AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION

Other Proposals

A. PROPOSAL

Transfer of Chigua spp. from Appendix II to Appendix I.

B. PROPONENT

The United States of America.

C. SUPPORTING STATEMENT

1. Taxonomy

11. Class: Cycadopsida

12. Order: Cycadales

13. Family: Zamiaceae

14. Genus: Chigua D. Stevenson

141. Species: C. bernalii D. Stevenson 1989
C. restrepoi D. Stevenson 1989

Because Chigua is in the family Zamiaceae, it is automatically included in Appendix II, even though it is a new genus. (The U.K. proposal of 1976 was to add all Cycadaceae and Zamiaceae not then in Appendix I to Appendix II.)

15. Common Names: English: cycads
French: cycades
Spanish: Chigua (Spanish, derived from Indian, for various cycads in Central America and South America)

16. Code Numbers:

2. Biological Data

21. Distribution: In 1986, two species of Chigua were collected in northern Colombia (Stevenson, 1989). There was a previous collection (a single herbarium specimen) of C. restrepoi by F. Pennell in 1918 from the same area. It had been tentatively assigned to Zamia; Drs. D. Stevenson and S. Sabato suspected it might be a new genus, but needed adequate research specimens. This genus with both its species was unrecognized by science until confirmatory field work in March 1987 by Drs. Stevenson and K. Norstog; (it had not been previously described, nor were there any previously published names).

22. Population: Each species is known from only a single small population. They occur some 50 km apart in a rather remote area. The number of individual plants of both species is less than 50, composing the two populations in the wild.

23. Habitat: Because of intense interest by amateur and commercial cycad collectors, this entire genus could easily be extirpated in the wild if its location was to become known. Therefore, in the original description of the genus and species, the type localities have not been given (Stevenson, 1989), nor do they appear on the herbarium labels of the type specimens. The species occur in rain forest, at 120-150 m elevations.

3. Trade Data

31. National Utilization: None. Beyond its value to cycad collectors, the genus is not known to have ethnobotanical or other medicinal value, or other commercial value.

32. Legal International Trade: None ongoing. Very limited material has been obtained for scientific study, including artificial propagation.

33. Illegal Trade: None known.

34. Potential Trade Threats: There can be no doubt that these known localities of Chigua will eventually be discovered by others, and when this happens, it will be easily collected to extinction in the wild, so far as its range is known. Whether any other populations of either species exist, or other species in the genus await discovery, is simply speculation; 68 years lapsed between collections of C. restrepoi; C. bernalii was only discovered in 1986. Chigua is particularly desirable to collectors because of: its rarity; its novelty; its unusual morphology within the Cycadales; and the fact that it is the only cycad genus endemic to South America. Consequently, it has a very high potential commercial value, probably the highest of any cycad. Although the taxonomic description of Chigua and its component species is only in press, the knowledge of its existence (but not localities) is already common knowledge among international cycad collectors and dealers.

4. Protection Status

41. National: Unknown.

42. International: Given that this genus is more rare both in the field and in cultivation than other cycad genera (e.g. Ceratozamia and Microcycas, both in Appendix I), it is important that Chigua also be uplisted to Appendix I.

43. Additional Protection Needs: If this genus is to be kept from extinction it must receive the maximum protection available, including enforcement, to insure its survival. Chigua also appears to qualify for recognition in the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, under Article I, paragraph 3 (Nature Monument) and Article VIII (Annex) [OEA/Ser.A/74a (SEPF); cf. Prance and Elias, 1977].

Only four plants are known in cultivation: three at Fairchild Tropical Garden and the fourth at New York Botanical Garden. Of these four plants, one is a known female at Fairchild and two are known males, one at Fairchild and one at New York. The intent is to produce viable seed at Fairchild Tropical Garden, to increase

the population in cultivation and for eventual distribution to other botanical gardens and the cycad public. However, so far male and female cones are not being produced synchronously, and thus attempts at artificial pollination have not been successful. Although precautions have been taken, there is even concern that the specimens in cultivation may be stolen by cycad fanciers, whether knowing they are Chigua or not.

5. Information on Similar Species

The genera of cycads are easily separable on leaf, leaflet, and sporophyll characters. Major features that distinguish Chigua are a leaflet midrib with longitudinally dichotomizing lateral veins, and the raised areas at the angles of the megasporophyll face (Stevenson, 1989). A midrib also occurs in Cycas and Stangeria in the Old World, but the venation pattern in Chigua is quite different from the other two, and the three genera also differ in cataphylls and stipules. The raised areas on the sporophyll face are unique to Chigua. The mucilage sugar pattern of Chigua is closest to that in Zamia (Stevenson and Siniscalco Gigliano, 1989).

6. Comments from Countries of Origin

None; to be sought.

7. Additional Remarks

None.

8. References

Prance, G.T. and T.S. Elias, eds., 1977. Extinction is Forever. New York Botanical Garden, Bronx, N.Y., U.S.A. 437 pp.

Stevenson, D.Wm., 1989. Chigua, a new genus in the Zamiaceae with comments on its biogeographic significance, in press in D. Stevenson, ed., Advances in Cycad Research. New York Botanical Garden, Bronx, N.Y., U.S.A.

Stevenson, D.Wm. and G. Siniscalco Gigliano, 1989. The systematic value of the monosaccharide composition and distribution pattern of cycad mucilages. Biochem. Syst. Ecol. 17: in press.