

AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION

Other Proposals

A. PROPOSAL

Inclusion of Dionaea muscipula in Appendix II.

B. PROPONENT

The United States of America.

C. SUPPORTING STATEMENT

1. Taxonomy

10. Division: Magnoliophyta (angiosperms; flowering plants)
11. Class: Magnoliopsida (dicotyledons)
12. Order: Nepenthales
13. Family: Droseraceae
14. Species: D. muscipula Ellis 1770
Genus: Dionaea Ellis (one species; see Wood 1960)
15. Common Names: English: Venus fly-trap
French: attrape-mouches
Spanish: Atrapamoscas

16. Code Numbers:

2. Biological Data

21. Distribution: (mapped e.g. by Kral, 1983; Schnell, 1976)

USA: Endemic to the coastal plain of North Carolina into South Carolina; original range extending SW - 320 km. Frantz (1991) maps historic and present North Carolina range.

22. Population: Continued decline; main two areas left are State public land in North Carolina, in both of which poaching occurs. The State of North Carolina is conducting a 2-year field study (1991-1992) to document status.

23. Habitat: Intermediate wetland zone: between wet bogs of evergreen shrubs ("pocosins") and dry sandy regions of longleaf pine-wiregrass savannas. Natural fires were a factor in creating a relatively open habitat favourable to Dionaea.

3. Trade Data

31. National Utilization and ± Legal International Trade: Collecting wild plants without landowner consent is illegal in both States. In North Carolina, the permission must be in writing and dated, and expires after half a year.

The number of wild plants entering the internal trade remains unknown. In the 1981 U.S. proposal of this species for Appendix II (COP3), 1.4-4.5 million plants were estimated to be sold annually within the country, the majority considered of wild origin. Recently a major European importer surmised that most of his plants were of wild origin. In 1990 (the only year with complete data), North Carolina exported 1,077,227 flytraps (mostly bulbs; 200,000-300,000 whole plants), and South Carolina none.

32. Artificial Propagation Considerations: The species can be readily propagated artificially, by a diversity of traditional and modern methods, which are generally known.

33. Illegal International Trade: Poaching is considered minimal in South Carolina [where perhaps at present only 10% of the population (plants) occur]. In North Carolina, collections seem to be frequent and widespread. The results can be seen at depleted and extirpated sites, and even in enforcement actions against repeat offenders.

North Carolina recently elevated the species to Special Concern status, and adopted new regulations with much higher fines. South Carolina can levy fines and impose imprisonment.

4. Protection Status

41. National: The repeated taking of plants illegally in the two State natural areas that harbour the largest and best remaining populations of this remarkable species is a main reason for the present CITES proposal. Some offenders continue to poach Dionaea despite as many as 20 encounters with enforcement authorities. It is simply too easy and too lucrative for collecting to stop. Enforcement is difficult and perforce limited, and market demand consistent.
42. International: None. The United States (22/10/65) included Dioneae in an informative, non-official list for awareness by Parties to the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere (CNWH) (OAS, 1967; cf. Orejas-Miranda, 1976; Coolidge, 1949). The European Community (EC) has decided to monitor imports, which will start some time after COP8.
43. Additional Protection Needs: A decade ago, the United States proposed this species for CITES Appendix II, but ultimately withdrew it prior to consideration at COP3. The information on this species has improved; its status in the natural environment continues to decline from habitat loss. The State of North Carolina has undertaken several significant steps to evaluate its deterioration in the field, and discourage poaching. The EC has felt the need to monitor imports. The United States considers inclusion in Appendix II likely to aid this species by discouraging overharvest, and encouraging the production of the species by artificial propagation.

5. Information on Similar Species

Dionaea is monotypic, with only the species D. muscipula, one of the most remarkable and well-known plants in the world. There are many published sources to recognize it. Even as a bulb, it is characteristic without much training, and it has been marketed in that form to a willing public.

6. Comments from Countries of Origin

The United States values this 5-month review process by Parties to stimulate and **additional comments**, which are **welcome**. (They may be sent directly to the U.S. Management Authority at telefax 703-358-2281).

7. Additional Remarks

The species can be robust in nature, as well as easy to cultivate and propagate. Many plants in trade have been removed from the wild, grown for a while, and then sold. Inclusion in Appendix II should discourage such half-way measures. There is every reason to believe that the world's interest in this species can be fully supplied properly, from sources meeting completely the exacting criteria of CITES.

8. References

- Barry, J.M., 1980. Natural Vegetation of South Carolina. Univ. South Carolina Press, Columbia.
- CITES, 1982. Proposal: Inclusion of Dionaea muscipulata to Appendix II (No. 86, US 55), (p. 788) in Consideration of proposals for amendment of Appendices I and II (Doc. 3.31, Annex 2). Vol 2: 781-788 in Proceedings of the Third Meeting of the Conference of the Parties (COP3), New Delhi, India, 25 February-8 March 1981. IUCN, CITES Secretariat, Gland, Switzerland. (Proposal not included, since withdrawn; 3 + 16 pp.)
- Coolidge Jr., H.J., 1949. A world approach to nature protection. pp. 714-724 in USDS, Proceedings of the Inter-American Conference on Conservation of Renewable Natural Resources, Denver, Colorado, September 7-20, 1948. U.S. Dept. State (USDS) Publ. 3382. Washington, D.C. 782 pp.
- Crété, P., 1965. Précis de Botanique, Tome 2: Systématique des Angiospermes, 2^e édn. Dionaea, p. 173. Collect. Précis Pharm. Masson & Cie, Edit., Paris. 429 pp.
- Degreef, J.D., 1988. The electrochemical mechanism of trap closure in Dionaea muscipula Ellis. Carniv. Pl. Newsl. 17: 80-83, 91-94, 106.
- Folkerts, G.W., 1977. Endangered and threatened carnivorous plants of North America. Dionaea, pp. 306-307 in G.T. Prance & T.S. Elias, eds., Extinction is Forever: Threatened and Endangered Species of Plants in the Americas. New York Bot. Gard., Bronx.
- Font Quer, P., 1958. Botánica Pintoresca. Dionaea, pp. 169, 459-460. Edit. Ramón Sopena, Barcelona.
- Frantz, V., 1991. Report on the Venus Flytrap (Dionaea muscipula) Trade in North and South Carolina. TRAFFIC USA, Washington, D.C. (unpubl.: incomplete).
- Godfrey, R.K. & J.W. Wooten, 1981. Aquatic and Wetland Plants of Southeastern United States: Dicotyledons. Dionaea, pp. 185-186. Univ. Georgia Press, Atlanta.
- Hardin, J.W., et al., 1977. Vascular plants. Dionaea (Threatened, exploited), p.104-105 in J.E. Cooper, S.S. Robinson & J.B. Funderburg, eds., Endangered and Threatened Plants and Animals of North Carolina. Proc.

- Symp. Endangr. Threatn. Biota North Carolina, 1: Biol. Concerns; Meredith Coll., Raleigh, Nov. 7-8, 1975. North Carolina State Mus. Nat. Hist., Raleigh.
- Juniper, B.E., R.J. Robins & D.M. Joel, 1988. The Carnivorous Plants. Acad. Press, London & San Diego.
- Justice, W.S. & C.R. Bell, 1968. Wild Flowers of North Carolina. Dionaea, pp. ii, 83. Univ. North Carolina Press, Chapel Hill.
- Kral, R., 1983. A Report on Some Rare, Threatened, or Endangered Forest-Related Vascular Plants of the South, Vol. 1: Isoetaceae through Euphorbiaceae. Pap. 127: Dionaea (one of most exploited of SE plants), pp. 545-548. USDA Forest Serv., S. Region, Techn. Publ. R8-TP 2. Atlanta, Georgia.
- OAS, 1967. La Convención para la Protección de la Flora, de la Fauna, y de las Bellezas Escénicas Naturales de los (Países de América) (CNWH): Listas de Especies de Fauna y Flora en Vías de Extinción en los Estados Miembros. (Conf. Especializada Interamer. Tratar Probl. Relacionados Conserv. Recursos nat. Renovables del Continente, Mar del Plata, Argentina, 18-22 oct. 1956). Organization of American States (OAS)/Organización de los Estados Americanos (OEA), Washington. 48 pp.
- Oldfield, S., 1980. The Venus Flytrap (- Survival threatened, mainly by collectors). *Oryx* 15: 490.
- Orejas-Miranda, B., 1976. The OAS and renewable natural resources. *Parks* 1 (3): 8-10.
- Parlman, B.J., P.T. Evans & A.R. Mazur, 1982. Adventitious bud differentiation and development in leaf cuttings of Dionaea muscipula Ellis ex L. (Venus Fly-trap) cultures in vitro. *J. Amer. Soc. Hort. Sci.* 107(2): 310-316.
- Pietropaolo, J. & P. Pietropaolo, 1986. Carnivorous Plants of the World. Dionaea, pp. 15-23. Timber Press, Portland, Oregon, U.S.A.
- Radford, A.E., H.E. Ahles & C.R. Bell, 1968. Manual of the Vascular Flora of the Carolinas. Dionaea, P. 518. Univ. North Carolina Press, Chapel Hill.
- Roberts, P.R. & H.J. Oosting, 1958. Responses of Venus fly trap (Dionaea muscipula) to factors involved in its endemism. *Ecol. Monogr.* 28 (2): 193-218.
- Rodgers, C.L., et al., 1979. Status report: Native vascular plants endangered, threatened, or otherwise in jeopardy. Dionaea (endangered statewide), p. 30 in D.M. Forsythe & W.B. Ezell Jr., eds., Proceedings of the First South Carolina Endangered Species Symposium, November 11-12, 1976, Charleston, South Carolina. South Carolina Wildl. & Mar. Resources Dept. & The Citadel, Charleston, South Carolina, U.S.A.
- Schnell, D.E., 1976. Carnivorous Plants of the United States and Canada. Dionaea, pp. 16-21. J.F. Blair, Winston-Salem, North Carolina.
- [SI] Smithsonian Inst., Endangr. Fl. Proj., 1978. Dionaea (vulnerable). pp. 191-192 in G. Lucas & H. Synge, ± eds., The IUCN Plant Red Data Book. IUCN SSC TPC; IUCN, Morges, Switzerland.
- Slack, A., 1979. Carnivorous Plants. Dionaea, pp. 154-160. MIT Press, Cambridge, Mass., U.S.A.
- Slack, A., 1986. Insect-Eating Plants and How to Grow Them. Dionaea, pp. 13-17. Univ. Washington Press, Seattle.
- Sutter, R.D., 1982. Is Venus fly trap (Dionaea muscipula) an endangered species? *ASB (Assoc. SE Biol.) Bull.* 29: 86.
- Sutter, R.D., 1985. Venus flytrap threatened primarily by habitat loss. *TRAFFIC (USA)* 6 (2): 13,17.
- Williams, S.E., 1976. Comparative sensory physiology of the Droseraceae - The evolution of a plant sensory system. *Proc. Amer. Philos. Soc.* 120: 187-204.
- Wood Jr., C.E., 1960. The genera of Sarraceniaceae and Droseraceae in the southeastern United States. Dionaea, pp. 158-160. *J. Arnold Arbor.* 41: 152-163.