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

Sixteenth meeting of the Conference of the Parties
Bangkok (Thailand), 3-14 March 2013

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Include the species *Adenia subsessifolia* in CITES Appendix II, in accordance with Article II, paragraph 2(a) of the Convention and Resolution Conf. 9.24 (Rev. CoP13), Annex 2 a, paragraph A.

B. Proponent

Madagascar*.

C. Supporting statement

1. Taxonomy

1.1 Class: Dicotyledones

1.2 Order: Violales

1.3 Family: Passifloraceae

1.4 Genus and author: *Adenia subsessifolia* Perrier (1940)

1.5 Scientific synonyms:

1.6 Common names: Malagasy: Akata, katakata

1.7 Code number:

2. Overview

Adenia subsessifolia is a liana with many thin herbaceous stems and short, thick rhizomes. Its roots are swollen around one or several fleshy tubers. This endemic species to Madagascar is collected from the wild and has become rare. However, it is not yet protected by the CITES Convention.

The present document suggests that the species *Adenia subsessifolia* meets the criteria for inclusion in CITES Appendix II in accordance with Article II, paragraph 2(a) of the Convention and Resolution Conf. 9.24 (Rev. CoP13), Annex 2 a, paragraph A. Regulation of trade in the species is required to ensure that the harvest of specimens from the wild is not reducing the wild population and that the survival of the species is not threatened by continued harvesting or other influences.

* *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat or the United Nations Environment Programme concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

3. Species characteristics

3.1 Distribution

Adenia subsessifolia is endemic to Madagascar and has a restricted distribution, from the Toliara region to Cap Sainte Marie Special Reserve.

The geographic distribution of *Adenia subsessifolia* is shown in Annex 1.

3.2 Habitat

The natural habitat of this species is the xerophytic scrubland with *Euphorbia* and Didieraceae of south-western Madagascar at an altitude between 50 and 200 m. *Adenia subsessifolia* grows on sand or stony calcareous soil. It is found in shrub savannah and forest edges.

3.3 Biological characteristics

Adenia subsessifolia flowers from November to April. The flowers are inconspicuous and can be pollinated by insects.

3.4 Morphological characteristics

Adenia subsessifolia is a monoecious or dioecious liana with numerous thin stems; it has short and rather thick woody rhizomes and swollen roots around one or several fleshy tubers. The leaves are leathery, grey or whitish on top, with a gland on the side of the petiole base and more or less triangular stipules. The flowers are tubular and greenish-yellow. The fruit is green with a tinge of purple, bearing largely oval seeds, wholly surrounded by a thin and fleshy reddish areolate aril. The cotyledons are largely cordate with white albumen.

3.5 Role of the species in its ecosystem

The leaves of *Adenia* plants are eaten by the larvae of butterflies of the genus *Acraea* (www.biodiversityexplorer.org).

4. Status and trends

4.1 Habitat trends

The dry thorny thicket/forest of the south-west covers an area of approximately 18,355 km² (of which 4.5 % is within protected areas). This type of forest has decreased by 29.7 % since the 1970s (Moat & Smith, 2007).

These formations are fragile. Degradation results in more or less open forests and even savannahs with a continuous grass cover.

4.2 Population size

In 2006, about 100 individuals were counted in the Table de Toliara mountain (Andatabo) and 50 mature individuals were counted in Cap Sainte Marie and in Behara (Ravaomanalina *et al.,* 2011).

Approximately 76 mature individuals per hectare were counted in Andatabo, a collection area where *Adenia subsessifolia* has become very rare (Table 1).

Table 1: Density and abundance of *Adenia subsessifolia* in Andatabo

Parameters	Andatabo
Total area of study plots (ha)	0.4
Number of mature individuals in 0.1 ha	7.7
Average specific density (ind./ha)	76.7
Estimated area occupied by the species (ha)	2
Estimated total abundance	153.4

4.3 Population structure

The absence of individuals of a size suitable for export has been observed in the collection areas visited. Owing to habitat degradation, natural regeneration is disrupted and has become very low. Regeneration potential at collection sites is 21.7 %.

4.4 Population trends

Harvesting for export could thus lead to the absence of natural regeneration and the decline or even disappearance of populations in collection areas. In the long term this would pose a serious threat to the survival of the species. In addition to massive collection for export, habitat destruction by various anthropogenic activities results in a gradual decline in the number of existing populations (a future decline of 81.8 % is expected).

4.5 Geographic trends

Adenia subsessifolia is endemic to south-western Madagascar and has a restricted distribution, with an extent of occurrence of 32,541.3 km² and an area of occupancy of only 117 km². Populations are very fragmented.

5. Threats

This species has several threats, including habitat destruction and over-harvesting for trade in ornamental plants. This species is difficult to uproot, owing to its swollen roots with one or more tubers. When collectors are unable to harvest the whole plant including the root, they reject the plant without replanting it. There are uprooted seedlings scattered in the Andatabo collection area.

6. Utilization and trade

6.1 National utilization

In addition to its use as an ornamental plant, powder made from the stems of the plant is used to treat wounds.

6.2 Legal trade

This species is traded as an ornamental plant and exported in the form of seedlings. Since the species is not yet included in the CITES Appendices, its exploitation is not subject to any regulations. The highest number of seedlings was exported in 2004 (115 seedlings) (Table 2).

Table 2: Number of seedlings of *Adenia subsessifolia* exported per year

Years	2003	2004	2005	2006	2007	2008
Number of seedlings exported	0	115	3	8	0	0

Source: Management Authority (DGEF) and Permanent Secretariat, CITES Madagascar, 2009

6.3 Parts and derivatives in trade

Adenia subsessifolia is exported in the form of live plants.

6.4 Illegal trade

No illegal trade in *Adenia subsessifolia* has been recorded to date. The species is rarely traded in the local market.

6.5 Actual or potential trade impacts

This species is collected from the wild to supply the international market. Individuals of a commercially exploitable size are becoming increasingly rare in the field. Harvesting for export could thus lead to the absence of natural regeneration and the decline or even disappearance of populations in certain collection areas. In the long term, this would pose a serious threat to the survival of the species.

As the geographic distribution of the species is fragmented, collectors change harvesting sites once they have become depleted.

7. Legal instruments

7.1 National

Since the species is not yet included in the CITES Appendices, its exploitation is not subject to CITES regulations. Collection and export are only regulated by authorization procedures at national level.

7.2 International

Inclusion of the species in CITES Appendix II will ensure that all exports are accompanied by a CITES permit that attests to the fact that the specimens were collected in compliance with existing laws and using methods that are not detrimental to the survival of the species.

In addition, specimens of species in Appendix II will benefit from Reviews of Significant Trade that will make it possible to monitor and update their biological and ecological data.

8. Species management

8.1 Management measures

The number of specimens authorized for export is based on the stock of the species in a horticultural centre. A single collection permit per species per operator is granted for the establishment of parental stock (mother plants). After this, operators must propagate the plants *ex situ*. Export permits and authorizations are only issued for artificially propagated specimens.

8.2 Population monitoring

Adenia subsessifolia was the subject of a Review of Significant Trade in relation with its possible inclusion in CITES Appendix II in 2010. According to the IUCN criteria, its conservation status is Endangered EN B2 abc (ii, iii), with the addition of sub-criterion A1(c), that is, a population reduction ≥ 70 % over 10 years and a decline in the area of occupancy, extent of occurrence and habitat quality.

8.3 Control measures

8.3.1 International

The species is not yet included in the CITES Appendices.

Inclusion of the species in Appendix II will ensure that all exports are accompanied by a CITES permit that attests to the fact that the specimens were collected in compliance with existing laws and using methods that are not detrimental to the survival of the species.

8.3.2 Domestic

Subpopulations of the species have been recorded in Cap Sainte Marie, Andohaela and Tsimanapetsotse National Parks.

8.4 Captive breeding and artificial propagation

Propagation of this species from seed is easy but slow.

Propagation from cuttings is possible.

8.5 Habitat conservation

Some populations of *Adenia subsessifolia* occur in Cap Sainte Marie National Park. The designation of new protected areas including the preferential collection area of Andatabo could contribute to the conservation of the species and its natural habitat.

8.6 Safeguards

To ensure the continued existence of the species, the issuance of export permits and authorizations should strictly be limited to artificially propagated specimens.

Under an agreement between the CITES Secretariat and the Malagasy Scientific Authority for Plants, *Adenia subsessifolia* will be the subject of further research in 2012 to supplement the existing data.

9. Information on similar species

None.

10. Consultations

The other countries have not been consulted because this species is endemic to Madagascar.

11. Additional remarks

This species was already the subject of a proposal for inclusion in Appendix II at CoP15 in Doha (Qatar) in 2010. The biological and ecological data obtained were updated and supplemented to prepare this new proposal for the inclusion of the species in Appendix II.

12. References

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Webography

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– http://www.efloras.org

– www.tropicos.org

– http://www.shoalcreeksucculents.com/Webasyst/shop/index.php?productID=315

13. List of annexes

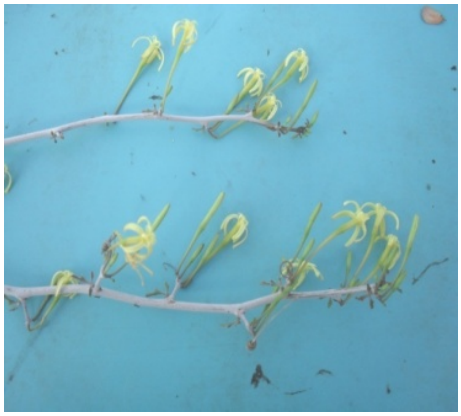
Annex 1: Illustrations and geographic distribution of *Adenia subsessifolia*

Annex 2: Preliminary data on the Web trade of Malagasy succulent plants species coordinated at RBG Kew (A Web survey investigating the current Web-based trade in Malagasy succulent species has been carried out. The species include both CITES-listed species and species not currently listed).

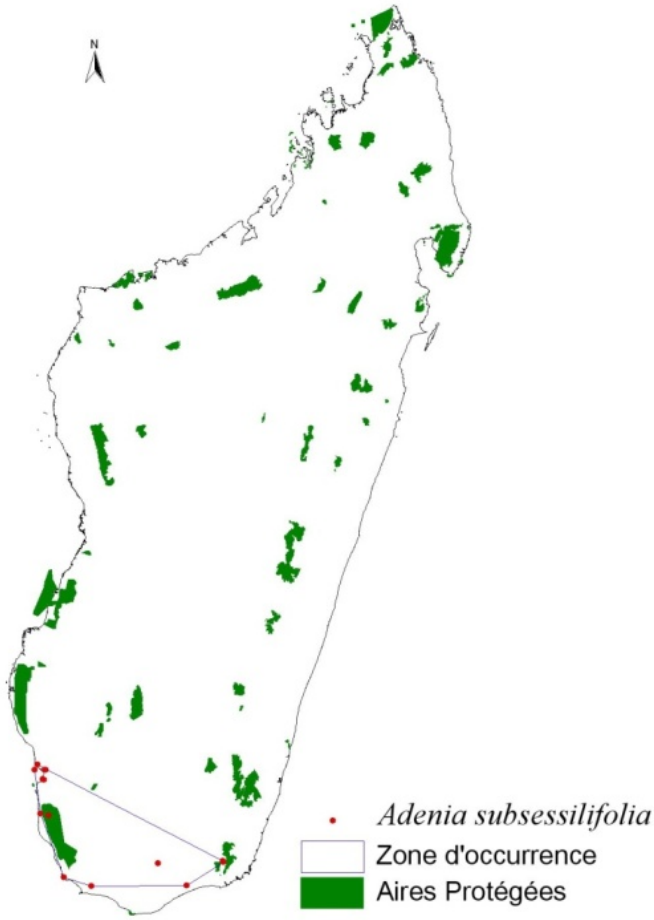
Illustrations and geographic distribution of *Adenia subsessifolia*

Adult specimen of *Adenia subsessifolia*
(Vitantsoa, 2012)

Fruit of *Adenia subsessifolia*
(Vitantsoa, 2012)



Flowering branch of *Adenia subsessifolia*
(Vitantsoa, 2012)



Preliminary data on the Web trade of Malagasy succulent plants species coordinated at RBG Kew

A Web survey investigating the current Web-based trade in Malagasy succulent species has been carried out.
The species include both CITES-listed species and species not currently listed.

	Website location					Specimen type for sale				Source of specimens for sale			Price range in USD			
Species	USA	EU	Other	Unknown	Total	Mature	Seedling	Seeds	Unknown	Wild	Propagated	Unknown	Per plant		Per seed	
													Min	Max	Min	Max
Operculicarya decaryi	**11**	**4**	**2**	**1**	**18**	**9**	**1**	**5**	**3**		**1**	**17**	**14.95**	**400.00**	**0.39**	**0.86**
Senna meridionalis	**3**		**1**		**4**	**3**		**1**		**1**		**3**	**20.35**	**150.00**	**0.51**	
Adenia firingalavensis	**1**	**1**	**1**		**3**	**2**		**1**		**1**		**2**	**75.00**	**236.72**	**1.41**	
Adenia subsessifolia	**1**	**1**			**2**	**2**						**2**	**8.00**	**15.65**		
Cyphostemma laza	3	2	1		6	3	1	1	1			6	28.00	65.00	1.18	
Uncarina stellulifera	3	1			4	1		3			1	3	70		0.66	2.52
Uncarina grandidieri	10				10	7	3						30	500		