

TAXACEAE

Taxus wallichiana Zucc. [= *Taxus baccata* L. subsp. *wallichiana* (Zucc.) Pilg.]

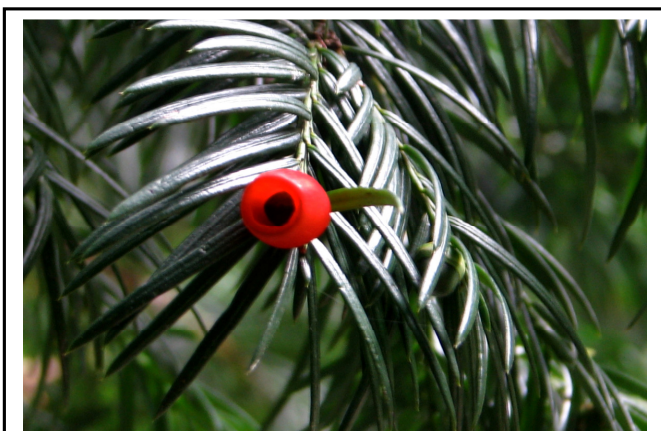
Common English names : Common Yew, Himalayan Yew.

Trade name : Talispatra.

Distribution : INDIA: Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh, Nagaland, Manipur and Meghalaya; AFGHANISTAN; SW CHINA, PAKISTAN, NEPAL; BHUTAN; MYANMAR; VIETNAM; MALAYSIA; INDONESIA and PHILIPPINES.

Habitat : Found in evergreen and coniferous forests, at altitudes between 2300 and 3400 m.

Population status/Cause for RET : Least Concern. It is a slow growing species, lives up to 2000 yrs. It is



Taxus wallichiana Zucc.

Photo Courtesy: P.K. Pusalkar

used for topiary work, also used for making bows. Since the plant growth is very slow, there is a rapid decline in the population and for its indiscriminate felling for leaves and bark used for extraction of the wonder drug 'taxol' highly efficacious in the treatment of breast cancer. Cultivated by ISM, Jogindernagar to Chamba, NGO in Kullu; Bomdila, Senge & Dirang Forest Nurseries, Arunachal Pradesh.

Description : Tall trees, dioecious, up to 6 m tall; stem fluted; bark thin, reddish-brown; branchlets spreading. Leaves linear, 2-3.8 × 0.3 cm, coriaceous, flattened, arranged in two vertical opposite rows, dark grey, glossy green above, paler beneath. Cones axillary,

sessile. Male cone solitary, axillary, sub-globose, bracts empty; stamens 10. Female cone solitary, few imbricate scales around an erect ovule; ovule surrounded at base by membranous cup shaped disc. Disc in fruit bright red, succulent, enlarged, 7-8 mm long. Seeds olive-green.

Fl. : March - May; *Fr.* : September - October.

Medicinal properties and other uses : The leaves of *T. wallichiana* are considered as one of the sources of the raw drug 'Talispatra'. It is credited with emmenagogue, sedative, antiseptic, aphrodisiac and antispasmodic properties. It is employed in the treatment of hysteria, epilepsy and nervousness. The major active compounds extracted from the leaves of this plant are buccatin and Taxol, which are used in the treatment of uterine (ovarian), breast and colon cancers. A medicinal tincture made from the young shoots of this plant has long been used in the treatment of headache, anorexia, rheumatism, cough, asthma, bronchitis, giddiness, feeble and falling pulse, coldness of the extremities and dentifrices. Used as hedge, in topiary work in Europe and for making bows and for archery sports in Britain. In Ladakh the bark is used in place of tea. Fleshy fruits are edible. The wood is strong and elastic and also used for ploughs and axils of carts. Plants are highly poisonous and poisoning results in gastroenteritis, heart and respiratory failure. Sometimes death occurs within five minutes. Taxol extracted from bark and leaves is a potential drug used in the treatment of cancer.

Commercial/Ex-Im data : It is traded in various levels viz., local, regional, national and global markets. The raw drug (leaves) of *T. wallichiana* is collected mainly from forest areas in Himachal Pradesh, Uttarakhand, Darjeeling hills in West Bengal and Sikkim. It is also imported from Nepal and Bhutan. The demand for this raw drug has increased considerably in recent years for the extraction of two major active compounds, buccatin and taxol, which put great pressure on natural resources. The collection of this raw drug from wild sources has been put under restriction and the supply is handled by the Forest department and other authorized agencies in the States where this plant occurs. The major suppliers of this raw materials are Bhesaj Vikas Evam Vikrai Sangh and Kumaon Mandal Vikas Nigam of Uttarakhand located at Haldwani; Forest department of Sikkim based at Tadong (Gangtok). This raw drug is also available with crude drug dealers located at Ramnagar, Rupaidiha (Nepalgunj), Raxaul, Siliguri, Kolkata, Delhi and Mumbai. The current market price of this raw drug (dried leaves of this plant) is Rs. 40 – 50/- per kg. The cost of the 1.7 g of taxol is about Rs. 3 lakhs in the international market. During 2001, 100 kg of dry leaves of *T. wallichiana* has been exported to Italy (CITES permit

no. A 1724). Estimated consumption by the domestic herbal manufacturing units has been assessed at a range between 100 and 200 MT (dry wt.).

Case of offences has been detected at Chennai Sea port on 27.04.2001 for attempting to transport/export 2 kg of items containing *T. wallichiana* to Srinivasan Temple, Singapore which violates CITES, EXIM Policy and Wild Life (Protection) Act, 1972.

Legal : Listed in Appendix II of CITES. Included in Negative List of Exports.

Reference :

Mulliken, T. & P. Crofton (2008). Review of the Status, Harvest, Trade and Management of seven Asian CITES - listed Medicinal and Aromatic Plant species. Pp. 113-135.

Oldfield, S., C. Lusty & A. Mackinven (1998). The World List of Threatened Trees, p. 541.

Selvam, A.B.D. (2012). Pharmacognosy of Negative Listed Plants. Pp. 231-241.