AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION

Other Proposals

A. PROPOSAL

Inclusion of Podophyllum hexandrum in Appendix I of CITES.

B. PROPONENT

The Republic of India.

C. SUPPORTING STATEMENT

1. Taxonomy

11. Class: Dicotyledoneae

12. Order: Ranales

13. Family: Podophyllaceae

14. Species: Podophyllum hexandrum Royle, Illustr. Bot. Himal. p. 54, 1834

15. Common Names: English: Himalalyan mayapple, Indian podophyllum.
French:
Spanish:

16. Code Numbers: Nil

2. Biological Data

21. Distribution: Podophyllum hexandrum is a small herbaceous plant met with in the higher shady temperature forests of the Himalayas from Sikkim to Jammu and Kashmir at an altitude of 2000-3000 m above the sea level. Himachal Pradesh (Salai Hills, Kangra, Kullu and Chamba), Jammu and Kashmir and Uttar Pradesh are the major commercial centres of supply of this species. It is also cultivated on a small scale in the states of Jammu and Kashmir and Himachal Pradesh (Kullu).

It is also reported to exist in Nepal, Bhutan, Afghanistan and China (Tibet).

22. Population: Scarce, but widely distributed and known from few populations each with 10-15 individual plants. Populations are on the decline in India. It is heavily exploited for its medicinal value. Reported to be threatened in Jammu and Kashmir (Kapur, 1983).

23. Habitat: Interior higher ranges in the alpine areas in 3,000-4,000 m alt. amidst rock crevices and in moist shady localities. Sometimes, grows in association with Aconitum heterophyllum and Geranium spp.

3. Trade Data

31. National Utilization: Podophyllum resin is used in medicine as drastic purgative and as a cholagogue. The rhizomes and roots of the plant which constitute the drugs are obtained entirely from wild plants growing throughout Himalayas specially from Central Himalayas. Reports indicate that the domestic market for this species is limited and the collections mostly are done for export. 50-80 tonnes of rhizomes are collected from the wild populations of Western Himalayas annually.

32. Legal International Trade: India has banned the export of specimens of Podophyllum hexandrum or its products since April 1984. Before the ban, 8-15 metric tonnes of the rhizomes and roots of this species used to be exported from India every year to U.S.A. and various European countries. The resin derived from Phodophyllum called "podophyllin" is official both in the British and the United States pharmacopoeias (Chopra, 1958). It is an active purgative. In toxic doses, it produces intensive entheritis which may result in death. The drug is also being used in treatment of cancer.

33. Illegal Trade: Extent unknown but, suspected to exist and reportedly over-collected for trade.

34. Potential Trade Threats:

Live Specimens. Entire live plants.

Parts and derivatives. Rhizomes and roots for resin podophyllin.

4. Protection Status

41. National: Podophyllum hexandrum is included in Part A of Schedule I of the Export (Trade) Control Order 1988-1991 and export of live specimens, roots, rhizomes and other products of this species from India is prohibited. Under the provisions of the Indian Forests Act there are restrictions on the collection of specimens of this species from the Reserved Forests.

42. International: Nil.

43. Additional Protection Needs: It is feared that unregulated international trade will adversely affect the status of this species in nature in the long run. Hence, it should be included in Appendix II of CITES to ensure international protection of it.

5. Information on Similar Species

Indian podophyllum (Podophyllum hexandrum) closely resembles American podophyllum (Podophyllum peltatum) i.e. "May apple" or "mandrake" which grows plentiful in U.S.A. The amount of resin and podophyllum toxin is greater in Indian podophyllum. The drugs may be distinguished chemically by adding a few drops of strong solution of copper acetate to a filtered alcoholic extract prepared from each. Podophyllum peltatum gives a brighter green colour and no brown precipitate which Podophyllum hexandrum gives a brown precipitate (Chopra, 1958). It also resembles Podophyllum sikkimensis whose rhizome also contains resins and alkaloids.

6. Comments from Countries of Origin

Nil.

7. Additional Remarks

Attempts to cultivate the species in suitable habitats on experimental basis showed that the growth of the species is slow and required 4-6 years to provide rhizomes for exploitation.

8. References

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