

Inclusion of *Operculicarya hyphaenoides* in Appendix II

Proponent: Madagascar

Summary: *Operculicarya hyphaenoides* is a well-branched, deciduous thick-stemmed shrub or small tree, endemic to Madagascar, which can grow up to 1.5m tall. It is one of eight species in the genus *Operculicarya*, seven of which are endemic to Madagascar, with the eighth occurring in Madagascar and the Comoros. It has a restricted range in south-west Madagascar, growing in semi-arid scrub vegetation on limestone notably in and around Tsimanampetsotsa National Park. Estimates of its extent of occurrence are of less than 500 km² and 800 km² with an area of occupancy of 300 km² (30 000 ha) and just under 500 km² (50 000 ha), respectively. The distribution is reportedly fragmented; seven sub-populations, some of them small (five to six hectares), are reported. The species can evidently be reasonably abundant locally; two study sites surveyed in 2005 had estimated densities of 370 and 550 individuals per hectare. Regeneration appeared to be good.

The species has a bonsai-like appearance and has appeal to specialist collectors of succulents. It does not appear at present (late 2009) to be readily available in trade, although has been obtainable in the past. Recorded exports from Madagascar are few (25 in 2004, 161 in 2005, 395 in 2006). These exports are likely to have been mainly or entirely of wild-collected plants. Propagation is reportedly by seed and cuttings.

Two other species of *Operculicarya*, *O. pachypus* and *O. decaryi*, have been proposed for inclusion in Appendix II at the present meeting of the Conference of the Parties (see Prop.23 and Prop. 24); these species are more similar in appearance to one another than to *O. hyphaenoides*.

Analysis: *Operculicarya hyphaenoides* is a localized but apparently locally common plant in Madagascar. Extrapolation from its known area of occupancy and sampled population densities indicates a substantial wild population, although distribution is likely to be patchy within its area of occupancy. There is no known intensive or extensive harvest for domestic use in Madagascar. The species is reported in trade, although apparently at low levels, and can be propagated artificially. It seems unlikely that harvest for trade is reducing the species to a level at which it might become eligible for inclusion in Appendix I in the near future, or that such regulation is needed to ensure that harvest from the wild is not reducing the wild population to a level at which its survival might be threatened by continued harvesting or other influences.

Supporting Statement (SS)	Additional information
Madagascar	<u>Taxonomy</u>
	<u>Range</u>
	<u>IUCN Global Category</u>
	 <i>Not assessed.</i>

Supporting Statement (SS)	Additional information
Biological and trade criteria for inclusion in Appendix II (<i>Resolution Conf. 9.24 (Rev. CoP14) Annex 2 a</i>)	
<u>A) Trade regulation needed to prevent future inclusion in Appendix I</u>	
<p>This endemic species is found only on some sites in the south of Madagascar (Tsimanampetsotsa, Bemananteza, Zohin'i Mitoho and on the Table de Toliara mountain). Its range is fragmented.</p> <p>Five hundred and fifty plants were counted in 2006 on the Table de Toliara mountain at Saint Augustin.</p> <p>It occurs in low arid and semi-arid scrub.</p> <p>Based on field studies in 2006, the species is regarded as meeting the criteria for endangered under the IUCN Red List categories and criteria.</p>	<p><i>Randrianosolo and Lowry (2006) give an extent of occurrence of "well under 500 km²" and area of occupancy of around 300 km². They consider it "endangered" under the IUCN Red List criteria.</i></p> <p><i>Rakouth et al. (2006) report an extent of occurrence of just under 800 km² and area of occupancy of 460 km². Two sampled sub-populations of five and six hectares had population densities of 366 and 550 individuals per hectare. Regeneration, as measured by ratio of young plants to seed-bearing plants, was good.</i></p> <p><i>Web searches in late 2009 did not find the species currently offered for sale outside Madagascar.</i></p>
<u>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</u>	
<p>Reported exports were 25 in 2004, 161 in 2005, 395 in 2006.</p> <p>Locally, the bark is used to make a tonic to strengthen women after they have given birth.</p>	
Inclusion in Appendix II to improve control of other listed species	
<u>A) Specimens in trade resemble those of species listed in Appendix II under <i>Resolution Conf. 9.24 (Rev. CoP14) Annex 2 a</i> or listed in Appendix I</u>	
<u>B) Compelling other reasons to ensure that effective control of trade in currently listed species is achieved</u>	
Other information	

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Fire.	<p style="text-align: center;"><u>Threats</u></p> <p><i>Natural habitats in southern Madagascar are affected by fire, charcoal and fuelwood extraction, over-grazing and conversion to agriculture. It is not known to what extent these affect this species.</i></p> <p style="text-align: center;"><u>Conservation, management and legislation</u></p> <p><i>Part of the population occurs in Tsimananpetsotsa National Park (Randrianosolo and Lowry, 2006).</i></p> <p style="text-align: center;"><u>Captive Breeding/Artificial Propagation</u></p> <p><i>Propagation is by seed and cuttings (Caudiciform website).</i></p> <p style="text-align: center;"><u>Other comments</u></p>

Reviewers:

TRAFFIC East/Southern Africa.

References:

Rakouth, B., Ravaomanalina, H. and Rakotonavalona, A. (2006). Etude biogéographique et bioécologique de quelques espèces menacées dans le Sud de Madagascar dans le cadre de la CITES pour l'année 2005. Rapport final. Conservation International Madagascar.

Randrianosolo, A. and Lowry, P.P. (2006). *Operculicarya* (Anacardiaceae) revisited: an updated taxonomic treatment for Madagascar and the Comoro Islands, with descriptions of two new species. *Adansonia*, 28 (2): 359–371.

<http://www.bihrmann.com/caudiciforms/SUBS/ope-hyp-sub.asp> Viewed 16 December 2009.