

## Deletion of *Tillandsia sucrei* from Appendix II

### Proponent: Brazil

**Summary:** *Tillandsia sucrei* is a rare epiphytic bromeliad plant with a very restricted range. It is known from only a small patch of Atlantic Forest of the State of Rio de Janeiro in Brazil where grows individually or in small clumps on sheer rock walls. Very little is known about the species, its population size, structure or trends. It was listed as critically endangered on the Brazilian national Red List in 2005. It was also listed as Endangered in the 1997 IUCN Red List of Threatened Plants; this designation is noted as in need of updating. The species occurs in Tijuca National Park within the urban district of Rio de Janeiro.

Tillandsias in general feature in the horticultural plant trade. Some forms are artificially propagated in very large numbers and widely sold as ornamental plants. Others are grown largely by enthusiasts. *Tillandsia kautskyi* was included in Appendix II in 1992 owing to concerns regarding the possible impact on it of wild-collection for international trade. The original listing proposal at CoP8 covered all *Tillandsia* spp. At the CoP it was agreed to include only seven species, including three endemic to Brazil: *T. sucrei*, *T. kautskyi*, and *T. sprengeliana*. All three species are the subject of proposals for deletion from the appendices (see CoP16 Prop. 54 and Prop. 55).

Since listing in Appendix II reported trade in the species has only been in artificially propagated specimens. Brazil has reported the export of nearly 200 live plants but none since 1994. The remainder of trade involved non-range States and reported imports were mainly composed of two large imports into Hong Kong from the Netherlands (1620 and 1500 plants) in 2000 and 2001; these were not reported by the Netherlands and may have been misreported. From 2005, Hungary has been the sole exporter/ source of all specimens reported in international trade. Artificial propagation of this species is known to occur in Germany, Hungary and the US. Demand for this species by enthusiasts continues and artificially propagated plants are offered for sale on the internet. No exports of wild specimens have been reported since the species was listed and there is no evidence of ongoing wild collection or illegal trade. The remaining sub-populations are considered safe from harvesting as most plants are found in two protected areas and/or on inaccessible rocky outcrops.

*Tillandsia sucrei* is said to be similar in appearance to *T. brachyphylla*, which is not listed in the Appendices. It can be distinguished relatively easily from all the Central American species of *Tillandsia* listed in the Appendices.

This proposal has resulted from the Plants Committee's Periodic Review process.

**Analysis:** This species has a restricted range, known from only a small patch of Atlantic Forest of the State of Rio de Janeiro in Brazil, and is unlikely to be able to withstand large scale harvest for export. However, all known specimens are considered safe from harvesting due to being found in a protected area and on inaccessible rocky outcrops. All reported international trade in this species since listing in Appendix II has been in artificially propagated specimens, with a maximum of 200 specimens having been exported directly from Brazil; the remainder of trade involves non-range States. Demand for this species by enthusiasts continues, and artificial propagation is reportedly the only source of specimens now in trade. There is no evidence of ongoing wild collection or illegal trade.

It would appear that *T. sucrei* no longer fulfils the criteria for inclusion in Appendix II as regulation of trade is not required to ensure harvesting of specimens from the wild does not threaten the survival of the species. No exports of wild harvested plants has taken place in the 20 years since the species was listed in Appendix II and it seems unlikely that its removal from the Appendices would stimulate trade in wild specimens such that it would meet the criteria for listing in Appendix II in the near future, as outlined in the precautionary measures, Annex 4 A4 of *Resolution 9.24 (Rev. CoP15)*.

The three *Tillandsia* species being proposed for removal from the Appendices are among dozens that are in trade, the vast majority of which are not included in the Appendices. They appear to be relatively easily distinguished from the species that would remain in the Appendices, all of which occur in Central America.

Supporting Statement (SS)	Additional information
Brazil.	<u>Range</u>   <u>IUCN Global Category</u>
Not evaluated.	Listed as Endangered in the IUCN Red List of Threatened Plants in 1997 (Walter, and Gillett, 1998); this category is in need of updating.

#### Biological and trade criteria for retention in Appendix II (Res. Conf. 9.24 (Rev. CoP15) Annex 2 a)

##### A) Trade regulation needed to prevent future inclusion in Appendix I

###### **Biological criteria**

*Tillandsia sucrei* has a very restricted range, being endemic to the Atlantic Forest of the State of Rio de Janeiro. It lives in isolation or in small clumps on sheer rock walls which are difficult to reach.

No specific information on population size, structure or trends is provided in the proposal. The species is listed as endangered in the List of Threatened Species of the State of Espirito Santo, owing to the degradation of its habitat. It has been assessed as Data Deficient in Brazil's National List of Threatened Species of Flora.

###### **Trade criteria**

Proponents note there is no commercial international trade in this species.

Listed as critically endangered on the Brazilian national Red List in 2005 (Martinelli et. al., 2008).

According to the CoP8 proposal to list all *Tillandsia* species submitted by Germany in 1992, this species is limited to the urban district of Rio de Janeiro.

According to the CITES Trade Database (download 13 November 2012) there are 17 importer and 23 exporter records of live plants of *Tillandsia sucrei* between 1991 and 2010 (although the species was only listed in 1992). According to importers/exporters, 3396/321 artificially propagated live plants were traded for commercial purposes during this period. Three were traded for personal purposes.

86/221 live plants were imported/exported directly from Brazil. All of this trade occurred between 1991 and 1994. The principal destinations were Germany (40/52) Spain (40) and the UK (30).

3213/113 live plants were imported/exported from other non-range States - Brazil was not declared the country of origin in any of these cases. Reported imports were mainly

Supporting Statement (SS)	Additional information
	<p>composed of two large imports into Hong Kong from the Netherlands of 1620 and 1500 plants in 2000 and 2001. From 2005, Hungary was the sole exporter/ source of all specimens in trade – 90/75 live plants were reportedly imported/(re-)exported to/from Hungary and Switzerland between 2005 and 2010.</p> <p>The CITES Trade Database also includes five records of <i>Tillandsia</i> spp. exported from Brazil in 1990 – 275 specimens of unknown source and 20 artificially propagated specimens. There are also two reported exports from Brazil of non-Brazilian <i>Tillandsia</i> species: in 1994, 30 live <i>T. kammii</i> were exported to the UK and in 2007, 100 live <i>T. harrisii</i> were exported to the US (see look-alike issues below).</p> <p>The CoP8 proposal stated that <i>T. suerei</i> populations were extremely threatened because specialist growers are very keen on this attractive species, paying up to USD 15 for each specimen and a Brazilian orchid nursery was offering plants for sale at USD 1 each. <i>Tillandsia suerei</i> is still in demand by enthusiasts (Gouda in litt., 2012). It is known to be propagated from seed and by division (of shoots) in a number of European nurseries, including ones in Hungary and Germany (Schmitz-Kretschmer in litt., 2012; Czirák in litt., 2012).</p> <p>Orchideen Holm in Germany produces only about 200 <i>T. suerei</i> per year, with this species being difficult to propagate from seed (not producing much seed). 40 mother-plants are required to produce 200 offspring, which is reportedly is not enough to satisfy potential demand of 300 plants per year. Most are sold to enthusiasts in the Czech Republic, Poland and the Russian Federation (however, there are no records of this trade in the CITES trade database), as the market in Germany for high price <i>Tillandsias</i> is very low. There is a stable wholesale market for high quality specimens, which can only be produced by artificial propagation. <i>T. suerei</i> takes seven years to flower and propagated plants are sold as young plants (four years, EUR 8 each) and adult plants (seven years, EUR 12). Retail prices for adult plants of this species are around EUR 20, and there is a reported case when a single <i>T. suerei</i> mother plant for breeding cost EUR 40 (Schmitz-Kretschmer in litt., 2012).</p> <p>According to Ehlers (1996) this species can be cultivated relatively easily, if temperatures are kept above 15 degrees. This species is known to be grown from seed in the US (Gouda in litt., 2012).</p> <p>Examples of offers for sale include:  Czech Republic: <a href="http://www.kakteen.cz/index.php?klic=kid1177en-tillandsia-suerei">http://www.kakteen.cz/index.php?klic=kid1177en-tillandsia-suerei</a>  US: <a href="http://plantoddities.com/cgi-bin/p/awtp-product.cgi?d=plant-oddities&amp;item=2399">http://plantoddities.com/cgi-bin/p/awtp-product.cgi?d=plant-oddities&amp;item=2399</a>  <a href="http://www.ebay.com/itm/Tillandsia-Suerei-Air-Plants-/180993273611?_trksid=p2992.m2068&amp;_trkparms=aid%3D444000%26algo%3DSOI.CURRENT%26ao%3D1%26asc%3D24%26meid%3D3310460882130671787%26pid%3D100029%26prg%3D1009%26rk%3D8%26sd%3D170920037686%26">http://www.ebay.com/itm/Tillandsia-Suerei-Air-Plants-/180993273611?_trksid=p2992.m2068&amp;_trkparms=aid%3D444000%26algo%3DSOI.CURRENT%26ao%3D1%26asc%3D24%26meid%3D3310460882130671787%26pid%3D100029%26prg%3D1009%26rk%3D8%26sd%3D170920037686%26</a>  <a href="http://www.ctsairplants.com/Tillandsia_Suerei_p/suerei.htm">http://www.ctsairplants.com/Tillandsia_Suerei_p/suerei.htm</a></p>

Supporting Statement (SS)	Additional information
<b>Retention in Appendix II to improve control of other listed species</b>	
<b><u>A) Specimens in trade resemble those of species listed in Appendix II under Res. Conf. 9.24 (Rev. CoP15) Annex 2 a or listed in Appendix I</u></b>	
<p><i>Tillandsia sucrei</i> resembles <i>T. brachyphylla</i> because of its caniculate leaves and pinkish corolla, with sinuous ribbing. However, it can be differentiated from the latter species by the wide base of the broad rosette, which is not bulbiform, and by the stamens with protruding filaments.</p>	<p>Seven species of <i>Tillandsia</i> are currently listed in CITES Appendix II. Apart from the three species endemic to Brazil that are being proposed (this proposal, CoP16 Props 54 and 55) for removal from the Appendices the remaining species are: <i>T. harrisii</i> endemic to Guatemala; <i>T. kammii</i> endemic to Honduras; <i>T. mauryana</i> endemic to Mexico; and <i>T. xerographica</i> which occurs in El Salvador, Guatemala and Mexico. The three Brazilian <i>Tillandsias</i> are small; <i>T. kautskyi</i> and <i>T. sprengiana</i> are both fairly compact, with <i>T. sucrei</i> slightly less so. These <i>Tillandsia</i> species are among dozens that are in trade, the vast majority of which are not included in the appendices. They appear to be relatively easily distinguished from the species that would remain in the appendices which occur in Central America.</p> <p><i>Tillandsia harrisii</i> is also listed in Appendix II. One online <i>Tillandsia</i> seller notes that as <i>T. harrisii</i> is similar in appearance to a number of other species it is therefore widely traded without the proper documentation. This may also be an issue for <i>T. sucrei</i> that is similar in appearance to <i>T. brachyphylla</i>, a non-CITES listed species.  <a href="http://www.rainforestflora.com/tillandsia/species/harrisii/">http://www.rainforestflora.com/tillandsia/species/harrisii/</a></p>
<b><u>B) Compelling other reasons to ensure that effective control of trade in currently listed species is achieved</u></b>	
	<p>Difficulties in distinguishing wild-taken from artificially propagated specimens in trade were raised as a concern in the original CoP8 proposal. A number of characteristics of wild-taken plants were listed, in order to help identification of such plants, however it was also noted that 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. At the time mother plants were commonly collected from the wild and cultivated for a few months to produce one generation of offsets. In these cases the offsets cannot be distinguished from offsets of artificially propagated plants. Problems with differentiating wild-taken and artificially propagated specimens of <i>Tillandsia xerographica</i> resulted in the EU introducing a stricter measure in 2010, only permitting imports of artificially propagated specimens with cataphylls.</p> <p>Since 1992, all international trade in <i>T. sucrei</i> has reportedly being composed of artificially propagated specimens. The Hungarian Management Authority regularly carries out inspections of a nursery producing <i>T. sucrei</i> for export and they are satisfied that the plants for sale are artificially propagated (Czirák, in litt., November 2012). Plants being grown by Orchideen Holm in Germany are derived from mother-plants obtained from the Hamburg Botanical Garden and other collectors over 40 years</p>

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	<p>ago. However, as <i>Tillandsias</i> must be cross-pollinated, occasionally new mother plants must be purchased to ensure genetic variation is maintained (Schmitz-Kretschmer in litt., 2012). It is not necessary for mother plants to be wild collected (Jenkins in litt., 2012).</p>
<b>Other information</b>	
<b><u>Threats</u></b>	
<p>According to the proposal, despite the species very restricted range, its occurrence within units of strictly protected areas, and the difficulty of access to the current population, mean that the species does not face any immediate threats.</p>	<p>According to the CoP16 proposal for <i>T. sprengeliana</i>, the coastal region of the State of Rio de Janeiro has a high degree of property speculation and illegal occupation of the land, which have a direct impact on the vegetation growing in these locations.</p> <p>Ehlers (1996) noted that the lithophatic species such as <i>T. suerei</i> grow on near perpendicular rocks, and although almost inaccessible and therefore well protected from collection, these populations can be damaged or destroyed by fires getting out of control in grass- and bushlands or caused by crashing of hot air balloons, which are flown in village competitions.</p>
<b><u>Conservation, management and legislation</u></b>	
<p>According to the proponent, as the species is found on sheer rock walls which are difficult to reach it is reasonably well protected from efforts to harvest it. It is found in the Tijuca National Park, located in an urban area of the State of Rio de Janeiro.</p>	<p>According to the CoP8 proposal, such inaccessibility did not prevent harvesting: "The Serra de Orgaos, for example, near to Rio de Janeiro is known for its <i>Tillandsia</i> endemics growing "inaccessibly" on steep rocks. Recently also these localities were stripped with the help of alpinists and helicopters".</p> <p>According to Plant Search, specimens are held in nine Botanical Gardens across the globe. No seeds are stored in the Millennium Seed Bank.</p>
<b><u>Captive Breeding/Artificial Propagation</u></b>	
<p>.</p>	<p>See information under trade criteria and difficulties in distinguishing wild-taken from artificially propagated specimens.</p>

**References:**

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