

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



Tenth meeting of the Plants Committee
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Species proposals for the 12th meeting of the Conference of the Parties

CIMICIFUGA SPP., SCLEROCACTUS SPP. AND TRICHOLOMA MAGNIVELARE

This document has been prepared by the Scientific Authority of the United States of America.

1. These species, along with *Ligusticum porteri*, are currently under review by the U.S. Fish & Wildlife Service Division of Scientific Authority (DSA). The DSA appreciates any information other Parties have to provide regarding these taxa, especially as it pertains to the CITES Appendix II listing criteria for *Cimicifuga* spp. and *Tricholoma magnivelare*, and Appendix I criteria for the *Sclerocactus* spp. discussed below. We are grateful to the Management Authority of Switzerland for the information they have provided regarding the cacti.

***Cimicifuga* spp. (*Cimicifuga rubifolia*, *C. podocarpa*, and *C. racemosa*)**

2. Black cohosh (*Cimicifuga racemosa*, syn. *Actaea racemosa*) is a medicinal plant native to the United States, the root of which has been used by native Americans for a variety of conditions for hundreds of years and in European phytotherapy for the treatment of menopausal symptoms for over 40 years. Numerous clinical trials indicate that black cohosh preparations offer an effective alternative to hormone replacement therapy in the treatment of menopause (Foster 1999).
3. Already popular in Europe where most of the harvest is shipped, black cohosh is currently experiencing a dramatic increase in consumption, especially in the United States. Identified as one of the fastest growing herbal products in 1998, with a 511 percent increase over 1997 sales, black cohosh posted the largest percent increase in retail sales for any single herb in the first eight months of 1999, rising 477 percent over comparable 1998 figures (Brevoort 1998; Blumenthal 1999).
4. Though *Cimicifuga racemosa* is grown on a small scale for landscaping purposes, commercial-scale cultivation is virtually non-existent. Nearly all of the supply for the medicinals market is collected from the wild (Foster 1999).
5. Populations of *Cimicifuga racemosa* have declined or disappeared in some states due to collection pressure (Mohlenbrock 1981; Robbins 1999). This species is listed as rare in Illinois, Massachusetts, and Michigan, and has been extirpated from Iowa (Kartesz 1999).
6. The Nature Conservancy ranks *Cimicifuga racemosa* among the top species of concern in a list of 184 medicinal plants native to the United States arranged in order of the degree to which they are threatened by medicinal plant collection (Nielsen 2000). It is also listed as "At Risk" by United Plant Savers, their

highest category of concern (see <http://www.plantsavers.org/index11.html>). *Cimicifuga racemosa* has been recommended for inclusion in Appendix II of CITES (University of Maryland Graduate Program in Sustainable Development and Conservation Biology *in litt.* to USFWS Office of Scientific Authority, Oct. 25, 1999).

7. Though collection of *C. rubifolia* and *C. podocarpa* has not specifically been documented, these species are probably also subject to significant collection pressure as they are present in areas where the most intense collection of *C. racemosa* from the wild occurs (Nielsen 2000). Both are also listed by TNC among their top species of concern (Nielsen 2000). *Cimicifuga rubifolia*, number one on the TNC list, is known from seven states, five of which list it as rare (Illinois, Indiana, Kentucky, Tennessee, and Virginia). It is also present in Pennsylvania and extirpated in Alabama (Kartesz 1999). It is listed as Rare in the 1997 IUCN Red Book of Threatened Plants - Endangered in Alabama, Indiana, and Virginia, Rare in Tennessee, and Vulnerable in Illinois and Kentucky (Walter and Gillett 1998). *Cimicifuga podocarpa*, known from ten states, is rare in Illinois, Maryland, Pennsylvania, and South Carolina (Kartesz 1999).
8. Limited quantitative data are available to support assessments of the status of these species and the impact of wild harvesting on them. The DSA is currently seeking information on the status of these three species of *Cimicifuga* throughout their range and the nature and extent of collection pressures on them for both foreign and domestic medicinals markets. The Plant Conservation Alliance Medicinal Plant Working Group has initiated an inventory and demographic study of *Cimicifuga racemosa* on USDA Forest Service lands near Asheville, North Carolina.
9. The DSA appreciates any information the Parties have to provide regarding these taxa, especially as it pertains to the CITES Appendix II listing criteria.

10. References

- Blumenthal, M. 1999. "Herb Market Levels after Five Years of Boom: 1999 Sales in Mainstream Market Up Only 11% in First Half of 1999 After 55% Increase in 1998," *HerbalGram*, 47, pp.64-65.
- Brevoort, P. 1998. "The Booming U.S. Botanical Market: A New Overview," *HerbalGram*, 44, pp.33-46.
- Foster, S. 1999. "Black Cohosh: *Cimicifuga racemosa*: A Literature Review," *HerbalGram*, 45, pp.36-49.
- Kartesz, J.T. 1999. A Synonymized Checklist and Atlas with Biological Attributes for the Vascular Flora of the United States, Canada, and Greenland. First Edition. In: Kartesz, J.T., and C.A. Meacham. Synthesis of the North American Flora, Version 1.0. North Carolina Botanical Garden, Chapel Hill, NC.
- Mohlenbrock, R. 1981. Flowering Plants, Magnolias to Pitcher Plants. Southern Illinois University Press, Carbondale, IL, p.125.
- Nielsen, E. 2000. Prioritization of Medicinal Species at Risk due to Wild-Collection. The Nature Conservancy. 3 pp. (*unpublished*).
- Robbins, C. 1999. Medicine from U.S. Wildlands: An Assessment of Native Plant Species Harvested in the United States for Medicinal Use and Trade and Evaluation of the Conservation and Management Implications: A report from TRAFFIC North America prepared for The Nature Conservancy. The Nature Conservancy. 28 pp.
- Walter, K.S. and Gillett, H.J., eds. 1998. 1997 IUCN Red List of Threatened Plants. Compiled by the World Conservation Monitoring Centre. IUCN - The World Conservation Union, Gland, Switzerland and Cambridge, UK. Lxiv + 862pp.

Tricholoma magnivelare

11. The North American matsutake or pine mushroom (*Tricholoma magnivelare*) grows in forest habitats from British Columbia to central California. Because the species is similar to a native Japanese mushroom that is highly prized, the demand for matsutakes has risen dramatically in recent years. Matsutakes typically cost hundreds of dollars per pound in Japan. The Pacific Northwest (BC, Washington, and Oregon) supplies about 15-20 percent of the annual Japanese consumption of around 5,000 tons of pine mushrooms, according to the Farm Business Management Information Network for British Columbia

(<http://fbminet.ca/bc/commod/execsum/wildfoodmushrooms.htm>). Matsutake mushrooms collected from the wild in the Pacific Northwest are exported to South Korea to a lesser extent.

12. Official trade data on mushrooms tracks only "Mushrooms & Truffles, Dried, Whole," and does not specifically identify matsutakes. However, according to a survey of mushroom buyers and processors located in Washington, Oregon, and Idaho, approximately 380,000 kilograms of matsutake mushrooms were bought by dealers in Washington, Oregon, and Idaho in 1992 (Schlosser and Blatner 1994). In 1997, an average of 1,600 pickers per day harvested 20 pounds of matsutakes apiece along the Cascade crest, bringing in \$10 to \$13 per pound. A total of 3,733 pickers bought permits from the Winema and Deschutes National Forests (Associated Press 1998). Approximately 392,000 kgs. of *T. magnivelare* were harvested in British Columbia in 1996 (<http://fbminet.ca/bc/commod/execsum/wildfoodmushrooms.htm>).
13. Unsustainable harvesting techniques that involve intensively raking the forest litter to access immature matsutakes break the mycelium mat that connects the mushrooms with trees in a relationship both organisms need to live. Recent studies show that deep-raking for matsutakes can reduce mushroom production. The impact of over harvesting on mushroom populations is still a subject of debate, and the long-term effects on the health of the forest are unclear (Associated Press 1998).
14. In a 1996 General Accounting Office study of the state of the National Parks, mushroom poaching was listed as the most serious threat to Crater Lake National Park (Associated Press 1998). The Crater Lake National Park Strategic Plan includes provisions for mushroom poaching patrols to curb illegal collection activities (<http://www.nps.gov/crla/gpra3.htm>). In 1997, law enforcement officers issued 250 citations to poachers on the Deschutes and Winema National Forests, including 20 in one day in the Mount Thielsen Wilderness (Associated Press 1998).
15. The DSA appreciates any information other Parties have to provide regarding this taxon, especially as it pertains to the CITES Appendix II listing criteria.

16. References

Associated Press. 1998. "National Park Rangers Go in Search of Mushroom Poachers," in *The Oregonian*, Thursday, Oct. 29, 1998.

Schlosser, W.E., and K.A. Blatner. 1994. The Wild Edible Mushroom Industry of Washington, Oregon, and Idaho: A 1992 Survey of Processors. *Western Journal of Applied Forestry*.

***Sclerocactus* spp.¹**

17. A revision of the genus *Sclerocactus* (in a narrow sense) by K. D. Heil & J. M. Porter has been published in *Haseltonia* 2 (1994): 20-46. Some of the local endemics treated in this revision are not (or not explicitly) listed in Appendix I, although some sources consider them as endangered by trade. A considerable international trade in seeds of *Sclerocactus* spp. (and *Pediocactus* spp.) most likely collected from the wild has been documented. The most important trader in Europe can be found on the Internet: Hochstatter, Germany: <http://www.cactus-mall.com/navajo>, <http://members.aol.com/fhnnavajo>. Such a trade could well have a negative impact on restricted populations of these species. The United States is considering actions necessary to ensure that the following species are adequately protected under CITES, by possibly regulating trade in their seeds.
18. ***Sclerocactus brevispinus*** Heil & Porter (1994) has been regarded as part of the Utah population of *S. glaucus* (K. Schum.) L. Benson (1972) until its description as *S. wetlandicus* var. *ilseae* Hochstatter (1993) and its treatment as a separate species by Heil & Porter. However, it is presently included in *S. glaucus* as a synonym, along with *Sclerocactus wetlandicus* Hochstatter (1989), and consequently listed in Appendix I. As it is one of the most restricted, very rare taxa of the genus and in great demand

¹ The information presented here was generously provided by the Management Authority of Switzerland (Dr. Jonas Luthy *in litt.* to Julie Lyke, July 14, 1999).

("new" taxon, dwarf), this listing seems to be justified. It should be ensured that trade under names other than *S. glaucus* (in a broad sense), such as *S. wetlandicus*, *S. wetlandicus* ssp. *ilseae*, and *S. brevispinus*, does not lead to confusion. Trade in seeds, probably collected from the wild, is reported in Germany. Trade in seeds and plants is also reported in the United States.

19. ***Sclerocactus nyensis*** Hochstatter (1992) is a local endemic of Esmeralda and Nye Counties in Nevada. As a "new," dwarf, and rare taxon, it is in quite some demand (it was discovered in the early 1980s). Seeds, probably collected from the wild, are reported in trade in Germany and the United States.
20. ***Sclerocactus cloveriae* ssp. *brackii*** Heil & Porter (1994) is a local endemic of the San Juan River Valley in San Juan County, New Mexico. It is known also under the (invalid) name *S. "gradyi"* and other trade names. As are other dwarf and rare taxa, it is in great demand. Seeds, probably collected from the wild, are in trade in Germany probably as "*Sclerocactus whipplei* subvar. *aztecia* Lybrook miniature form" or "*Sclerocactus whipplei* subvar. *aztecia* San Juan County" and in the United States.
21. ***Sclerocactus blainei*** Welsh & Thorne (1985) has a limited distribution in Nye and Lincoln Counties, Nevada and Iron County, Utah. Especially the small, morphologically distinct, geographically very restricted population from Cathedral Gorge State Park near Panoca, Lincoln County, Nevada, that has been described as *Sclerocactus schlesseri* Heil & Welsh (1986) is in quite high demand and grafted seedlings of unknown origin have been observed in trade. In its habitat, specimens are rare and hard to find (Dr. J. Luthy, *pers. observ.*, 1988). Seeds are also reported in trade in the United States.
22. ***Sclerocactus sileri*** (L. Benson) Heil & Porter (1994) is geographically restricted to the House Rock Valley in Coconino County, Arizona and reported to be rare. This species was once considered an isolated Arizona population of *S. pubispinus*, and has been described as *S. pubispinus* var. *sileri* L. Benson (1969). It is also in trade as *S. "busekii"* or *S. "whipplei* var. *busekii"* and should not be confused with *Pediocactus sileri* = *Utahia sileri*. Seeds, probably collected from the wild, are in trade in Germany as *S. "whipplei* var. *busekii* House Rock Valley 1800 m." and the United States.
23. The DSA appreciates any information other Parties have to provide regarding these taxa, especially as it pertains to the CITES Appendix I listing criteria.