CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

Proposals resulting from reviews by the Plants Committees

A. Proposal

Deletion of *Ceropegia* spp. from Appendix II.

B. Proponent

Swiss Confederation.

C. Supporting Statement

1. Taxonomy

1.1 Class: Dicotyledonae

1.2 Order: Gentianales

1.3 Family: Asclepiadaceae

1.4 Genus: *Ceropegia* L.

1.5 Scientific synonyms:

1.6 Common names: English:
French:
Spanish: Cardoncillos

1.7 Code numbers:

2. Biological Parameters

2.1 Distribution

The genus *Ceropegia* belongs to the plant family Asclepiadaceae, and is closely related to the genera *Riocreuxia* and *Brachystelma*. In recent years some species formally belonging to *Ceropegia* have been included in one of the other genera. In one or two cases an opposite move has been noted. There are about 200 species of *Ceropegia* in the world, distributed from the Spanish Canary Islands in the west, over Central, Southern and Northern- but not Mediterranean- Africa, through Madagascar and Arabia to India and Southeastern Asia and Northern Australia. This very wide distribution has led to a good number of publications by taxonomists working on floras of limited areas. And this, in consequence, has led to a problem of dense synonymy (as put by R.A. Dyer, 1983).

Regularly new species are being described in the genus; the last full revision of the genus, however, (Huber: Revision der Gattung *Ceropegia*, in Memorias da Sociedade Broteriana, Vol. XII) dates from 1957. For the various taxa in *Ceropegia* nomenclature as used by WCMC (Checklist of CITES Species) had to be adapted here and there to comply with standard nomenclature used in various other works.

2.2 Habitat availability

The genus *Ceropegia* is found in most (sub)tropical areas in the Old World.

2.3 Population status

See Annex.

2.4 Population trends

The CITES Authorities of India, at the request of the reviewer, stated: 'Analysis of field records reveals that they (*Ceropegia*, rev.) prefer undisturbed habitat and climate and any sort of disturbance quickly affect the population resulting into quick decline of wild status.'

2.5 Geographic trends

Not applicable.

2.6 Role of the species in its ecosystem

Not applicable.

2.7 Threats

The CITES Authorities of India have indicated that habitat destruction and collecting of tubers for local consumption are the major threats.

3. Utilization and Trade

3.1 National utilization

The CITES Authorities of India indicated that another cause of threat to the wild populations seems to be the exploitation of edible tubers which in many cases are collected indiscriminately and seems to be the main hindrance for its regeneration to maintain the wild population.

3.2 Legal international trade

As the overview shows (Annex 1), more than 98% of trade is in artificially propagated plants, with significant trade mostly limited to not more than five to ten species. There is no trade at all in most of the species.

3.3 Illegal trade

None recorded.

3.4 Actual or potential trade impacts

Not applicable.

3.5 Captive breeding or artificial propagation for commercial purposes (outside country of origin)

Ceropegia plants may show varying responses to a changed environment. Dwarf plants may elongate and twine, similar plants from the same environment in the wild may soon accentuate their differences in vigour. Seedlings from the same pod have been found hairy or not and flowers have shown variation in the colour patterns. This is one of the reasons why growers tend to use vegetative multiplication techniques, assuring a consistent crop. Generally stem cuttings root well, and most of the international trade is based on that technique. Meristemculture is used as well, especially in the past five years.

4. Conservation and Management

4.1 Legal status

As a national protection measure in the Republic of India all *Ceropegia* species are included in the negative list of export and import.

4.1.1 National

Not applicable because of the wide distribution.

4.1.2 International

Ceropegia was included in Appendix II at the second meeting of the Conference of Parties in San José, Costa Rica in 1979 at the proposal of the Republic of India. At COP2 no particular criteria for the inclusion of species in the Appendices were yet in place; these were to be developed later on. In the supporting statement the proponent mentioned, under the heading 'Taxonomy' class, order, family and scientific name for the genus. As 'Biological data' no indication was given about population or habitat; the distribution, as given in the supporting statement is: 'Deccan Peninsula, E. Himalayas and W. Himalayas'.

Under 'Trade data' in 'National utilization', the description 'Tuberous roots medicinal' is given. No legal international or illegal trade is reported. Under 'potential trade threats' 'entire live plants' are mentioned, but no parts and derivatives. No indication is given for the national protection status at that time in 1979, and no additional protection needs were wanted for. The -accepted- proposal was to include the genus *Ceropegia* in Appendix II. A short description of the genus is given under the heading 'Information of similar species'. No comments from Countries of origin were included. Under 'Additional remarks' mention is made of 'ca. 35 species'. The reference mentioned is that of Hooker: Flora of Brit. India 4:66-75, from 1883.

Comparing the above information with the data given in 'general information about *Ceropegia*' in the review document of the Plants Committee (document Doc. PC9-item10.1.2; English only), very important differences may be observed. *Ceropegia* is not at all limited in its distribution to 'Deccan Peninsula, E. Himalayas and W. Himalayas', but occurs in tropical and subtropical areas from Western Africa to Eastern China. *Ceropegia* may well occur in more than **50** countries, including Angola, Australia, Bangladesh, Benin, Bhutan, Burkina Faso, Botswana, Cameroon, Central African republic, Chad, China, Democratic Republic of the of Congo, Côte d'Ivoire, Eritrea, Ethiopia, Ghana, Guinea-Bissau, Guinea Conakry, India, Indonesia, Kenya, Lesotho, Liberia, Madagascar, Malawi, Malaysia, Mali, Mozambique, Myanmar, Namibia, Nepal, Niger, Nigeria, Pakistan, Papua New Guinea, Philippines, Saudi Arab Republic, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Spain, Sri Lanka, Tanzania, Thailand, China, Togo, Uganda, Yemen, Zambia, Zimbabwe. And *Ceropegia* may occur in some other countries as well.

The way *Ceropegia* is traded is often not as 'entire live plants': in the majority of cases, artificial propagation stem cuttings are made and rooted, and most of the trade is in such rooted cuttings. When tubers are used, this is in the vast majority of cases not for the international trade but for local consumption. We now know that much more than 35 species of *Ceropegia* occur outside India; the Kew Index of 1997 mentions 480 names and especially in Eastern Africa, in Tanzania for example, a good number of undescribed *Ceropegia* wait to be named. No recent serious revision of the whole genus *Ceropegia* exists, but a safe estimate of the number of species is around 200.

4.2 Species management

4.2.1 Population monitoring

Not applicable.

4.2.2 Habitat conservation

Not applicable.

4.2.3 Management measures

Not applicable.

4.3 Control measures

4.3.1 International trade

Not applicable.

4.3.2 Domestic measures

Not applicable.

5. Information on Similar Species

None.

6. Other Comments

All range States have been informed about these recommendations of the Plants Committee.

The following Parties expressed support for the proposal: China, Indonesia, Philippines, Spain.

Malaysia (Kuala Lumpur) could not confirm whether their species of *Ceropegia* warrant removal from Appendix II because they did not have any information as to whether these are being collected or propagated and sold locally.

7. Additional Remarks

a) The majority of species of *Ceropegia* is not in trade.

b) Threat for *Ceropegia* species is caused by habitat destruction or local use of edible tubers, not by international trade.

c) The species of *Ceropegia* species found in trade are not collected from the wild but traded as artificially propagated specimens. Most *Ceropegia*, but not all, can be easily propagated by cuttings.

d) Hardly any trade is recorded from Madagascar, where many endemic species occur. Hardly any trade is observed from India, from where quite a lot of vulnerable, rare or endangered species are recorded. International trade, import and export is forbidden for the genus *Ceropegia* in India, and the information sent by the Management Authority of India indicates that threat in India is due either to habitat destruction or to collection of tubers for local consumption. Very few records are available of threatened species with trade in wild collected material or even in artificially propagated material.

The detailed document, on which the Plants Committee based this recommendation (document Doc. PC9-item 10.1.2; English only) can be obtained from the Secretariat.

8. References

R.A.Dyer. 1983. Ceropegia, Brachystelma and Riocreuxia in Southern Africa. Balkema, Rotterdam.

H.Huber. 1957: Revision der Gattung Ceropegia, in Memorias da Sociedade Broteriana, Vol. XII.

Overview of the species, application of the criteria, and tentative proposal

Species name	Application of the criteria	D = delete M = maintain U = uplist to Appendix I
abyssinica	No trade. No threat.	D
achtenii	No trade. No threat.	D
achtenii ssp. *adolfii*	No trade. No threat.	D
achtenii ssp. *togoensis*	No trade. No threat.	D
affinis	No trade. E, but not endangered by trade.	D
africana	*Trade in artificially propagated specimens in small quantities. No negative population trends.*	D
africana ssp. *fortuita*	No trade. No threat.	D
albisepta	*Trade in just 6 artificially propagated specimens in 10 years. Rare.*	D
albisepta var. *bruceana*	No trade. Rare.	D
albisepta var. *robynsiana*	*Trade in just 6 artificially propagated specimens in 10 years. Rare.*	D
ampliata	*Trade in ca 23 artificially propagated specimens in more than 10 years. No threat.*	D
ampliata ssp. *madagascariensis*	No trade. E.	D
ampliata var. *oxyloba*	No trade. I.	D
angustifolia	No trade. V.	D
antennifera	No trade. Ex.	D
aphylla	No trade. No threat.	D
apiculata	No trade. No threat.	D
arabica	*Trade in 3 specimens in the early 80's. No threat.*	D
aridicola	No trade. R.	D
aristolochioides	*Trade in 5 specimens in the early 80's. No threat.*	D
aristolochioides ssp. *albertina*	No trade. No threat.	D
armandii	*Generally trade in a few specimens artificially propagated per year. Exception a shipment of 40.000 art. prop in 1985. Endangered.*	D
arnottiana	No trade. E., but not by trade.	D
attenuata	No trade. R.	D
ballyana	No trade. R.	D
barbata	No trade. I.	D
barbigera	No trade. No threat.	D
barklyi	*Trade in ca. 170 specimens artificially propagated in ca. 10 years. No threat.*	D
barklyi x *linearis* ssp. *woodi*	No trade. No threat.	D
barnesii	No trade. E., but not by trade.	D
beddomei	No trade. E., but not by trade.	D
bhuticana	No trade. I.	D
boerhaaviifolia	No trade. No threat.	D
bonafouxii	No trade. No threat.	D
bosseri	*Trade in 1 artificially propagated specimen in 1989. E, but not by trade.*	D
botrys	No trade. R.	D
bowkeri	No trade. No threat.	D
brachyceras	No trade. No threat.	D
brachysiphon	No trade. No threat.	D

Species name	Application of the criteria	D = delete M = maintain U = uplist to Appendix I
brevirsotris	No trade. No threat.	D
brosima	No trade. No threat.	D
bulbosa	No trade. R.	D
burchellii	No trade. No threat.	D
campanulata	No trade. No threat.	D
campanulata var. *abinsica*	No trade. No threat.	D
campanulata var. *porphyrotricha*	No trade. No threat.	D
campanulata var. *pulchella*	No trade. No threat.	D
cancellata	*Trade in ca. 300 specimens artificially propagated in ca. 10 years. Rare.*	D
candelabrum	No trade. I.	D
carnosa	No trade. No threat.	D
cataphyllaris	No trade. No threat.	D
ceratophora	No trade. E., but not by trade.	D
chipiaensis	No trade. E., but not by trade.	D
chortophylla	No trade. No threat.	D
christensiana	No trade. No threat.	D
ciliata	No trade. No threat.	D
ciliata ssp. *ensifolia*	No trade. No threat.	D
cimiciodora	*Regular trade in small number artificially propagated specimens. No threat.*	D
claviloba	No trade. No threat.	D
convolvuloides	No trade. No threat.	D
cordata	No trade. No threat.	D
crassicaule	*Trade in 6 specimens artificially propagated No threat.*	D
crassifolia	*Trade in 3 specimens artificially propagated No threat.*	D
cufodontii	No trade. No threat.	D
cumingiana	No trade. No threat.	D
cumingiana ssp. *cumingiana* f. *merrillii*	No trade. No threat.	D
cumingiana ssp. *horsfieliana*	No trade. No threat.	D
cycniflora	No trade. E., but not by trade.	D
damannii	No trade. No threat.	D
decaisneana	No trade. R.	D
decaisneana var. *brevicollis*	No trade. I.	D
decidua	*Trade in ca. 200 artificially propagated specimens in ca. 10 years. Rare.*	D
deightonii	No trade. R.	D
deightonii ssp. *conjuncta*	No trade. R.	D
deightonii ssp. *tissserantii*	No trade. R .	D
dichotoma	*Trade in 30 specimens artificially propagated in ca. 10 years. Rare.*	D
dimorpha	*Trade in ca. 2 specimens artificially propagated per year. Exception in 1987: 170. Rare.*	D
dinteri	No trade. E., but not by trade.	D
distincta	*Trade in 33 specimens artificially propagated in ca. 10 years. No threat.*	D
distincta ssp. *haygarthii*	No trade. No threat.	D
distincta ssp. *lugardae*	No trade. No threat.	D
distincta ssp. *lugardae* f. *pubescens*	No trade. No threat.	D

Species name	Application of the criteria	D = delete M = maintain U = uplist to Appendix I
dorjei	No trade. No threat.	D
effusa	No trade. No threat.	D
elegans	No trade. No threat.	D
elegans var. *gardneri*	No trade. I.	D
elegans x *sandersonii*	No trade. No threat.	D
ensifolia	No trade. No threat.	D
euryacme	No trade. No threat.	D
evansii	No trade. No threat.	D
evansii var. *media*	No trade. No threat.	D
fantastica	No trade. E., but not by trade.	D
farokhii	No trade. No threat.	D
filiformis	No trade. R.	D
filipendula	No trade. No threat.	D
fimbriata	No trade. R.	D
fimbriifera	No trade. R.	D
floribunda	*In the last ten years trade consisted of ca 100 specimens artificially propagated per year. Rarity not due to trade.*	D
furcata	No trade. No threat.	D
fusca	*Since 1982 trade in total 26 artificially propagated specimens. Rare.*	D
fusiformis	No trade. No threat.	D
gilgiana	No trade. No threat.	D
gracilis	No trade. No threat.	D
hians var. *hians*	No trade. R.	D
hians var. *striata*	No trade. R.	D
hirsuta	No trade. No threat.	D
hofstaetteri	No trade. Endangered, but not by trade.	D
hookeri	No trade. Endangered, but not by trade.	D
hookeri var. *mollis*	No trade. No threat.	D
huberi	No trade. Endangered, but not by trade.	D
humberti	No trade. R .	D
illegitima	No trade. No threat.	D
imbricata	No trade. No threat.	D
inflata	No trade. No threat.	D
intermedia	No trade. No threat.	D
intermedia var. *wightii*	No trade. I.	D
intracolor	No trade. No threat.	D
jainii	No trade. R.	D
johnsonii	No trade. No threat.	D
juncea	*Trade in 50 artificially propagated specimens in 1981. From that period ca. 1 artificially propagated specimen trade per year. No threat.*	D
kachinensis	No trade. R.	D
krainzii	No trade. R.	D
kundulunguensis	No trade. R.	D
langkawiensis	No trade. R.	D
lawii	No trade. Endangered, but not by trade.	D
ledermannii	No trade. No threat.	D
leroyi	*Trade in 8 specimens artificially propagated from 1981 to 1986; no trade since that year. Endangered.*	D

Species name	Application of the criteria	D = delete M = maintain U = uplist to Appendix I
lindenii	No trade. R.	D
linearis	*1-12 specimens artificially propagated per year traded: exception in 1991: 3070 specimens. No threat.*	D
linearis ssp. *debilis*	No trade. No threat.	D
linearis ssp. *woodii*	Important trade product. No threat.	D
linophyllum	No trade. No threat.	D
longifolia	No trade. No threat.	D
longifolia ssp. *sinensis*	No trade. No threat.	D
longifolia ssp. *sinensis* var. *exigua*	No trade. No threat.	D
loranthifolia	No trade. No threat.	D
loureirii	No trade. No threat.	D
lucida	No trade. E or Ex.	D
lucida ssp. *dryophila*	No trade. No threat.	D
ludlowii	No trade. No threat.	D
maccansii	No trade. R.	D
macrantha	No trade. No threat.	D
macrantha var. *thoralii*	No trade. No threat.	D
maculata	No trade. E or Ex.	D
madagascariensis	No trade. R.	D
madens	No trade. No threat.	D
mafekingensis	No trade. R.	D
mahabalei	No trade. E, but not by trade.	D
mairei	No trade. No threat.	D
mairei var. *tenella*	No trade. No threat.	D
maiuscula	No trade. R.	D
mayottae	No trade. E, but not by trade.	D
media	No trade. R.	D
melanops	No trade. No threat.	D
meleagris	No trade. No threat.	D
merrillii	No trade. No threat.	D
metziana	No trade. R.	D
meyeri	No trade. No threat.	D
meyeri-johannis	No trade. No threat.	D
meyeri-johannis var. *angiensis*	No trade. No threat.	D
meyeri-johannis var. *verdickii*	No trade. No threat.	D
mirabilis	No trade. No threat.	D
monticola	No trade. No threat.	D
muliensis	No trade. No threat.	D
multiflora	*Trade from 1991 on between 20 and 100 specimens artificially propagated per year. No threat.*	D
multiflora ssp. *multiflora* f. *pubescens*	No trade. No threat.	D
multiflora ssp. *tentaculata*	No trade. No threat.	D
multiflora ssp. *tentaculata* f. *puberula*	No trade. No threat.	D
muzingana	No trade. R.	D
nana	No trade. No threat.	D
ngoyana	No trade. R.	D
nigra	No trade. No threat.	D

Species name	Application of the criteria	D = delete M = maintain U = uplist to Appendix I
nilotica	*Trade in 1-2 specimens artificially propagated per year. Exception 1995: 101 specimens artificially propagated No threat.*	D
nilotica var. *plicata*	No trade. No threat.	D
nilotica var. *simplex*	*Trade in 1 specimen artificially propagated in three different years. No threat.*	D
noorjahaniae	No trade. R.	D
nuda	No trade. R.	D
obtusa	No trade. No threat.	D
occidentalis	No trade. V.	D
occulta	*Trade in 1 to 25 specimens artificially propagated per year. No threat.*	D
oculata	No trade. R.	D
oculata var. *subhirsuta*	No trade. No threat.	D
odorata	No trade. E, but not by trade.	D
omissa	No trade. E, but not by trade.	D
pachystelma	*Trade in ca. 10 specimens artificially propagated in the 80's. Trade in up to 100 specimens artificially propagated afterwards. No threat.*	D
pachystelma ssp. *undulata*	No trade. No threat.	D
panchganiensis	No trade. E, but not by trade.	D
papillata	No trade. No threat.	D
papillata var. *cordiloba*	No trade. No threat.	D
paricyma	No trade. R.	D
parviflora	No trade. I.	D
peteri	No trade. No threat.	D
petignatii	No trade. E, but not by trade.	D
peulhorum	No trade. No threat.	D
peulhorum var. *breviloba*	No trade. No threat.	D
picta	No trade. No threat.	D
powissi	No trade. No threat.	D
praetermissa	No trade. R.	D
pubescens	No trade. No threat.	D
purpurascens	No trade. No threat.	D
purpurascens ssp. *thysanotos*	No trade. I.	D
pusilla	No trade. R.	D
pygmaea	No trade. No threat.	D
pygmaea var. *pumila*	No trade. No threat.	D
racemosa	No trade. I.	D
racemosa ssp. *glabra*	No trade. I.	D
racemosa ssp. *secamonoides*	No trade. No threat.	D
racemosa ssp. *setifera*	No trade. I.	D
radicans	No trade. R.	D
radicans var. *smithii*	No trade. No threat.	D
radicans x *sandersonii*	No trade. No threat.	D
razafindratsirana	No trade. Endangered, but not by trade.	D
rendalii	*Trade 3-200 specimens artificially propagated per year. No threat.*	D
renzii	No trade. No threat.	D
rhynchantha	No trade. No threat.	D
ringens	No trade. No threat.	D

Species name	Application of the criteria	D = delete M = maintain U = uplist to Appendix I
ringoetii	No trade. No threat.	D
rollae	No trade. R	D
rudatisii	No trade. V.	D
rupicola	*Ca. 10 specimens artificially propagated traded in 10 years. No threat.*	D
x *rupicola* var. *strictantha*	No trade. I.	D
sahyadrica	*No trade. I. Population highly depleted, but not by trade.*	D
salicifolia	No trade. No threat.	D
sandersonii	*Trade in 1-40 specimens artificially propagated per year. No threat.*	D
sankuruensis	No trade. No threat.	D
santapaui	No trade. R.	D
saxatilis	No trade. R.	D
scabra	No trade. R.	D
scabriflora	No trade. R.	D
schaijesorum	No trade. No threat.	D
schliebenii	No trade. No threat.	D
senegalensis	No trade. No threat.	D
sepium	No trade. No threat.	D
simoneae	No trade. Endangered, but not by trade.	D
sobolifera	No trade. No threat.	D
sobolifera var. *nephroloba*	No trade. I.	D
somalensis	*Traded once, 1990: 2000 artificially propagated specimens. No threat.*	D
somalensis f. *erostrata*	No trade. No threat.	D
sootepensis	No trade. No threat.	D
speciosa	No trade. No threat.	D
spiralis	No trade. V.	D
stapeliaeformis	*Trade in 1-10 specimens artificially propagated per year. No threat.*	D
stapeliaeformis var. *serpentina*	No trade. No threat.	D
stenantha	No trade. No threat.	D
stenoloba	No trade. No threat.	D
stenoloba var. *australis*	No trade. No threat.	D
stenoloba var. *moyalenis*	No trade. No threat.	D
stentiae	No trade. V.	D
stephanotis	No trade. No threat.	D
subaphylla	No trade. No threat.	D
succulenta	*Trade to 52 specimens in 1989. No trade after that year. No threat.*	D
superba	*Trade in 3 specimens artificially propagated in total. No threat.*	D
swaziorum	No trade. R.	D
talbotii	No trade. No threat.	D
taprobanica	No trade. R.	D
teniana	No trade. No threat.	D
thwaitesii	No trade. V.	D
tihamana	No trade. No threat.	D
tomentosa	No trade. No threat.	D
torulosa	No trade. No threat.	D
tourana	No trade. No threat.	D

Species name	Application of the criteria	D = delete M = maintain U = uplist to Appendix I
turricula	No trade. No threat.	D
ugeni	No trade. R.	D
umbraticola	No trade. No threat.	D
vaduliae	No trade. No threat.	D
vandallii	No trade. No threat.	D
vanderystii	No trade. No threat.	D
variegata	*Trade in 9 specimens in total in 10 years. No threat.*	D
variegata var. *cornigera*	*Trade in 32 specimens in total in 10 years. No threat.*	D
veruuculosa	No trade. R.	D
vignaldiana	No trade. No threat.	D
vincaefolia	*Trade in 1990 only: 328 specimens artificially propagated Endangered.*	D
viridis var. *truncata*	No trade. Rare.	D
viridis var. *viridis*	No trade. Rare.	D
volubilis	*Trade limited to ca. 40.000 specimens artificially propagated No threat.*	D
wallichii	No trade. No threat.	D
yorubana	No trade. No threat.	D
zeyheri	*Trade in 6 specimens artificially propagated beginning 80's. No threat.*	D