

AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION

Other Proposals

A. PROPOSAL

Transfer of Melocactus conoideus, M. deinacanthus, M. glaucescent and M. paucispinus from Appendix II to Appendix I.

B. PROPONENT

The Republic of Brazil.

C. SUPPORTING STATEMENT

1. Taxonomy

10. Division: Magnoliophyta (angiosperms; flowering plants)

11. Class: Magnoliopsida (dicotyledons)

12. Order: Caryophyllales (centrosperms)

13. Family: Cactaceae

14. Species: Melocactus Link & Otto:

M. conoideus Buin. & Brederoo 1973

M. deinacanthus Buin. & Brederoo 1973

M. glaucescens Buin. & Brederoo 1972

M. paucispinus Heimen & Paul 1983

All four species are dealt with in the revision of the genus by Taylor (1991), which is the primary source of data for this proposal. Taylor's account of the genus was based on extensive, recent field study spanning the years 1988 to 1991.

2. Biological Data

21. Distribution: Taylor (1991) documents the distribution of these four species precisely. M. conoideus and M. deinacanthus are each known from single sites only. The former occurs at the boundary of a large city of more than 100,000 people, the latter is restricted to a rock outcrop of limited extent situated close to a relatively busy highway. M. glaucescens is restricted to two sandstone outcrops separated by only 5 km and close to a main highway. M. paucispinus is reported from 3 sites of very limited extent, the northernmost being about 120 km from the two southern sites, which are separated by less than 5 km. The northern site is very small and beside a busy main highway.

22. Populations: In 1989 M. conoideus was almost extinct at its type locality (Taylor 1991: 32), but may be expected to occur in parts of the same mountain ridge a few kilometers distant, where similar quartzitic gravel and vegetation has been observed (N.P. Taylor, pers. comm.). The other three species are locally abundant, but none of the populations is known to occupy an area of more than one kilometre in extent. Less than 500 individuals have been observed for each of the 4 species in the course of extensive field studies during the period 1988-1991.
23. Habitats: M. deinacanthus occurs on an exposed granite/gneiss rock outcrop with other cacti at its only known site in the valley of the Rio Sao Francisco, southern Bahia. It is very conspicuous and the plants are easily located. The outcrop is within vegetation termed caatinga, a seasonally dry, deciduous, thorn forest, much of which has been destroyed or severely degraded in this region. M. glaucescens occurs on flat sandstone rock outcrops, partly covered by gravel and low shrubs, and in association with various other commercially exploited Cactaceae, including another species of Melocactus, a Micranthocereus and a Discocactus [also being proposed for CITES Appendix-I listing].

Its habitat represents the ecotone between caatinga and campo rupestre vegetation types. Both species of Melocactus occur on privately owned farmland, but the rocky nature of their habitats restricts land use to grazing by goats, whose effect on the melocacti is unknown. M. conoideus and M. paucispinus grow in almost pure, quartzitic sands or gravels, which support kinds of vegetation variously described as campo sujo or cerrado de altitude, a kind of savanna, at 1050-1500 metres elevation. They are adapted to withstand fire, having strongly depressed-globose to hemispheric stems which do not rise much above the ground surface. The plants occur in the open between grasses and also beneath low, woody shrubs. Such habitats do not lend themselves to agriculture, other than for goat grazing, but in the case of M. conoideus the quartz gravel is extracted for local use in the construction industry and the site of its type locality is now extremely disturbed (Taylor 1991: 32).

3. Trade Data

31. National Utilization: No data relating directly to any of these four species are available, but Taylor (1991: 3) reports collection of wild plants of related Melocactus taxa for local decorative horticulture, livestock feed and medicinal purposes. D.C. Zappi (pers. comm. to N.P. Taylor) believes Brazilian melocacti are also used for the manufacture of cactus candy, as reported for Mexican taxa by Taylor, loc. cit.
32. Legal International Trade: In recent years there has been a high level of world trade in Melocactus spp., with an annual average of 34,108 plants for the years 1983-89 (WTMU 1991). This figure represents the trade in plants identified to generic level only. Figures for named Melocactus species are much lower and the majority of these were Brazilian taxa. Annual average world trade and corresponding Brazilian exports, 1983-89 of the four species named in this proposal are given below, but it should be remembered that the actual numbers may have been much higher if these species were represented amongst shipments declared at generic level only:

	WORLD TRADE	BRAZILIAN EXPORTS
<u>M. conoideus</u>	104	101
<u>M. deinacanthus</u>	13	10
<u>M. glaucescens</u>	18	8
<u>M. paucispinus</u>	3	-

Excepting M. paucispinus (described as recently as 1983), Brazil appears to be the main, or at least a significant, supplier of plants in trade. The available figures (WTMU 1991) further indicate that most of these Brazilian exports took place during the period 1984-1986. About half of these were not declared as artificially propagated, and confiscation of plants by Dutch Customs officials during this period, as reported by that country's Ministry of Agriculture and Fisheries (1987), indicate that hundreds of wild-collected Melocactus specimens were present in Brazilian shipments.

33. Illegal Trade; Extent unknown, but at least one Swiss nursery company is known to have imported substantial numbers of wild-collected melocacti, including M. conoideus, M. deinacanthus and M. glaucescens, during the 1970s and early 1980s (N.P. Taylor, pers. comm.), before reliable trade data figures were recorded. It is possible that a proportion or even all of such trade was not declared as being based on wild-collected plant material. The recently described M. paucispinus was observed by N.P. Taylor (pers. comm.) amongst wild-collected cacti confiscated by Dutch Customs and being maintained at the Flevohof Foundation (The Netherlands) in April 1989. This species does not appear in the figures of named melocacti exported from Brazil during the period 1983-1989.

34. Potential Trade Threats

- 341 Whole Live Specimens: As noted under 32 above, there is considerable trade in Melocactus plants at the present time. Mass propagation from seed is practised in various warmer countries, especially in southern California (USA) and Canary Islands (Spain), as reported in Taylor (1991: 3). The quantities of plants raised of the 4 species here proposed for Appendix-I listing are not known, but at least M. conoideus is available from artificially-propagated stock of Canary Islands origin (Taylor 1991: 31 [illus.]). However, mass propagation has not always resulted in the genetic integrity of the species being maintained and some of the Melocactus plants offered by the nursery trade are suspected to be of hybrid origin (N.P. Taylor, pers. comm.). This may place pressure on wild populations, since some cactus hobbyists who specialize in particular groups may be prepared to pay large sums of money in order to acquire a plant of wild origin whose parentage is not open to doubt.

Listing these four species in Appendix I should encourage their propagation under more carefully controlled conditions. It is believed that adequate stocks of wild origin remain in nurseries in Europe and the United States to enable the propagation of these species to meet demand from Melocactus hobbyists (Taylor, pers. comm.).

342. Parts and Derivatives: All trade data for these species relate to whole plants. Melocacti do not normally branch and are therefore rarely propagated by vegetative means. Trade in seeds of Appendix-II species usually is not monitored by CITES, so its extent is unknown. However, it is known that commercial seed gathering of Cactaceae is practised in Brazil, and seeds of some taxa are offered for export by the kilogram to wholesale outlets (U. Egli, pers. comm. to N.P. Taylor). It is probable that one or more of these endangered Melocactus species may be exploited in this way.

4. Protection Status

41. National: The export of wild-collected Cactaceae and Orchidaceae is a violation of the Portaria Normativa 122 (21.03.1985).
42. International: All species of Melocactus have been included in Appendix II of CITES since 1973.

5. Information on Similar Species

Taylor (1991) accepts 31 species of Melocactus, of which 18 are native to Brazil. The genus is easily recognized for its bristly or woolly terminal, non-chlorophyllous cephalium, a structure encountered amongst globular Cactaceae only in the primarily Brazilian genus Discocactus [also proposed for Appendix-I listing]. Although distinguishing between some species is difficult and requires specialist knowledge, the 4 taxa proposed here are each very distinctive within the genus as a whole. Furthermore, in cases of doubt, the availability of a modern and detailed botanical treatment in English should enable representatives from Parties' Scientific Authorities to determine identity with confidence. M. conoideus and M. paucispinus are easily recognized for their strongly depressed, hemispherical stems. The ribs of M. conoideus are very low, while M. paucispinus is unique in having only 3-5 spines per areole. M. deinacanthus is recognized for its long and numerous spines combined with pure white fruits and unique seeds. M. glaucescens combines a strongly blue-waxy, short-spined stem with a white-woolly cephalium and small, deep red fruits.

6. Comments from Country of Origin

Country of origin is proponent.

7. Additional Remarks

Although regular trade in wild-collected specimens of these four endangered Melocactus species may not be taking place at the present time, such trade has certainly occurred in the recent past, and interest in the genus is likely to increase with the publication of a new, illustrated monograph (Taylor 1991). None of the known wild populations of these species can withstand further heavy collecting without risking their extinction in the wild.

8. References

- Ministry of Agriculture and Fisheries [The Netherlands] 1987. Some aspects of illegal cacti trade. Pp. 41. Unpublished report.
- Taylor, N.P. 1991. The genus Melocactus (Cactaceae) in Central and South America. Bradleya 9: 1-80.
- WTMU. 1991. Review of significant trade in species of plants listed on Appendix II of CITES. 1983-89. Wildlife Trade Monitoring Unit. World Conservation Monitoring Centre, Cambridge, U.K.

72
FLORA (1)