Inclusion of *Cyphostemma laza* in Appendix II

Proponent: Madagascar

Summary: *Cyphostemma laza* is a succulent plant from Madagascar, believed to be the most widespread of around 23 Malagasy species in the large genus *Cyphostemma*. It forms an elongated, thickened trunk or caudex up to 50cm in diameter and 1.2 m in height, from which extend vines up to five metres or so in length. The species typically grows in partially shaded areas in semi-deciduous dry forest and has very wide distribution in Madagascar, being known from locations in the south, south-west, west and north. The species is recorded from at least eight protected areas across its range, and may occur in others. The population density of mature individuals appears to be generally low in areas where it occurs (around 20 per hectare or less). Its habitat in some areas is affected by conversion of habitat for agriculture, deforestation and charcoal production. The species is reported to be collected from the wild for international trade as an ornamental plant. The absence of individuals of a commercially exploitable size at collection sites is reported. It is exported both as plant and as seed. Considerable numbers of plants were reported as exported in the early 2000s, reaching a peak of nearly 8000 in 2006. However, no plants of the species were recorded as exported in 2007 and 2008. Export is not reported for later years. The species is available to purchase from multiple online sellers based in Europe, Asia and the USA. It is reported to be easy to grow and to propagate from seed, although slow-growing, so that plants take a considerable amount of time to develop caudex stems. Plants offered for sale outside Madagascar often have such stems. Current legal controls in Madagascar on collection and export are unclear.

C. laza was proposed for inclusion in Appendix II at CoP15 in 2010. The proposal was withdrawn at the CoP. Two other Malagasy *Cyphostemma* species – *C. elephantopus* and *C. montagnaci* – were included in Appendix II at that time. No trade in either species has subsequently been recorded in the CITES trade database.

Analysis: *Cyphostemma laza* is a very widespread plant in Madagascar. Although it is reported as occurring at generally low or very low density, its overall population is likely to be large or very large. The species is in cultivation and has been collected from the wild and exported in some quantity. It is assumed that most if not all exported plants were wild-collected. However, no export from the range State has been reported since 2006. Although collection for export may well have led to local depletion, it seems unlikely, given its very extensive range, that regulation of trade is necessary to prevent the species becoming eligible for inclusion in Appendix I in the near future, or that harvest for trade is reducing the population to a level at which its survival might be threatened by other influences. The species would therefore not appear to meet the criteria for inclusion in Appendix II.

Supporting Statement (SS)	Additional information
Taxonomy	
	Formerly included in the genus Cissus (Anon. A, undated).
	Cissus laza *is reported as a synonym (Bihrmann, undated).*
Range	
Madagascar.	

Supporting Statement (SS)	Additional information
IUCN Global Category	
	Not currently listed.
Biological and trade criteria for inclusion in Appendix II (Res. Conf. 9.24 (Rev. CoP15) Annex 2 a)	
A) Trade regulation needed to prevent future inclusion in Appendix I	
Around 250 individuals were counted in the forest of Andoharano north of Toliara, in the forest of Tongobory Betioky and in the forest of Elomaka Amboasary Sud in 2006. The species has a fairly low density (between 40 and 70 individuals per ha) with a specific low abundance of between 80 and 140 mature individuals.	
Regeneration potential is very low for *C. laza*: 28.6% in Beroboka and 166.7% in Andranomena. Exploitation for export could lead to the absence of natural regeneration and the decline or even disappearance of populations in some collection areas. In the long term this could pose a serious threat to the survival of the species. As the geographic distribution of the species is fragmented, collectors change areas of collection as one area becomes exhausted.	*Hearn* in litt. *(2012) notes that a regeneration potential of 166.7% seems like a high rate. It is unclear how the population decline predicted in the proposal was calculated.*
The species has been assessed as endangered using the IUCN criteria.	C. laza *is not currently listed on the IUCN Red List. The IUCN assessment of endangered given in the proposal was assigned using GIS data, which were used to calculate Area of Occupancy and Extent of Occurrence and to predict future decline (PC20 Inf. 5, 2012).*
A future population decline of 73.3% is predicted due to wild collection for export and habitat destruction.	*The future decline predicted in the proposal is over an unspecified time period. The evidence upon which the decline is predicted is not detailed in the proposal.*
C. laza is found in the West of Madagascar (Morondava and the surrounding area) and the South (Mikea Forest, la Réserve Spéciale Intégrale d'Andohahela and la Réserve Spéciale de Bezà-Mahafaly).The species has an Area of Occupancy of 135 km^2 and an Extent of Occurrence estimated to be 76 156 km^2. The area occupied by the species continues to decline each year due to fires and forest clearance for agricultural expansion.	C. laza *is probably the most widespread species of the genus in Madagascar. (Anon A, undated). The species typically occurs in partially shaded areas in semi-deciduous dry forest. Extent of occurrence has been estimated at 35 000 km^2 and area of occupancy at around 5300 km^2 (530 000 ha). A number of different populations are known. Population densities of between 60 and 730 plants per hectare were recorded at three different sites in field surveys in 2005. Regeneration as indicated by the proportion of young plants was generally poor at these sites. Around 50 young plants a year were reported as collected (Rakouth* et al., *2006).*
C. laza is found in dry thorny thicket and the remaining dry forest of south-western and southern Madagascar. The dry thorny thicket of the South West covers an area of approximately 18 355 km^2 (of which 4.5% is found within protected areas). This type of land cover has reduced by 29.7% since the 1970s. The dry forest of the West covers an area of 31 970 km^2 (of which 17.1% is found within protected areas). This type of forest has reduced by 39.7% since the 1970s.	*Rakotonasolo* in litt. *(2012) notes that the species is reported to have a large distribution, but from field work observations the number of mature individuals per hectare is low (c. 20/ha). In 2008 a few mature individuals were observed in the dry forest in Beanka (70 km from Maintirano) growing on limestone. It is thought to be likely that this species also grows in Bemaraha National Park, as the same substrate is present as in Beanka.*

Supporting Statement (SS)	Additional information
The absence of individuals of a commercially exploitable size can be observed at collection sites.	*Hearn* in litt. *(2012) notes that during travel to Madagascar in the early 2000s, himself and colleagues repeatedly looked for* C. laza *and only found a few scattered individuals. The population densities are very low and the overall abundance in its home range appears to be low overall.*
B) Regulation of trade required to ensure that harvest from the wild is not reducing population to level where survival might be threatened by continued harvest or other influences	
The species is very sought after in the international market as an ornamental plant. Wild collections supply the international market. It is exported as a living plant. Reported exports of living plants are as follows: 2003 (419), 2004 (1177), 2005 (2487), 2006 (7814), 2007 (0) and 2008 (0). No illegal trade of *C. laza* has been recorded to date. The species is rarely sold at a national level.	*Despite the availability of* C. laza*, Eggli* in litt. *(2012) notes that in his experience there is not a substantial horticultural market for mature ex-habitat specimens. Yuan* in litt. *(2012) reports that trade in China exists but it is not common and the majority of trade is of seedlings.* *Rakotonasolo* in litt. *(2012) reports that the caudiciform structure takes a long time to develop so wild collected mature individuals are more popular with collectors.* *Mature individuals can reach very large sizes which may limit their suitability for private collections (Eggli* in litt., *2012).*
The proposal reports six web sources of *C. laza*, selling mature plants, seedlings and seeds of unknown origin. Prices per plant ranged from USD28 – 65 and per seed USD1.18.	*In Europe, individuals with developed caudex bases were available from web sellers in Germany, Hungary, Spain and the Czech Republic for prices ranging between USD21 – 116. The origin of the plants is unknown. In the USA, individuals with a developed caudex base were available from web sellers for prices ranging between USD35 – 50. The origin of the plants is unknown. In China, individuals with a developed caudex base were available from web sellers for prices ranging from USD48 - 75. The origin of the plants is unknown. Seeds were found for sale from sellers based in Bulgaria for USD0.7 per seed and a seller in la Réunion, but seeds were currently out of stock and no price was given.* *A nine-day web survey to investigate web trade for* C. laza *was conducted in 2011. Twenty six plants and twenty nine packages of seeds of* C. laza *were found sold from Thailand, Netherland, Italy, Germany, Hungary, South Africa, UK, USA, France, Germany, Italy, Czech Republic, USA, and Mauritius. Prices of plants ranged from USD6.00 to 175.00 (Augugliaro* in litt., *2012).* *A two day review of web sellers based in Japan selling* C. laza *was conducted (04-05 December 2012). Four websites selling* C. laza *plants were identified (although three of these directed to the same source) and one website selling seeds was identified (TRAFFIC Japan, 2012).* *Various websites provide cultivation advice for* C. laza *in different climates, indicating an interest in cultivating the species in that region; Mediterranean (Anon B, undated), Denmark (Bihrmann, undated), the USA (Anon C, undated).*

Supporting Statement (SS)	Additional information
	Large specimens of Madagascan succulent plants, including 100 C. laza *individuals washed up on shore in August 2005 from a shipment from Pronatex Soavony on route to France. These plants had an export permit (Anon D, 2005).*

Inclusion in Appendix II to improve control of other listed species

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

	There are multiple species of Cyphostemma that resemble C. laza*, including* C. montagnacii*,* C. macrocarpum *and* C. roseiglandulosum *(Hearn* in litt., *2012).*

Other information

Threats

Forests are disappearing rapidly and becoming fragmented due to charcoal production, expansion of agriculture and maize production, bushfires for the generation of new pasture for livestock.	

Conservation, management and legislation

Collection and export are only regulated at a national level. Para 7.1 of the SS states: collection and export [of this species] are not subject to any controls. Para 8.1 of the SS states: National management measures are detailed in the proposal: The number of specimens authorised for export is based on the supply of the species in horticultural centres. A single harvest authorization per species per operator is provided, to serve as parental stock. Operators should undertake ex situ reproduction. Permits and exportation authorizations are supplied only for individuals reproduced artificially.	*The level of national legislation afforded to this species is unclear as the proposal notes that harvest and export are not subject to regulation and later that they are subject to national authorization procedures. Information as to whether national management measures have been enforced or how successfully is not provided. Expert reviewers were asked to provide additional information about national legislation and its effectiveness but none of the comments received clarified this.*
Some populations of *C. laza* occur in protected areas (Andranomena, Kirindy, Kirindy Mitea, Tsimanapetsotsa, Beza Mahafaly, Andohahela), representing a long term habitat for this species. Recently delineated protected areas could also contain this species, such as Amoron'ny Onlahy, Ekodida and could contribute to the sustainability of this species and the conservation of its habitat. To ensure the survival of the species, permits and licences should be strictly limited to artificially propagated species.	*It is thought that this species likely also occurs in Bemaraha National Park (Rakotonasolo* in litt., *2012).* C. laza *is also reported as present in Reserve Speciale d'Ankarana (Oldfield (comp.), 1997).*

Supporting Statement (SS)	Additional information
Captive Breeding/Artificial Propagation	
Artificial propagation by seed is easy but slow. Propagation by cuttings is possible.	*Cultivation is reported to be fairly easy, by seed or cutting (Corman, 2008). Rakotonasolo* in litt. *(2012) also reports that* C. laza *is very easy to grow, but says that it takes a long time to develop the caudiciform structure. Bihrmann* in litt. *(2012) also reports that the species is slow growing. Small seedlings do form the caudex. Fruiting is common, but they are not numerous. Eggli* in litt. *(2012) also reports that the species is of easy cultivation, though much space is needed to get flowering and thus a possibility for fruit set.* *An online source offering propagation information about* C. laza *reports that propagation is usually from seeds which must be prepared, aged and scarified and even then germination is uncertain (Anon A, undated).This is not supported by reviewer comments.* *Hearn* in litt. *(2012) notes that the caudex forms from cuttings.* *The species is reported as not rare in cultivation. The largest specimens in Europe are in the 'Jardin Exotique' in Monaco, and also in 'Les Cedres', St. Jean Cap Ferrat, southern France. The trunks of these specimens are 6-7m tall and about 1m in basal diameter (Rauh, 1995).* *According to PlantSearch, an online database of botanic garden collections maintained by Botanic Gardens Conservation International (BGCI), 25 gardens record holding* C. laza *in their collection. None of these gardens are within Madagascar, potentially limiting their involvement in restoration activities.* *In addition, Phyto-logic Paradise Gardens in Madagascar hold one specimen of the plant, although have not attempted propagation yet (Cooke* in litt., *2012). The Parc Botanique et Zoologique de Tsimbazaza (PBZT) hold two mature individuals of* C. laza*.*
Other comments	
C. laza was proposed for integration in Appendix II of CITES at CoP15 in 2010. Biological and ecological data obtained were updated and supplemented for the preparation of this new proposal. Under an agreement between the CITES Secretariat and the European Union, *C. laza* has been the object of research for the year 2012 to supplement existing data. The fruits of certain species of *Cyphostemma* are eaten by fruit bats and birds.	*The species is reported to be used locally by soothsayers for its narcoleptic qualities in Andohahela national park (Anon B, undated).*

Reviewers: C. Augugliaro, A. Cattabriga, U. Eggli, D. Hearn, D. Newton, F. Rakotonasolo.

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