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

Eleventh meeting of the Plants Committee
Langkawi (Malaysia), 3-7 September 2001

Technical proposals for the 12th meeting of the Conference of the Parties

EXCHANGE OF SCIENTIFIC HERBARIUM SPECIMENS OF CERTAIN PLANT TAXA LISTED IN APPENDIX II

1. This document has been presented by Switzerland

Introduction

2. Herbarium specimens, consisting of dried parts of plants, mounted on herbarium sheets or stored in boxes and labelled for scientific use, or consisting of parts of plants, conserved in liquid, stored in containers and labelled for scientific use, are exchanged in big quantities among herbaria and scientists of the world. The exchange of herbarium specimens has a long tradition and is well predating the Convention. A significant part of the herbarium specimens of the world consequently has the status of "pre Convention".

3. Article VII, paragraph 6, of the Convention exempts from CITES controls the non-commercial loan, donation or exchange between scientists or scientific institutions registered by a Management Authority of their State, of herbarium specimens, other preserved, dried or embedded museum specimens, and live plant material that carry a label issued or approved by a Management Authority. Thus the Convention acknowledges that scientific purposes may justify a special departure from the general procedure (this regulation also applies for taxa of Appendix I, which are not treated in this draft proposal).

4. As far as taxa of Appendix II are concerned, and considering the fact, that many specimens may well have "pre convention" status and further noting, that exchange of herbarium specimens often consists in temporary loans and specimens are shipped back to their herbarium of origin and thus are often multiply "traded", and taking into account, that such exchange between registered scientific institutions is already exempted from CITES controls, and further taking into account, that taxa of Appendix II at the same time can be traded for purely commercial purposes, it is hard to see a great benefit in subjecting this non-living scientific material under the controls of CITES.

5. Comparison of trade shows, that exchange of dried specimens constitutes a negligible proportion of trade in wild-collected live specimens. For example trade in live wild-collected Orchids for commercial purposes is estimated at 1-2 million specimens per year, whereas the average registered exchange of dried samples is only about 500 specimens per year. Res. Conf. 11.15 points out, that museum needs for research specimens can have an

adverse impact on small populations of rare plants. This is rather not applicable for species listed in Appendix II, which are exclusively concerned here.

6. The "Registered Trade in Dried Specimens" of taxa listed in Appendix II has now been analysed in order to approximately quantify the international exchange of herbarium specimens with CITES permits (see diagrams 1-4 and the Annex to this document).

Taxa concerned

7. Higher taxa are underlined; in some taxa, only certain parts or derivatives are concerned or some species or cultivars are already excluded. *Aloe* spp., *Anacampseros* spp., *Aquilaria malaccensis*, *Avonia* spp., *Bowenia* spp., *Cactaceae* spp., *Caryocar costaricense*, *Chrysalidocarpus decipiens*, *Cyatheaceae* spp. (incl. *Alsophila* spp., *Cyathea* spp., *Nephelea* spp., *Sphaeropteris* spp., *Trichipteris* spp.), *Cybotium barometz*, *Cycadaceae* spp., *Cystanche deserticola*, *Dicksonia* spp. (American populations), *Didieraceae* spp., *Dionaea muscipula*, *Dioscorea deltoidea*, *Euphorbia* spp. (succulent species), *Fouquieria columnaris*, *Galanthus* spp., *Guaiacum officinale*, *Guaiacum sanctum*, *Hedychium philippinense*, *Lewisia maguirei*, *Lewisia serrata*, *Nardostachys grandiflora*, *Neodypsis decaryi*, *Nepenthes* spp., *Orchidaceae* spp., *Oreomunnea pterocarpa*, *Pachypodium* spp., *Panax ginseng* (Russian population), *Panax quinquefolius*, *Picrorhiza kurrooa*, *Podophyllum hexandrum*, *Prunus africana*, *Rauvolfia serpentina*, *Sarracenia* spp., *Shortia galacifolia*, *Sternbergia* spp., *Swietenia humilis*, *Taxus wallichiana*, *Tillandsia harrisii*, *Tillandsia kammii*, *Tillandsia kautskyi*, *Tillandsia mauryana*, *Tillandsia sprengeliana*, *Tillandsia sucrei*, *Tillandsia xerographica*, *Welwitschia mirabilis*, *Zamiaceae* spp.

Analysis: Exchange of dried specimens of taxa listed in CITES App. II (1984-1999)

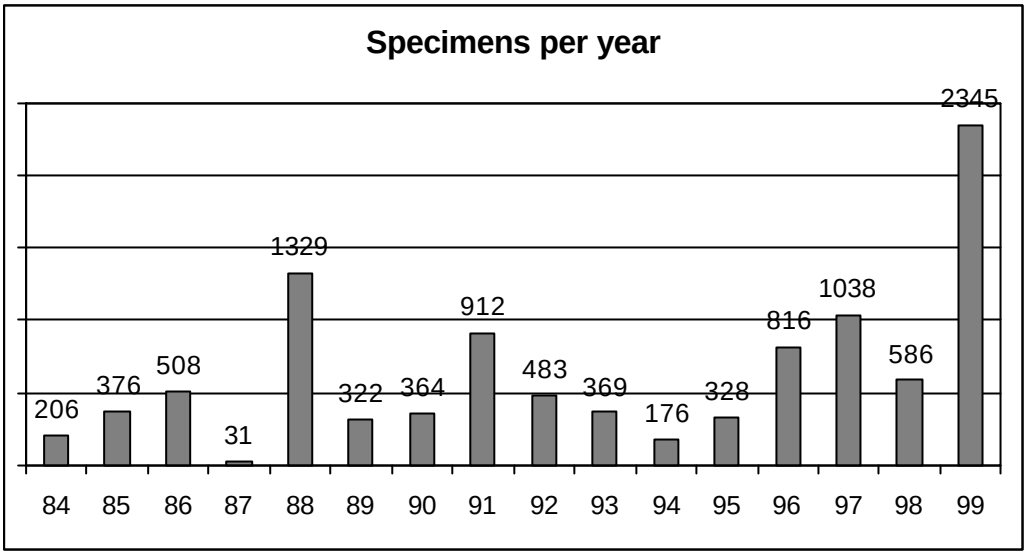
8. "Registered Trade in Dried Specimens" is illustrated in diagrams 1-4 (below), based on data of WCMC (John Caldwell 2001), which have been processed to summarise taxa on family- or genus level (processed data see the Annex to this document). Note: The same specimen can be counted various times, as specimens can be multiply circulated between herbaria. Dried medicinal plants are excluded here.

9. It is remarkable, that in spite of the exception for exchange between registered scientific institutions (Art. VII, Abs. 6), there is still a considerable registered trade in scientific specimens.

Total exchange

10. The total number of specimens is 10'189 in a 16-year-period, which means an annual average of 637 specimens. It is difficult to deduce a trend from the data. There is much fluctuation from year to year (see diagram 1), but the numbers are rather increasing than decreasing. This however might be due to better reporting in recent time. The total number of shipments 1984-1999 remains unknown, because of the structure of data, which only indicate the number of specimens per taxon and per year between an exporting and an importing country.

Diagram 1

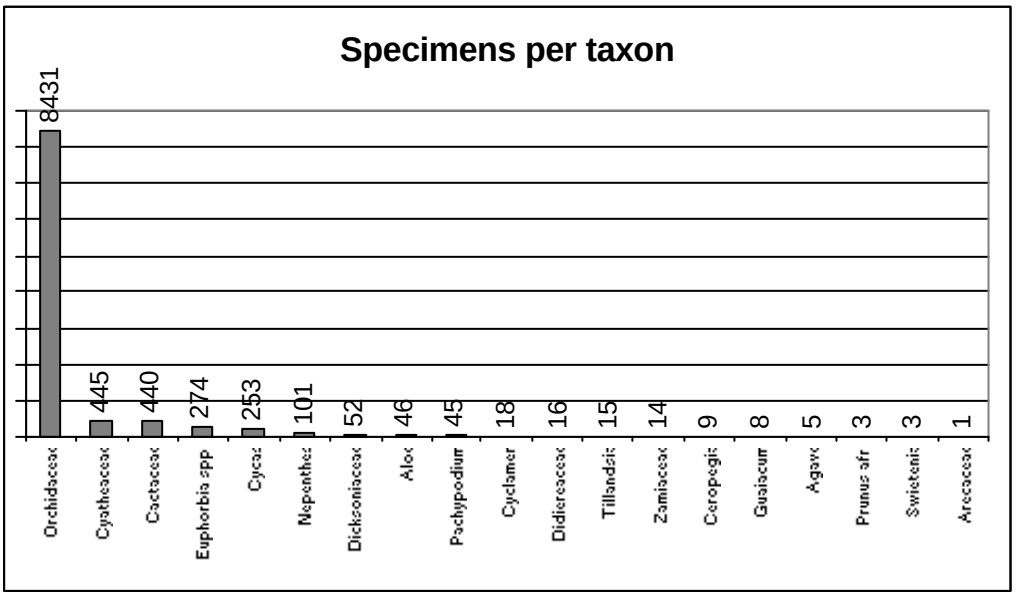


Taxa concerned

11. Regarding the taxa concerned, by far the most significant exchange in the analysed period is in dried specimens of Orchids (8431 specimens) (see diagram 2). This is not surprising, as the *Orchidaceae* contain the highest number of species of all families of flowering plants. Main exchange in dried Orchid specimens is from Ecuador to USA (2611 specimens) and to other countries (1253 specimens), from Costa Rica to USA (759 specimens) and from Cuba to Germany and to other countries (780 specimens).

12. All other reported taxa together (1748 specimens) reach only 20% of the Orchids (see diagram 2). Other taxa worth mentioning are the treeferns (445 specimens of *Cyatheaceae*, 52 specimens of *Dicksoniaceae*), the cacti (440 specimens), the succulent Euphorbias (274 specimens), the Cycads (253 specimens of *Cycas*, 14 specimens of *Zamiaceae*) and the Pitcher Plants (101 specimens of *Nepenthes*).

Diagram 2



Important exporting and importing countries

13. Apart from Ecuador, which is by far the most significant exporting country of dried plant specimens in registered trade (4224 specimens / 41 %), Costa Rica (985 specimens), Cuba (782 specimens), Madagascar (678 specimens), Nicaragua (534 specimens) and Indonesia (513 specimens) are notable exporting countries (see diagram 3). USA is by far the most important importing country (5291 specimens / 52%), followed by Germany (1864 specimens / 18%), Switzerland (560 specimens), Puerto Rico (517 specimens) and the United Kingdom (449 specimens) (see diagram 4).

Diagram 3

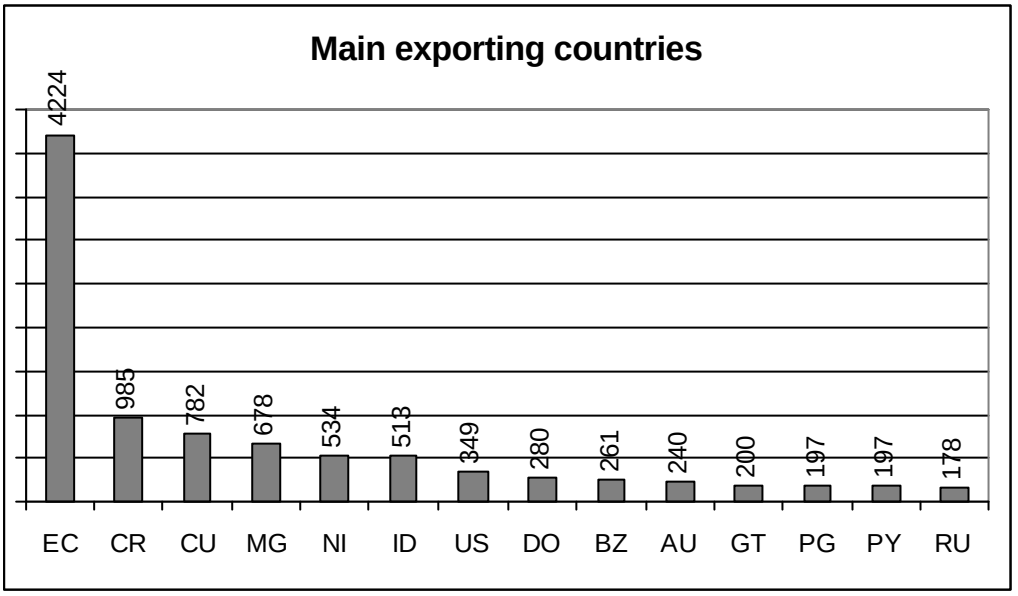
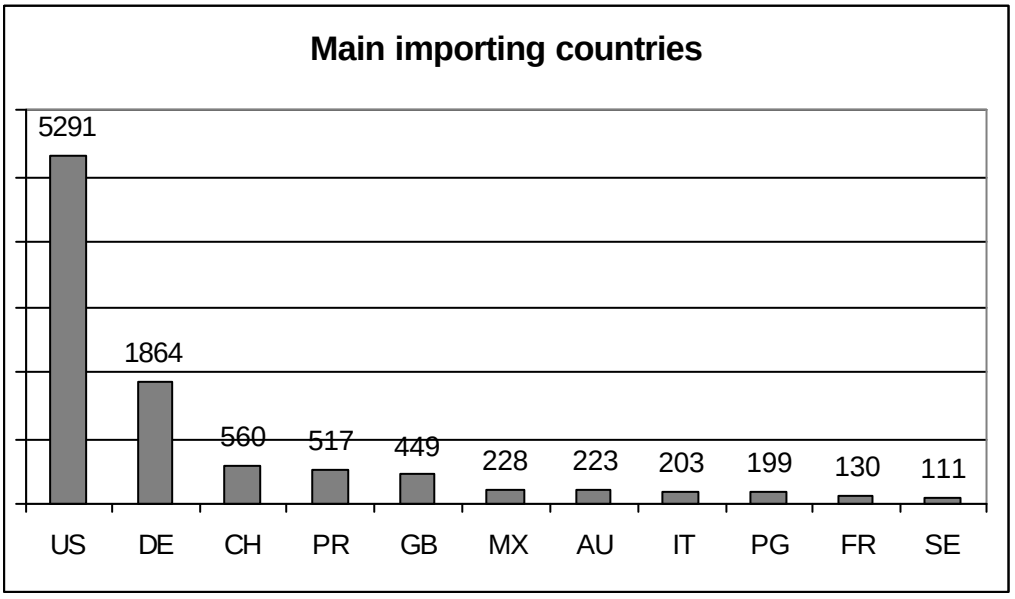


Diagram 4



14. As a conclusion of the arguments given in the introduction, and considering the above analysis of registered trade, it is proposed to exclude scientific exchange of herbarium specimens of species listed in Appendix II from CITES controls, under defined conditions. This can be done by amplifying the annotations #1, 2, 3, 4 and 7, to contain the following paragraph:

    Non-living, appropriately processed and labelled, permanently preserved herbarium specimens, dried and mounted on herbarium-sheets or dried and stored in herbarium-boxes, or preserved in liquid and stored in herbarium-containers, for non-commercial (scientific) purposes.

Note from the Secretariat: This new text should be presented as an amendment proposal.

- Some further comments
- Taxa listed in Appendix I are not concerned.
- Living plant material is not allowed.
- Commercial use is not allowed.
- Herbarium specimens are deemed to be „parts of plants or derivatives“ [Art. I b) iii)], they therefore must be appropriately processed for scientific use: Permanently preserved, labelled, mounted on sheets or stored in boxes. No unprocessed dried material is allowed.
- The exception is not restricted to registered scientific institutions (what would be redundant [Art. VII, Abs. 6]).
- Exchange of specimens of taxa listed in Appendix I remains restricted to registered institutions (Art. VII, Abs. 6).

15. This draft proposal is submitted to the Secretariat before 5 July 2001 for the agenda of the 11th Meeting of the Plants Committee (according to Notification No. 2001/015). At the same time, it is submitted for consideration at the next meeting of the Conference of the Parties (according to Resolution Conf. 4.6).

REPORTED TRADE IN DRIED PLANT SPECIMENS (WCMC 2001)

Note: The same specimen can be counted various times, as specimens can be multiply circulated between herbaria.

1984: 206

Orchidaceae spp.	206	US	EC

1985: 376

Cactaceae spp.	180	US	EC
Orchidaceae spp.	196	US	EC

1986: 508

Cactaceae spp.	5	JP	US
Orchidaceae spp.	3	US	CR
Orchidaceae spp.	500	US	EC

1987: 31

Cactaceae spp.	1	US	CR
Cycadaceae spp.	1	US	CR
Orchidaceae spp.	29	US	CR

1988: 1329

Euphorbia spp.	31	US	EC
Orchidaceae spp.	897	DE	EC
Orchidaceae spp.	401	US	EC

1989: 322

Cactaceae spp.	35	US	EC
Cactaceae spp.	5	JP	EC
Euphorbia spp.	90	US	EC
Orchidaceae spp.	70	SE	EC
Orchidaceae spp.	22	SE	MG
Orchidaceae spp.	100	MX	EC

1990: 364 + 6 kg + 2 bags

Cactaceae spp.	3 kg	US	PY
Orchidaceae spp.	3 kg	US	PY
Orchidaceae spp.	350	US	EC
Pachypodium spp.	1	FR	MG
Didiereaceae spp.	3	FR	MG
Euphorbia spp.	1	FR	MG
Orchidaceae spp.	8	FR	MG
Arecaceae spp.	1	FR	MG
Orchidaceae spp.	2 bags	BM	US

1991: 912 + 6 kg

Cactaceae spp.	8	CL	PY
Cactaceae spp.	3 kg	US	PY
Euphorbia spp.	25	US	EC
Orchidaceae spp.	200	US	EC
Orchidaceae spp.	3 kg	US	PY
Orchidaceae spp.	42	US	CR
Orchidaceae spp.	523	US	EC
Orchidaceae spp.	90	DE	CR
Orchidaceae spp.	24	CA	CR

1992: 483

Pachypodium spp.	3	CH	MG
Cactaceae spp.	1	FR	MG
Cyatheaceae spp.	2	CR	IT
Didiereaceae spp.	1	CH	MG
Aloe spp.	22	CH	MG
Aloe spp.	4	FR	MG
Orchidaceae spp.	31	FR	MG
Orchidaceae spp.	156	US	CR
Orchidaceae spp.	28	IT	CR
Orchidaceae spp.	235	US	EC

1993: 369

Agave spp.	5	DE	GT
Pachypodium spp.	3	CH	MG
Tillandsia spp.	15	DE	GT
Cactaceae spp.	39	NL	US
Cyathea spp.	61	PH	JP

Didiereaceae spp.	1	FR	MG
Euphorbia spp.	9	CH	MG
Euphorbia spp.	5	DE	GT
Euphorbia spp.	4	FR	MG
Euphorbia spp.	5	GB	MG
Euphorbia spp.	20	US	GT
Orchidaceae spp.	30	DE	GT
Orchidaceae spp.	7	FR	MG
Orchidaceae spp.	35	GB	MG
Orchidaceae spp.	122	US	CR
Guaiacum sanctum	8	US	GT

1994: 176

Cactaceae spp.	2	NL	US
Orchidaceae spp.	39	IT	US
Orchidaceae spp.	67	GT	MX
Orchidaceae spp.	67	MX	GT
Orchidaceae spp.	1	GB	MG

1995: 328

Pachypodium spp.	36	NL	MG
Ceropegia spp.	8	CH	MG
Ceropegia spp.	1	GB	MG
Cactaceae spp.	2	US	PE
Cactaceae spp.	24	US	PY
Cyathea spp.	18	FR	MG
Didiereaceae spp.	7	FR	MG
Euphorbia spp.	1	FR	MG
Euphorbia spp.	2	GB	MG
Euphorbia spp.	1	KR	CN
Aloe spp.	3	FR	MG
Aloe spp.	1	GB	MG
Orchidaceae spp.	1	BE	KM
Orchidaceae spp.	3	GB	MG
Orchidaceae spp.	72	US	PY
Orchidaceae spp.	96	GB	MG
Orchidaceae spp.	40	CH	MG
Orchidaceae spp.	10	FR	MG
Orchidaceae spp.	2	KR	CN

1996: 816

Cactaceae spp.	1	NZ	AU
Cactaceae spp.	3	NZ	CL
Cactaceae spp.	7	NZ	US
Cactaceae spp.	1	NZ	BR
Cactaceae spp.	1	NZ	AU
Cactaceae spp.	2	DE	SV
Cyatheaceae spp.	24	CH	MG
Cycas spp.	199	PG	AU
Dicksoniaceae spp.	25	JP	AU
Swietenia spp.	3	DE	SV
Orchidaceae spp.	141	AU	PG
Orchidaceae spp.	19	SE	MG
Orchidaceae spp.	372	US	NI
Orchidaceae spp.	8	CH	MG
Zamiaceae spp.	10	JP	AU

1997: 1038

Cactaceae spp.	9	DE	NI
Cactaceae spp.	4	NZ	AU
Cactaceae spp.	2	NZ	CA
Cactaceae spp.	16	NZ	CL
Cactaceae spp.	1	NZ	DE
Cactaceae spp.	2	NZ	GB
Cactaceae spp.	2	NZ	PE
Cactaceae spp.	10	NZ	US
Cactaceae spp.	3	US	PE
Cactaceae spp.	40	US	PY
Cactaceae spp.	6	US	BZ
Cactaceae spp.	1	DE	EC
Cactaceae spp.	1	GB	CU
Cyathea spp	10	FR	MG
Cyathea spp	14	US	ID
Didiereaceae spp.	4	GB	MG
Euphorbia spp.	1	GB	CU
Euphorbia spp.	8	GB	MG
Euphorbia spp.	69	US	CF
Gnetum spp. (?)	10	US	CF
Aloe spp.	12	GB	MG
Nepenthes spp.	3	US	ID
Orchidaceae spp.	24	BE	KM
Orchidaceae spp.	70	DE	NI

Orchidaceae spp.	3	GB	CU
Orchidaceae spp.	253	US	BZ
Orchidaceae spp.	58	US	CU
Orchidaceae spp.	156	US	ID
Orchidaceae spp.	4	US	NI
Orchidaceae spp.	38	US	PY
Orchidaceae spp.	8	GB	MG
Orchidaceae spp.	130	PR	CU
Orchidaceae spp.	53	DE	EC
Orchidaceae spp.	11	MX	DE
Zamiaceae spp.	2	US	BZ

1998: 586

Cactaceae spp.	9	DE	NI
Cyatheaceae spp.	4	FR	NC
Cyatheaceae spp.	1	NZ	HK
Cyatheaceae spp.	1	NL	ID
Cycas spp.	35	GB	VN
Dicksoniaceae spp.	1	NL	ID
Aloe spp.	4	ZA	MG
Nepenthes spp.	23	BN	DE
Nepenthes spp.	74	DE	BN
Nepenthes spp.	1	NL	ID
Orchidaceae spp.	56	AU	PG
Orchidaceae spp.	70	DE	NI
Orchidaceae spp.	4	PR	CU
Orchidaceae spp.	4	US	KY
Orchidaceae spp.	9	NL	ID
Orchidaceae spp.	287	DE	CU
Prunus africana	2	IT	BE
Prunus africana	1	IT	TZ

1999: 2345

Pachypodium spp.	2	CH	MG
Cactaceae spp.	1	US	MX
Cactaceae spp.	13	US	CR
Cactaceae spp.	3	MX	GT
Cyatheaceae spp.	1	BR	PY
Cyatheaceae spp.	15	FR	NC
Cyatheaceae spp.	3	GB	PY
Cyatheaceae spp.	3	US	PY
Cyatheaceae spp.	66	US	CR

Cyatheaceae spp.	1	BR	PY
Cyatheaceae spp.	26	CH	MG
Cyatheaceae spp.	151	GB	ID
Cyatheaceae spp.	44	MX	GT
Cycas spp.	18	GB	ID
Dicksoniaceae spp.	15	GB	ID
Dicksoniaceae spp.	3	US	CR
Dicksoniaceae spp.	8	BE	NZ
Euphorbia spp.	2	MX	GT
Orchidaceae spp.	26	AU	ID
Orchidaceae spp.	81	CH	MG
Orchidaceae spp.	3	CH	PY
Orchidaceae spp.	30	DE	CU
Orchidaceae spp.	28	GB	GA
Orchidaceae spp.	154	PR	CU
Orchidaceae spp.	229	PR	DO
Orchidaceae spp.	407	US	CR
Orchidaceae spp.	63	US	PA
Orchidaceae spp.	4	US	PY
Orchidaceae spp.	2	DK	MY
Orchidaceae spp.	50	US	DO
Orchidaceae spp.	83	CH	MG
Orchidaceae spp.	100	DE	ID
Orchidaceae spp.	18	US	ID
Orchidaceae spp.	178	US	RU
Orchidaceae spp.	133	IT	EC
Orchidaceae spp.	114	DE	CU
Orchidaceae spp.	247	CH	US
Cyclamen spp.	18	GB	TR
Zamiaceae spp.	1	MX	GT
Zamiaceae spp.	1	US	DO