia*) would be likely to qualify for inclusion in the Appendices in the near future.

Conclusion

There is no obvious benefit in maintaining international trade in leaf-bearing cacti under CITES control.

- **As leaf-bearing cacti have been listed in Appendix II without meeting the criteria that are in place today, and**
- **there is no significant trade in wild-collected specimens, and**
- **leaf-bearing cacti don't qualify for potential look-alikes of other listed taxa, and**
- **criteria concerning precautionary measures (Resolution Conf. 9.24) are met,**
- **there is no concern about delisting them from Appendix II.**

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 (or the relevant pages thereof) are attached to this proposal.

Chile

The range State Chile (1 native species, *Maihuenia poeppigii* [Pfeiffer] Schumann) recommends that the proposal should be withdrawn. Chile however reports at the same time, that its only naturally occurring species is considered as safe in Chile. The species also occurs in Argentina (see distribution map below). Nothing is reported on national legislation nor on conservation and management of this species. There seems to be no evidence of a detrimental impact of international trade. It is therefore not quite obvious, why Chile takes this position.

United States of America

The range State United States of America (one native species, *Pereskia aculeata* Miller) does not report anything on *Pereskia* nor on *Maihuenia* nor on *Pereskiopsis* nor on *Quiabentia* in its statement that would be relevant for this proposal (e.g. detrimental impact of international trade in wild-collected specimens of certain species). The only information is, that two species of *Pereskia* of "wild or unknown" origin were recorded as having been clared for import to the United States in the period 1994-2001. Unfortunately, no species names nor quantities are indicated, but these figures rather support the conclusions made above under 3.2, that there is no significant international trade in *Pereskia*. The fact, that the two species have been cleared for import implies, that the shipments were accompanied by valid CITES permits, which are based on non-detriment findings. This trade is therefore most likely to have no negative impact on the two imported species of *Pereskia*. Nothing is reported on national legislation nor on domestic conservation and management of the only species of *Pereskia* that is native to the United States of America, nor on detrimental impact of export of wild-collected specimens. It is therefore not clear why the United States of America is unable to support this proposal and would prefer that it would not be submitted for consideration at CoP12.

Mexico

The range State Mexico (2 native species of *Pereskia* and 6 native species of *Pereskiopsis*) only consideres *Pereskia lychnidiflora* De Candolle in its statement, but mentiones a number of 7 species of *Pereskiopsis*. In view of the fact, that there is no international trade and no evidence of illegal trade, Mexico supports this proposal, under the condition that the other range States also agree. If the proposal should be adopted, then Mexico announces that it would include *Pereskia lychnidiflora* and its native species of *Pereskiopsis* in Appendix III.

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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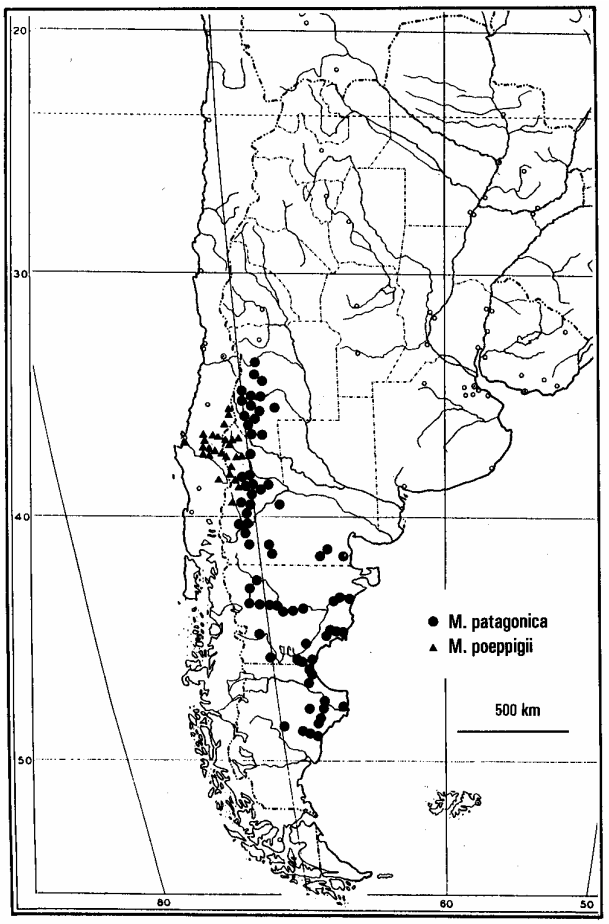
Servicio Agrícola y Ganadero SAG, Direccion Nacional (in lit.): Comentarios a la notificacion de las partes No. 2002/009, del 6 de marzo de 2002.

U. S. Fish & Wildlife Service (in lit.): Preliminary Comments Regarding the Draft Proposal to Delist Pereskioid and Opuntioid Cactaceae from CITES Appendix II.

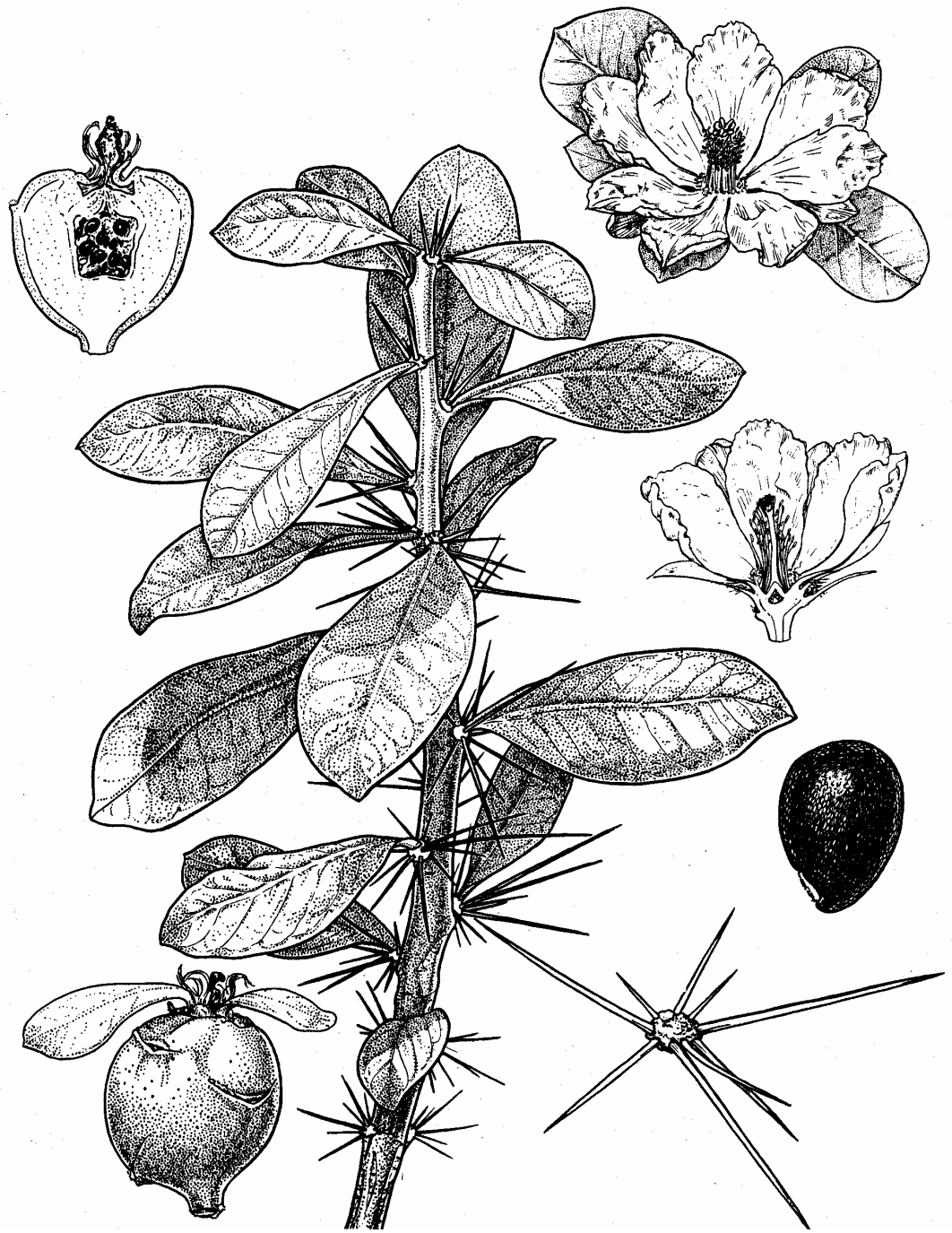
U. S. Fish & Wildlife Service (in lit.): Comments on proposals to delist Opuntioid and Pereskioid cacti.

Distribution of *Maihuenia* (Leuenberger 1997)



Distribution of *Pereskia* (Leuenberger 1986)

Illustration: *Pereskia* (*P. nemorosa*), a leaf-bearing and spiny shrub with barely succulent branches (Benson 1982)



Statement of Range State Chile

NOT AVAILABLE ELECTRONICALLY.

Statement of Range State United states of America

NOT AVAILABLE ELECTRONICALLY.

Statement of Range State Mexico

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