Inclusion of *Operculicarya pachypus* in Appendix II

Proponent: Madagascar

Summary: *Operculicarya pachypus* is a short, thick-stemmed (pachycaul) deciduous shrub endemic to Madagascar, which grows to around 1.2 m in height. It is one of eight species in the genus *Operculicarya*, seven of which are endemic to Madagascar, with the eighth (*O. gummifera*) occurring in Madagascar and the Comoros. It has a very restricted range in south-west Madagascar in the vicinity of Toliara, where it occurs in open, semi-arid thicket on calcareous substrates. Its extent of occurrence is estimated at just under 400 km^2 and the area of occupancy at around 100 km^2 (10 000 ha) with three or four sub-populations known. The species can be locally abundant, with around 1000 per hectare recorded in one small (six-hectare) sub-population, and regeneration generally appears to be good.

The species has a bonsai-like appearance and is in cultivation, mostly grown by hobbyists who specialize in succulent plants. Some 1800 specimens have been recorded as exported from Madagascar in the period 2003–2006, most of these (1200) in 2004. At present (late 2009) the species appears to be not widely available outside Madagascar; it can evidently command high prices (USD2540 for a specimen in a 40 cm pot). Recorded exports are likely to have been mainly or entirely of wild-collected plants.

The species is not known to occur in any protected area. Its habitat is reportedly affected by fire and there is some local use, of the bark for the preparation of medicine, but it is not known how intensive this is.

Two other species of *Operculicarya, O. decaryi* and *O. hyphaenoides,* have been proposed for inclusion in Appendix II at the present meeting of the Conference of the Parties (see proposals Prop. 22 and Prop. 23).

Analysis: *Operculicarya pachypus* is a very localized but apparently at least locally abundant plant in Madagascar. Extrapolation from its estimated area of occupancy and sampled population densities indicate a reasonably large wild population (although it is likely to be patchily distributed in its area of occupancy). There is no known intensive or extensive harvest for domestic use in Madagascar. The species has been exported as a horticultural plant, although few exports have been reported in recent years and the species does not appear to be widely available at present. On present information, 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. However, given the apparently highly restricted distribution, this cannot be said with certainty.

The species does resemble other *Operculicarya* and particularly one of the two other species proposed for inclusion in Appendix II at the present meeting (*O. decaryi)*. It is conceivable that, were the latter to be included in Appendix II, inclusion of *O. pachypus* might help regulate trade in it (although several other similar species of *Operculicarya,* at least some of which may be in trade, would remain outside the Convention).

Supporting Statement (SS)	Additional information

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Taxonomy	
Range	
Madagascar	
IUCN Global Category	
	Not assessed.

Biological and trade criteria for inclusion in Appendix II (*Resolution Conf. 9.24 (Rev. CoP14)* Annex 2 a)

A) Trade regulation needed to prevent future inclusion in Appendix I	
The species has a very localized range in the region of Toliara in south-west Madagascar. Reported export was of 70 specimens in 2003, 1212 in 2004, 312 in 2005 and 259 in 2006.	*Rakouth* et al*. (2006) report estimated extent of occurrence at just under 400 km^2 and area of occurrence at around 100 km^2. They estimated population density at one six-hectare site at just under 1000 per ha. Regeneration rate as assessed by the ratio of young plants to mature individuals was good at one site and moderate at another, the latter being known to be a site at which the species was commercially collected. The species was reported to regenerate easily from rootstock (Rakouth* et al*. 2006). Three (Rakouth* et al*, 2006) or four (Randrianosolo and Lowry, 2006) subpopulations are known.* *Both Rakouth* et al. *(2006) and Randrianosolo and Lowry (2006) consider that the species would be classified as endangered under the IUCN Red List categories and criteria.*
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 bark of the species is used to make an infusion to treat infant diarrhoea.	

Inclusion in Appendix II to improve control of other listed species

A) Specimens in trade resemble those of species listed in Appendix II under *Resolution Conf. 9.24 (Rev. CoP14)* Annex 2 a or listed in Appendix I	
	The species closely resembles and is often confused with O. decaryi*, also proposed at CoP15 for inclusion in Appendix II (see proposal Prop. 24).*

Supporting Statement (SS)	Additional information
B) Compelling other reasons to ensure that effective control of trade in currently listed species is achieved	

Other information

Threats

Its habitat is reportedly affected by fire.

There is some local use of the bark for medicine.

Conservation, management and legislation

Not known to occur in any protected area.

Captive Breeding/Artificial Propagation

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The species is reportedly easily propagated from cuttings from the tuberous roots (Desert tropicals website).

Other comments

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.desert-tropicals.com/ Viewed December 16 2009