

AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION

Other Proposals

A. PROPOSAL

Inclusion of Tillandsia aizoides, T. argentina, T. atroviridipetala, T. balsasensis, T. brachyphylla, T. bulbosa, T. butzii, T. cacticola, T. califanii, T. caput-medusae, T. carminea, T. chiapensis, T. copanensis, T. dexteri, T. edithae, T. ehlersiana, T. filifolia, T. fuchsii, T. grazielae, T. bilda, T. hondurensis, T. ignesia, T. ionantha, T. ixioides, T. kammii, T. kautskyi, T. klausii, T. magnusiana, T. matudae, T. mauryana, T. muhrii, T. myosura, T. nuptialis, T. oropezana, T. plagiotropica, T. plumosa, T. pruinosa, T. reclinata, T. seideliana, T. sprengeliana, T. streptophylla, T. sucrei, T. tectorum, T. velickiana, T. werdermannii, T. xerographica, T. xiphioides, T. zecheri in Appendix II and the remaining taxa of the genus Tillandsia on account of look-alike-problems.

B. PROPOSENT

The Federal Republic of Germany.

C. SUPPORTING STATEMENT

1. Taxonomy

11. Class: Monocotyledonae  
12. Order: Bromeliales  
13. Family: Bromeliales  
14. Species:

<u>T. aizoides</u> Gardner	<u>T. kammii</u> Rauh
<u>T. argentina</u> C. H. Wright	<u>T. kautskyi</u> Pereira
<u>T. atroviridipetala</u> Matuda	<u>T. klausii</u> Ehlers
<u>T. balsasensis</u> Rauh	<u>T. magnusiana</u> Wittmack
<u>T. brachyphylla</u> Baker	<u>T. matudae</u> L. B. Smith
<u>T. bulbosa</u> Hooker	<u>T. mauryana</u> L. B. Smith
<u>T. butzii</u> Mez	<u>T. muhrii</u> Rauh
<u>T. cacticola</u> L. B. Smith	<u>T. myosura</u> Grisebach ex Baker
<u>T. califanii</u> Rauh	<u>T. nuptialis</u> Braga & Sucre
<u>T. caput-medusae</u> E. Morren	<u>T. oropezana</u> L. Hromadnik
<u>T. carminea</u> Till	<u>T. plagiotropica</u> Rohweder
<u>T. chiapensis</u> Gardner	<u>T. plumosa</u> Baker
<u>T. copanensis</u> Rauh & Rutschmann	<u>T. pruinosa</u> Swartz
<u>T. dexteri</u> Luther	<u>T. reclinata</u> Pereira & Martinelli
<u>T. edithae</u> Rauh	<u>T. seideliana</u> Pereira
<u>T. ehlersiana</u> Rauh	<u>T. sprengeliana</u> Klotzsch ex Mez
<u>T. filifolia</u> Schlechtendal & Chamisso	<u>T. streptophylla</u> Scheidweiler ex Morren

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harristls  
T. fuchsii W. Till  
T. grazielae Sucre & Braga  
T. hildae Rauh  
T. hondurensis Rauh  
T. ignesiae Mez  
T. ionantha Planchon  
T. ixioides Grisebach

- T. sucrei Pereira  
T. tectorum E. Morren  
T. velickiana L. B. Smith  
T. werdermannii Harms  
- T. xerographica Rohweder  
T. xiphioides Ker-Gawler  
T. zecheri Till

and the remaining taxa of the genus Tillandsia on account of look-alike-problems.

15: Common Names: English:  
French:  
Spanish: Clavela del aire  
German: Luftnelke

16. Code Numbers:

## 2. Biological Data

21. Distribution: The genus Tillandsia comprises about 550 species. Their distribution ranges from the Southern USA to Argentina and Chile. A few species are widely distributed, but for the rest of the genus a high degree of endemism is characteristic. For example, of the 153 Mexican species 88 are restricted to Mexico, of the 154 Peruvian species 62 are endemic in Peru (see 22. and Appendix, table 1). Centres of diversity are located in Southern Mexico and Peru and to a certain degree in northern Argentina or the Serra de Orgaos in southern Brazil.
22. Population: Population data are scarce. A lot of species are endemic to southern Peru or the Serra de Orgaos in southern Brazil (see also Appendix, Fig. 1). Some species are widespread and common but for most of the species population data are not available.

The populations of the following taxa have already been depleted in a way that they have to be regarded as endangered or threatened with extinction (see also 34. and list of taxa in Appendix): T. argentina, T. atroviridipetala, T. balsasensis, T. brachyphylla, T. cacticola, T. califanii, T. dexteri, T. edithae, T. ehlersiana, T. filifolia, T. fuchsii, T. grazielae, T. hildae, T. hondurensis, T. ignesiae, T. ionantha var. vanhyngii, T. ixioides, T. kammii, T. kautskyi, T. klausii, T. magnusiana, T. matudae, T. nuptialis, T. oropezana, T. plagiotropica, T. plumosa, T. pruinosa, T. reclinata, T. sprengeliana, T. sucrei, T. tectorum, T. werdermannii, T. xerographica, T. xiphioides, T. zecheri

23. Habitat: Most of the species are epiphytic, sometimes saxicolous, rarely terrestrial. The favourite habitat of the xerophytic Tillandsia species with grey indumentum are dry seasonal woodlands and other semi-arid areas. The green Tillandsia species prefer more humid regions. Avoiding lowland rain forests they show a high diversity in cloud forests (Zizka, 1988).

### 3. Trade Data

31. National Utilization and Economic Importance: Green bromeliads have been cultivated as ornamental plants on a large scale for more than 30 years. Of the genus Tillandsia a few green species have been in use since then (T. cyanea, T. flabellata, T. leiboldiana, T. lindenii). In 1985 in Germany, some years earlier in the USA, the grey-leaved Tillandsia species became fashionable. These species are sold as unpretentious plants, frequently combined in bizarre arrangements (glued on wood of wine, stones, lava, shells, etc.). In the wholesale trade some 20 species are in use. On the other hand, a large demand by specialized Tillandsia lovers exists. In special price lists far more than 200 species in a large number of varieties are offered, rare ones exceeding prices of US\$ 25.00 per plant (Read, 1989).
32. Legal International Trade: In most of the countries of origin, trade in the genus Tillandsia is not prohibited by law. So the export from Guatemala which represents the turntable of international Tillandsia trade, is unrestricted and legal. The amount of annual Tillandsia export of this country sums up to at least 160-180 t. The main importer of the Tillandsia species exported by Guatemala is Germany, followed by the Netherlands, France, USA and Canada.

For the years 1986 to 1988, Guatemalan export lists (Datex de Guatemala) show the following average export per month:

Tillandsia exports (in tons) from Guatemala to:

	1986	1987	1988
Germany	8.05	7.15	7.04
Netherlands	1.85	0.59	2.79
USA	1.66	1.59	1.34
Total	11.37	13.58	14.13

33. Illegal Trade: Actually there is no prohibition on trade in Tillandsia species at an international level. Only in a few Latin American countries (see 41.) like Mexico the commercial export of wild flora is forbidden. But nevertheless in Mexico, where about 30% of all Tillandsia species are represented, the threat by trade is enormous. In southern Mexico (Chiapas), known for its Tillandsia endemics, the populations of attractive Tillandsia species are severely damaged by professional collectors ("planteros") from Guatemala. With hardly any control at the border, they supply Guatemalan nurseries. Additionally, the Mexican Tillandsia populations are exploited from the north by collectors supplying US nurseries (Ehlers, Rauh, pers. comm.).
34. Potential Trade Threats: The small (up to 25 cm) and xerophytic Tillandsia species are of highest commercial importance. The population of these species in Guatemala have already decreased in a drastic way (Rauh, 1990). On one hand this leads to an increasing interest in artificial propagation in this country. But another obvious consequence is that the populations in

the neighbouring countries, like El Salvador, Honduras and Mexico, are being more exploited than before. If this pressure continues some species like T. xerographica or T. matudae will be extinct soon.

A lot of other Tillandsia species with very restricted distribution areas are exposed to an additional threat: the demand produced by specialized Tillandsia lovers. The Serra de Orgaos, for example, near to Rio de Janeiro is known for its Tillandsia endemics growing "inaccessibly" on steep rocks. Recently also these localities were stripped with the help of alpinists and helicopters (Ehlers, Hromadnik, Rauh, pers. comm.).

For further information on trade impacts see taxa list in 22.

#### 4. Protection Status

41. National: In the following Latin American countries commercial export of wild flora is prohibited: Chile, Ecuador, Dominican Republic, Guyana, Mexico, Nicaragua, Paraguay, Suriname, Uruguay and Venezuela. Apart from these general prohibitions there is no restriction on commercial collection and export of Tillandsia species in the source countries.

42. International: None.

43. Additional Protection Needs:

#### 5. Information on Similar Species

51. How to Recognize the Species: Tillandsia is a big genus, comprising about 550 species. Every year a number of new species are described. The main characteristics for the specific determination are found in the inflorescences (Smith & Downs, 1977). However, Tillandsia material leaving the countries of origin is usually not in flower. Therefore, the identification of specimens is very problematic, in some cases impossible even for specialists. Further information on species resemblances are given in 22.

H. Luther (in litt.) lists six species as possible CITES candidates which "are fairly distinctive vegetatively and could probably be identified by non-specialists. These are: T. carminea, T. fuchsii, T. reclinata, T. sprengeliana and T. xerographica.

Because of these enormous difficulties in identification, the only practicable solution for protection of Tillandsia is the control of trade in the whole genus.

52. How to Recognize Habitat-Collected Plants: Characteristics of habitat-collected material, which is exported without meantime cultivation or cleaning are:

- irregular growth,
- damaged leaves (scraped indumentum!),
- if roots are present: with rests of the original substrate persistent (bark, rock chips); the rigid root system reflecting the relief of the original substrate,

- deposition of organic material in the leaf rosettes,
- remains of ant-colonization in Tillandsia species with a hollow pseudo-bulb.

If prior to export the plants are cleaned intensively (removing roots and old leaves) and grown under nursery conditions for some months, it is very difficult to distinguish them from artificially propagated material. Quite a common method is to collect motherplants from nature and to cultivate them for some months only for producing one generation of offsets. In this case the offsets cannot be distinguished from offsets of artificially propagated motherplants.

53. Information on Similar Species: A lot of species are very similar especially in vegetative state. In the list of species in the Appendix, such similar taxa are listed for each Tillandsia species.

Also, in some cases, species of the closely related genus Vriesea can be mistaken for Tillandsia species.

6. Comments from Countries of Origin

See Appendix.

7. Additional Remarks

Possibilities of Artificial Propagation: A lot of Tillandsia species, especially those in wholesale trade, are quite easy to propagate by seeds or offsets. There are already efforts made in artificial reproduction in Guatemala. However, at the present price level this production cannot compete with habitat-collected material on an economic scale. As a consequence, these Tillandsia nurseries are running a mixed business with habitat collecting and artificial propagation. An inclusion of Tillandsia spp. in Appendix II would encourage artificial propagation on a large scale.

8. References

Luther, H. E. & E. Sieff (1991): An Alphabetical List of Bromeliad Binomials - The Bromeliad Society, Orlando, Florida.

Read, M. (1989): Bromeliads Threatened by Trade - Kew Magazine 6 (11).

Rauh, W. (1990): Bromelien - Tillandsien und andere kulturwürdige Bromelien - Stuttgart.

Reitz, R. (1983): Bromeliaceas e a Malaria - Bromelia endemica (Flora Illustrada Catarinense) - Itajai, Santa Catarina, Brazil.

Smith, L. B. & R. J. Downs (1977): Flora Neotropica, Monogr. 14, Tillandsioideae.

Zizka, G. (1988): Bromelien - tropische Lebenskünstler in Gefahr? - Palmengarten  
Sonderheft, Frankfurt.

Other sources:

R. Ehlers (pers. comm.)

L. Hromadnik (pers. comm.)

H. Luther (in litt. to N. Marshall)

N. Marshall (in litt.)

D. E. Mora (in litt.)

W. Rauh (pers. comm.)

W. Till (in litt.)

B. Vollmer (in litt.)

Wels (pers. comm.)

WWF Germany (in litt.)

## LIST OF SPECIES

In the following list, the *Tillandsia* species are listed that were found to be Endangered or Vulnerable (for the status assessments the IUCN threat categories have been used). The assessments are based on interviews and correspondence with *Tillandsia* taxonomists and experts (W. Rauh, R. Ehlers, W. Till, L. Hromadnik), tradesmen (in source and consumer countries) and public authorities. Information on similar species, distribution and the impacts of trade are also given for every species.

In the distribution field the ISO country codes are used. In the status field "E" stands for Endangered, "V" for Vulnerable.

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*Tillandsia aizoides* Gardner

Distribution: AR

Status: V

Similar species: *T. bryoides*

This small *Tillandsia* is only offered for specialists.

Nevertheless it is potentially endangered because its distribution is restricted to NW-Argentina (Rauh, pers. comm.)

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*Tillandsia argentina* C. H. Wright

Distribution: AR

Status: E

The distribution area of this grey-leaved, slowly growing species is limited to NW-Argentina. It is offered in lists for specialist growers and is considered Endangered by IUCN.

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*Tillandsia atroviridipetala* Matuda

Distribution: MX

Status: E

Similar species: *T. ignesia*, *T. magnusiana*, *T. plumosa*

This very attractive and extremely variable small, bulbous species is regularly sold to specialist growers.

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*Tillandsia balsasensis* Rauh

Distribution: PE

Status: E

Similar species: *T. tectorum*

The cultivation of this saxicolous species with feathery scales is quite difficult. Its localities are strongly exploited by commercial collectors (Rauh, pers. comm.).

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Tillandsia brachyphylla Baker

Distribution: BR

Status: E

The distribution of this small, grey-leaved Tillandsia is limited to the Serra de Orgaos. Like all saxicolous species of this region it is offered for fancy prices and is in danger of extinction (Hromadnik, Rauh, pers. comm.)

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Tillandsia bulbosa Hooker

Distribution: MX, BR, CO, EC, PE, Central America, West Indies

Status: V

Similar species: T. pseudobaileyi

In spite of its wide distribution range, this attractive, grey-green, bulbous species is under collecting pressure (Rauh, pers. comm.). T. bulbosa is known to be exported in large quantities from Guatemala, Honduras and Costa Rica. It is offered as a wholesale item and forms part of almost any arrangement.

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Tillandsia butzii Mez

Distribution: MX, GT, HN, NI, PA, SV

Status: V

T. butzii is a grey-green, slow-growing species with a pseudobulb. There is great demand for this attractive plant on the wholesale market. Guatemala, Honduras and Costa Rica are exporting it on a large scale.

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Tillandsia cacticola L. B. Smith

Distribution: PE

Status: E

Similar species: T. purpurea, T. straminea

This grey-leaved, attractive species is restricted to the Peruvian Andes (1,800-2,000m). One Peruvian commercial collector offers it mainly for the fancy market.

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Tillandsia califanii Rauh

Distribution: MX

Status: E

Similar species: T. achyrostachys, T. makoyana

According to W. Rauh, T. califanii localities are severely exploited by Mexican and US-American commercial collectors (Rauh, pers. comm.). It is a slow-growing, rather big species (up to 80cm) which is widespread in US nurseries.

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Tillandsia caput-medusae E. Morren

Distribution: GT, MX, SV, HN, CR

Status: V

Similar species: T. paucifolia, T. pruinosa, T. seleriana

This small, bulbous Tillandsia is one of the four most heavily traded grey-leaved species in the genus. As an attractive wholesale item it is frequently used in arrangements. As a consequence of the demand and the immense exports from Guatemala, Honduras and Costa Rica the populations of this species are decreasing rapidly (Rauh, pers. comm.).

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Tillandsia carminea Till

Distribution: BR

Status: E

T. carminea is one of the very endangered, saxicolous Tillandsia species of the Serra de Orgaos (Luther, Till, in litt.; Hromadnik, Rauh, pers. comm.). Offered for specialist growers it reaches prices up to US\$ 18.00 each.

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Tillandsia chiapensis Gardner

Distribution: MX

Status: V

Similar species: T. carlsoniae

This slender, endemic, saxicolous species is found in a lot of sales lists for enthusiasts. The populations are considered as at least vulnerable by Ehlers and Till (in litt. & pers. comm.)

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Tillandsia copanensis Rauh & Rutschmann

Distribution: HN

Status: E

This rather tall Tillandsia is known only from two localities (Rauh, pers. comm.). A commercial collector in Honduras is offering it and probably going to sell 1,000 specimens of this species to the USA.

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Tillandsia dexteri Luther

Distribution: CR

Status: E

According to its author T. dexteri is an attractive, odd-formed species with a very limited distribution area (Luther, in litt.). In the USA it is offered in some lists for specialist growers.

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Tillandsia edithae Rauh

Distribution: BO

Status: E

This very attractive species with grey- and green-leaved varieties is offered for fancy prices (US\$13.00 each). According to its author all known populations of this species are in danger of extinction (Rauh, pers. comm.).

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Tillandsia ehlersiana Rauh

Distribution: MX

Status: E

Similar species: T. caput-medusae

T. ehlersiana is small, grey-leaved, pseudo-bulbous and difficult in artificial propagation. The distribution of this commercially interesting plant is restricted to Chiapas. The populations undergo severe collecting pressure (US nurseries) (Ehlers, Rauh, pers. comm.).

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Tillandsia filifolia Schlechtendal & Chamisso

Distribution: GT, MX, HN?, CR

Status: E

This small, grey-green-leaved, bulbous Tillandsia is a standard species in the supply of nurseries in Guatemala and Honduras. Because its propagation rate is quite low, the majority of the plants offered have to be considered as wild-collected.

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Tillandsia fuchsii W. Till

Distribution: GT, MX

Status: E

Similar species: T. argentea

Next to T. ionantha, T. fuchsii is the most important wholesale species of the genus. As "T. argentea", it is exported in immense quantities from Guatemala. One of the largest Guatemalan nurseries exports 5,000,000 specimens of "T. argentea" a year. Offered by every dealer, it is rarely missing in any arrangement. The populations are considered by Luther, Rauh and Till to be endangered.

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Tillandsia grazielae Sucre & Braga

Distribution: BR

Status: E

T. grazielae is restricted to the Serra de Orgaos. It is very small, grey-leaved and difficult in cultivation. Specialist growers are especially fond of this species, paying up to US\$ 26.00 each. In spite of their growing on steep walls of rock, recently some 1,000 specimens were collected with the help of alpinists and helicopters (Ehlers, Hromadnik, Rauh, pers. comm.).

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Tillandsia hildae Rauh

Distribution: PE

Status: E

Similar species: Billbergia sp.

T. hildae is a very attractive, quite large species, offered only in lists for specialist growers. According to its author, the area of distribution of T. hildae is very limited and the populations are facing extinction (Rauh, pers. comm.).

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Tillandsia hondurensis Rauh

Distribution: HN

Status: E

Similar species: T. harrissii

With the expansion of commercial collecting of Tillandsia species from Guatemala to Honduras, this endemic species is now already offered on a large scale. According to the author, natural populations of T. hondurensis are very small (Rauh, pers. comm.).

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Tillandsia ignesia Mez

Distribution: MX

Status: E

Similar species: T. atroviridipetala, T. magnusiana, T. plumosa

As very attractive, small, grey-leaved species T. ignesia is regularly offered for specialist growers. Its distribution area is restricted to the oak forests of southern Mexico.

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Tillandsia ionantha Planchon

Distribution: GT, MX, NI, SV, HN

Status: V

T. ionantha is the most important wholesale Tillandsia. One of the largest Guatemalan nurseries exports 15,000,000 specimens of this species annually. Without doubt T. ionantha is artificially propagated on a large scale. One reason for this is that natural populations, especially the attractive forms, were excessively depleted. Still, there is probably a great collecting pressure remaining from the demand for "mother-plants". A very narrow endemic variety is T. ionantha var. vanhynqii M. B. Foster. It is known from a single locality in Mexico and should be considered endangered (Ehlers, Rauh, pers. comm.).

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Tillandsia ixioides Grisebach

Distribution: AR, BO, PY, UY

Status: E

Similar species: T. didisticha, T. meridionales

This small, grey-leaved species is easily artificially propagated. Nevertheless, the natural populations of T. ixioides are still exploited by Argentine commercial collectors (Rauh, pers. comm.).

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Tillandsia kammii Rauh

Distribution: HN

Status: E

Like T. hondurensis this endemic species is suffering from the extension of commercial Tillandsia collection from Guatemala to neighbouring countries. Not yet frequent on the international market, the wild populations of this small, grey-leaved species are already endangered (Rauh, pers. comm.).

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Tillandsia kautskyi Pereira

Distribution: BR

Status: E

Similar species: T. sprengeliana

T. kautskyi is a very small and attractive, grey-leaved species with a pseudo-bulb. It is offered by special dealers with fancy prices up to US\$ 20.00 each. In Brazil it is narrow endemic and under severe collecting pressure (recently offered for US\$ 0.80 by a Brazilian orchid nursery).

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Tillandsia klausii Ehlers

Distribution: MX

Status: E

Recently described, this small, grey-leaved, bulbous species is in danger of extinction. The main factor of threat is habitat destruction. But besides this T. klausii is a commercially interesting species, although offered in a few fancy lists (Ehlers, pers. comm.).

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Tillandsia magnusiana Wittmack

Distribution: GT, MX, NI, SV, HN

Status: E

Similar species: T. atroviridipetala, T. ignesiae, T. plumosa

This small, grey-leaved, pseudo-bulbous Tillandsia is a wholesale species, frequently used in arrangements. Actually it has a wide distribution range. However, because of high collecting pressure, the populations in Guatemala have nearly completely vanished. As a consequence T. magnusiana is stripped by Guatemalan commercial collectors on a large scale in Mexico now (Rauh, pers. comm.). Also a nursery in Honduras is exporting this species in large quantities.

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Tillandsia matudae L. B. Smith

Distribution: GT, MX

Status: E

Similar species: T. feldhoffii, T. oaxacana, T. velickiana

T. matudae is an attractive, grey-leaved species, very common in wholesale and fancy lists. Like T. magnusiana, this plant is over-collected in Guatemala. As a consequence Guatemalan commercial collectors started to exploit the Mexican population (Rauh, pers. comm.).

Tillandsia maur yana L. B. Smith

Distribution: MX

Status: V

This very attractive, saxicolous Tillandsia is regularly offered in a lot of lists for specialist growers. Its populations are restricted to Central Mexico and potentially threatened by trade (Rauh, pers. comm.; Till, in litt.).

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Tillandsia muhrii Rauh

Distribution: AR

Status: V

T. muhrii is a small, grey-leaved, saxicolous Tillandsia, which is offered in lists for specialist growers. According to the author of this species the wild populations are narrow endemic and exploited by Argentine commercial collectors (Rauh, pers. comm.; Till, in litt.).

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Tillandsia myosura Grisebach ex Baker

Distribution: AR, BO, PE, UY

Status: V

In spite of its rather wide distribution range, the populations of this small, grey-leaved Tillandsia are considered vulnerable (Rauh, pers. comm.). Especially in Argentina it is collected commercially and offered exclusively for specialist growers.

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Tillandsia nuptialis Braga & Sucre

Distribution: BR

Status: E

Similar species: T. stricta

This saxicolous, grey-leaved Tillandsia is endemic to Brazil. Suffering severely from habitat destruction it is facing extinction (Ehlers, Hromadnik, pers. comm.). Additionally it is offered in lists for specialist growers.

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Tillandsia oropezana L. Hromadnik

Distribution: BO

Status: E

According to the author of this species it is endemic to a small area in Bolivia. Only a short time after the description it was offered by a Peruvian commercial collector (Hromadnik, pers. comm.).

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Tillandsia plagiotropica Rohweder

Distribution: SV, GT?

Status: E

This small, epiphytic, grey-leaved Tillandsia is offered on a large scale. T. plagiotropica, being endemic to El Salvador and perhaps small parts of Guatemala, is exclusively exported from Guatemala. Because of the combination of clearing and intensive collecting this Tillandsia is considered nearly extinct (Wels, pers. comm.). Only a few inaccessible populations in El Salvador remain (Vollmer, pers. comm.).

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Tillandsia plumosa Baker

Distribution: MX

Status: E

Similar species: T. atroviridipetala, T. ignesiae, T. magnusiana

With a limited area of distribution north of Oaxaca the populations of this very attractive, small, grey-leaved Tillandsia are endangered (Rauh, pers. comm.). T. plumosa is regularly offered in a lot of lists for enthusiasts.

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Tillandsia pruinosa Swartz

Distribution: BO, BR, CO, CR, CU, DO, EC, GT, JM, MX, SV, US

Status: E

Similar species: T. caput-medusae, T. paucifolia, T. seleriana

Although rather widespread, the localities of the quite sensitive T. pruinosa are diminishing rapidly. One reason may be the decrease of atmospheric humidity caused by clearing (Hromadnik, pers. comm.). The other one is the excessive demand by nurseries (Rauh, pers. comm.). T. pruinosa is a small, grey-leaved species with a pseudo-bulb, frequently sold as a wholesale item.

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Tillandsia reclinata Pereira & Martinelli

Distribution: BR

Status: E

Similar species: T. grazielae

Specialist growers pay more than US\$ 20.00 for each specimen of this plant, which is said to be extremely difficult in cultivation. T. reclinata is one of the very narrow endemic, saxicolous species of the Serra de Orgaos (Luther, *in litt.*). Recently some 1,000 T. reclinata were stripped by a Brazilian orchid nursery (Ehlers, Hromadnik, pers. comm.).

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Tillandsia seideliana Pereira

Distribution: BR

Status: V

Similar species: T. stricta

The distribution of this very attractive, grey-leaved Tillandsia is restricted to a small area in Santa Catarina (Reitz, 1983). It is offered on a large scale by a Brazilian orchid nursery.

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Tillandsia sprengeliana Klotzsch ex Mez

Distribution: BR

Status: E

Due to habitat loss this very attractive, narrow endemic Tillandsia is facing extinction (Ehler, pers. comm.; Luther, in litt.). On the fancy market up to US\$ 21.00 is paid for a single specimen of this grey species.

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Tillandsia streptophylla Scheidweiler ex Morren

Distribution: GT, MX, JM, HN

Status: V

This grey-leaved, pseudo-bulbous species is offered on the wholesale market, often as quite big specimens. Formerly widespread, the populations have suffered from collecting pressure (Rauh, Wels, pers. comm.)

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Tillandsia sucrei Pereira

Distribution: BR

Status: E

The distribution of T. sucrei, a small, grey, saxicolous species, is limited to the urban district of Rio de Janeiro. These populations are extremely threatened (Hromadnik, Rauh, pers. comm.) because specialist growers are very keen on this attractive species, paying up to US\$ 15.00 for each specimen. A Brazilian orchid nursery offers it for US\$ 1.00 each (artificial propagation for this price is impossible).

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Tillandsia tectorum E. Morren

Distribution: EC, PE

Status: E

T. tectorum is a variable complex of mostly yet undescribed subspecies. Formerly widespread in Peru and some parts of Ecuador, especially attractive forms of this species (e.g. the Ecuadorian ones) are facing extinction (Ehlers, Rauh, pers. comm.). T. tectorum is in stock at nearly every Tillandsia dealer and exported from Peru in large quantities.

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Tillandsia velickiana L. B. Smith

Distribution: GT

Status: V

Similar species: T. feldhoffii, T. matudae, T. oaxacana

The distribution of this very small, grey-leaved Tillandsia is restricted to Guatemala. It is offered mainly for specialist growers.

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Tillandsia werdermannii Harms

Distribution: CL, PE

Status: E

According to IUCN the populations of this grey-leaved species are endangered. The main reason for its threat is probably a climatic change in its habitat, the coastal deserts. Additionally a Peruvian commercial collector offers them on a large scale.

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Tillandsia xerographica Rohweder

Distribution: GT, MX, SV

Status: E

This very attractive, slow-growing Tillandsia is the most popular example for extreme threat by trade. It is offered in large quantities, frequently in quite big, flowering specimens. T. xerographica takes 12-18 years to mature! The populations in Guatemala and in El Salvador are totally depleted by Guatemalan commercial collectors (Rauh, pers. comm.; Vollmer, in litt.). The Mexican form of T. xerographica is not as attractive as the former ones. As a consequence in southern Mexico some populations still exist (Hromadnik, pers. comm.). One of the big Guatemalan nurseries is exporting 30-40,000 specimens of T. xerographica annually. Because of the slow growth rate, exclusive artificial propagation seems unlikely.

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Tillandsia xiphioides Ker-Gawler

Distribution: AR, BO, BR, PY

Status: E

Both varieties of this very attractive, small grey-leaved Tillandsia species are offered in nearly every list for specialist growers. Especially in Argentina, its populations are exploited by commercial collectors (Rauh, pers. comm.; Till, in litt.).

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Tillandsia zecheri Till

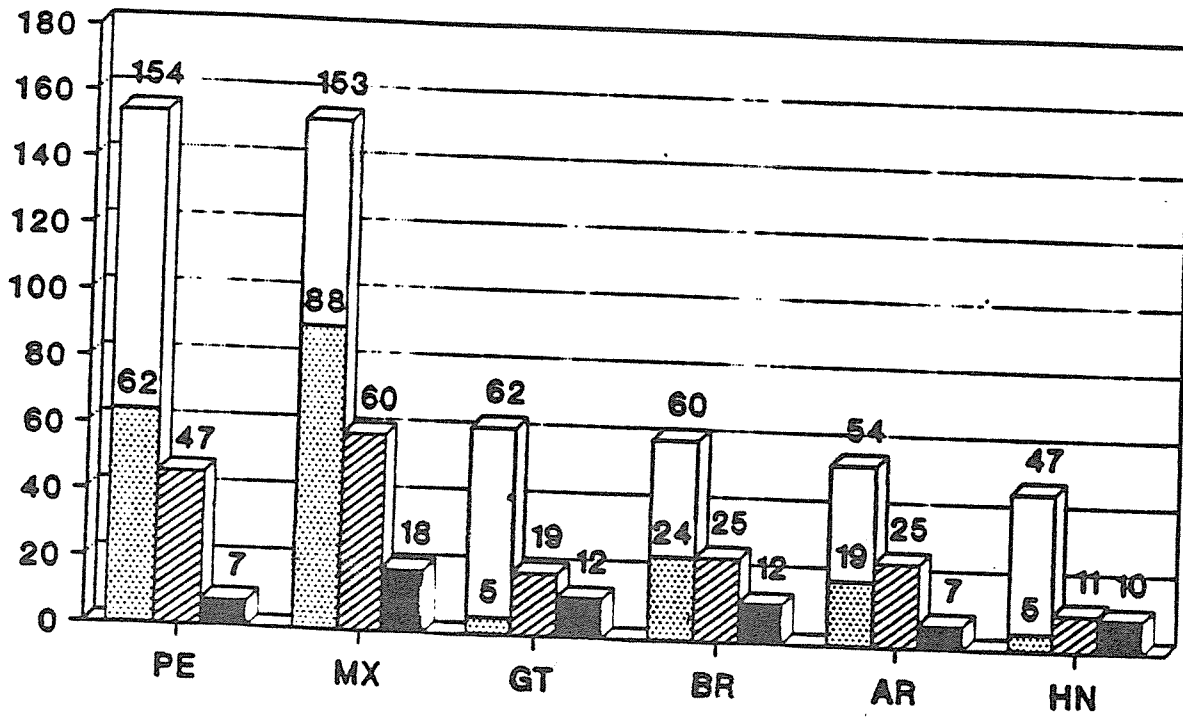
Distribution: AR





Status: E

The author of this species considers it as endangered (Till, in litt.). Commercial collectors visit localities especially for this species (Hromadnik, pers. comm.). It is offered exclusively for specialist growers.

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-  SPECIES NUMBER
-  ENDEMIC SPECIES
-  RARE SPECIES & SPECIES WITH INDETERMINATE STATE OF THREAT
-  ENDANGERED & VULNERABLE SPECIES

MINISTERIO DE AGRICULTURA  
SERVICIO AGRICOLA Y GANADERO

Santiago, 10. SET 1991. 6216

Dr. Blanke  
Head of Scientific Authority  
CITES  
Adickesalles 40  
6000 Frankfurt Am Main  
Germany

Bx → *Sol...!!!*  
*27/18/9*

Estimado Dr. Branke:

El Servicio Agrícola y Ganadero ha visto con agrado la propuesta de considerar a una serie de especies del género Tillandsia dentro del Apéndice II de la Convención CITES.

En Chile existen 5 especies, una de ellas aún no descrita. Ninguna de dichas especies aparece en el listado que Uds. han elaborado. Desearíamos saber si las especies chilenas podrían ser incluidas en la lista, ya que, ellas son consideradas vulnerables por los especialistas nacionales.

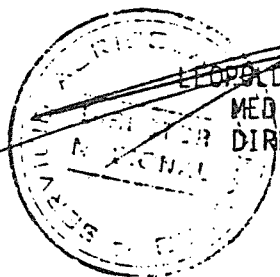
Las especies que viven en Chile son:

- 1.- T. capillaris
- 2.- T. geissei
- 3.- T. landbeckii
- 4.- T. usneoides
- 5.- T. sp. (En diciembre de 1988 se ha encontrado una nueva especie en la localidad chilena de Paposo, II Región, 1.800 Km. al Norte de Santiago).

Todas las especies de este género que habitan en Chile viven en áreas muy reducidas del desierto costero y en ecosistemas muy frágiles. La regulación de su comercio por medio del convenio CITES, resultaría importante para su protección.

Esperando haber respondido a su consulta, lo saluda atentamente.,

AIW/pac  
cc: Diporen



LEOPOLDO SANCHEZ GRUNERT  
MEDICO VETERIARIO  
DIRECTOR NACIONAL

M 1 Feb  
2. Feb



MINISTERIO DE AGRICULTURA Y GANADERIA

10 September 1991

Fecha	13.09.1991
Emp. Nr.	57
Zelt	1684

Dr. Blanke  
 Head of Scientific Authority to CITES  
 Bundesamt für Ernährung und Forstwirtschaft  
 Postfach 180203  
 D-6000 FRANKFURT AM MAIN 1  
 FAX: (069) 1564-445

Dear Dr. Blanke:

This letter is to express the support of the office CITES-PARAGUAY concerning the proposal to include the genus Tillandsia on Appendix II of CITES.

We have no comments on items 3.1, 3.2 or 4.1 other than to express our agreement. Placing this genus on Appendix II, along with several legislations recently passed or currently under review by the Paraguayan Parliament, will allow the office of CITES-Paraguay to better control the traffic of this genus, as well as control breeding programs and initiate the studies necessary to: 1) determine the extent of the trade in Paraguay, and 2) help determine the taxonomic status of the species found in Paraguay.

If you have any further questions, please feel free to contact me at the number below.

*Aida Luz Aquino Shuster*

Aida Luz Aquino-Shuster  
 Scientific Authority  
 CITES-Paraguay  
 Tel: (595-21) 497074  
 FAX: (595-21) 497074

c.c.: Archivos CITES-PY





MINISTERIO DE RECURSOS NATURALES. ENERGIA Y MINAS  
DIRECCION GENERAL FORESTAL

9 de setiembre de 1991

*Handwritten signatures and initials, including 'Bl-Ss' and 'M/g'.*

Dr. Blanke  
Autoridad Cientifica de CITES  
Bundesamt fur Ernährung und  
forstwirtschaft  
Alemania

Datum	10.09.1991
Eing. Nr.	31
Zeit	16:56

Estimado señores:

En respuesta a carta y copia de propuesta a presentar por ustedes sobre la inclusión de algunas bromelias y tillandsias en la próxima convención a celebrarse en April, Tokio 1992, le aportamos los siguientes comentarios en los puntos por usted solicitados.

3.1 En Costa Rica se comercian actualmente las siguientes especies.

- |                         |                       |
|-------------------------|-----------------------|
| Tillandsia bulbosa      | Tillandsia ionantha   |
| Tillandsia caput medusa | Tillandsia juncea     |
| Tillandsia usneoides    | Tillandsia tricolor   |
| Tillandsia brachycaulos | Tillandsia punctulata |
| Tillandsia fasciculata  | Tillandsia circinata  |
| Tillandsia xerografica  | Tillandsia shiedeana  |

Estas son reproducidas por medio vegetativo, estimulación de hormonas. Los viveros reproductores se encuentran debidamente inscritos y son supervisados por las Autoridades Cientificas y Administrativa de CITES.

En Costa Rica esta protegida bajo decreto No.20265-MIRENEM, del 20 de marzo de 1991.



MINISTERIO DE RECURSOS NATURALES, ENERGIA Y MINAS  
DIRECCION GENERAL FORESTAL

3.2 En nuestro país la comercialización internacional de enero a agosto de 1991 por país fue:

PAIS	TOTAL TILLANDSIAS EXPORTADAS
Alemania	25751
USA	23079
Suiza	21912
Holanda	19105
Japón	2100
Taiwán	100
Bélgica	2870
<b>TOTAL</b>	<b>94917</b>

4.1 A principios de enero de 1990 se atendieron varios inversionistas con interés de conocer los trámites para la colecta y exportación de Tillandsias, por lo que nos avocamos a crear un decreto para la exportación de plantas de vida silvestre de lo cual se le adjunta copia.

Atentamente,

*Sandra Ma. Arreola Castro*  
 Sandra Ma. Arreola Castro  
 AUTORIDAD ADMINISTRATIVA FLORA

SMAC/mcva

cc: Archivo

