

Panca Ksira Vrksa (Ficus Species Used in Ayurvedic Medicine)

**Dr. Amrit Pal Singh, BAMS; PGDMB; MD (Alternative Medicine),
Herbal Consultant, India –Swift Ltd, Chandigarh.**

Address for correspondence:
Dr Amrit Pal Singh,
House No: 2101 Phase-7,
Mohali-160062.
Email amritpal2101@yahoo.com

Issued 19 December 2006

Abstract

Panca Ksira Vrksa is significant part of *Ayurvedic* pharmacy. Milky-latex of five trees is included in this group. The plants mentioned in this group have diverse pharmacological actions. Basically they are astringent and are useful in treating bleeding. This may be pharmacological basis of inclusion of medicinal plants like *Ficus bengalensis* L. in the treatment of vaginal diseases (*yoni roga* in *Ayurveda*) like menorrhagia and dysfunctional uterine bleeding. In addition they have vulnerary and galactagogue properties as per *Ayurveda* (although it needs scientific validation). Modern investigations have thrown on hypotensive, hypoglycemic and hepatoprotective properties of extracts of these plants. The article reviews *Ayurvedic* dynamics and modern investigations of constituents of *Panca Ksira Vrksa*.

Key Words: *Panca Ksira Vrksa/Ayurveda/ Ficus bengalensis/ Moraceae*

Introduction

Panca Ksira Vrksa is group of five trees belonging to genus *Ficus*. It includes *nyagrodha*, *udumbura*, *asvattha*, *parisa* and *plaksa*. All these plants are used in *Ayurveda* as astringent medicines. *Panca Ksira Vrksa* refers to trees having milky latex. Just as milky latex of above mentioned trees is used in medicine, bark and leaves also find application in medicine.

Scientific names of *Panca Ksira Vrksa*

Nyagrodha = *Ficus bengalensis* L.

Udumbura = *Ficus glomerata* Roxb.

Asvattha = *Ficus religiosa* L.

Parisa = *Ficus arnottiana* (Miq.) Miq.

Plaksa = *Ficus lacor* Buch.-Ham.

All these plants are members of family Moraceae.

Ayurvedic dynamics of *Panca Ksira Vrksa*

Action on *Tridosha* (*Vata*, *Pitta* and *Kapha*): Pacifies *Pitta* and *Kapha*.

Virya (potency): Cold.

Karma (specific action): Galactagogue.

Therapeutics: Diseases of the vagina, ulcer and diseases of blood element. *Panca Ksira Vrksa* promotes union of fractured bones.

***Nyagrodha* (*Ficus bengalensis* L.)**

Syn: *Ficus indica* L.

Ayurvedic synonyms: *Jatala*, *nyagrodha*, *rohina*, *avrohi*, *vitapi*, *rakatphala*, *skandaruha*, *mandali*, *mahachchya*, *yaksavasa*, *yakshataru*, *padrohina*, *nila*, *kshiri*, *shipharuha*, *bahupada* and *vanaspati*.

Family: Moraceae.

English name: Banyan tree.

Hindi name: Bargad.

Location: Native to India, Sri Lanka and Pakistan

Botany: Large evergreen tree with spreading branches, sending down to the ground many aerial roots, which afterwards develop into separate trunks. Leaves coriaceous, 10-20x5-12.5 cm, ovate to elliptic, cordate or rounded base, shining above. Fruit globose, with male, female and gall flowers.

Chemical composition: The stem bark contains β -sitosterol, α -D-glucose and meso- inositol. The leaves contain petunidin di-glycoside and quercetin 3-galactoside. The fruits contain cyanidin rhamnoglucoside and polysaccharides. Three ketones (20-tetratriacontene-2-one, 6-heptatriacontene-10-one, pentatriacontan-5-one and two other compounds, beta-sitosterol-alpha-D-glucose and meso-inositol) have been isolated from the stem bark (Subramanian and Misra, 2005).

Actions: Tonic, sweet and astringent in taste, cold in potency, pacifies *Kapha* and *Pitta*.

Therapeutics: Fever, burning sensation, thirst, ulcer and edema. The milky latex is used externally for the treatment of neuralgia, bruises, toothache, rheumatism and lumbago. Warmed leaves are applied as cataplasm to abscess. The seeds are cooling and tonic.

Phytoactivity: Glycoside of leucopelargonidin isolated from the bark of *Ficus bengalensis* has significant hypoglycemic, hypolipidemic and serum insulin raising effects (Cherian and Augusti, 1993). Flavonoids (leucopelargonin and leucocyanin derivatives and quercetin) isolated from the bark of *Ficus bengalensis* have antiatherogenic, hypocholesterolemic and antioxidant effects (Daniel, *et al.*, 2003).

Parts used: Bark, root-fibers, leaves, seeds and milky juice.

Udumbura (Ficus glomerata Roxb.)

Syn: *Ficus racemosa* L., *Ficus goolereea* Roxb., *Covellia glomerata* (Roxb.) Miq.

Ayurvedic synonyms: *Ksiravrksa*, *hemdugdha*, *sadaphala*, *kalaskanda*, *yagyayogya*, *yagyeya*, *supratistitha*, *sitvalka*, *jantuphala*, *puspasunya*, *pavitraka*, *saumya* and *sitphala*.

Family: Moraceae.

English name: Cluster fig.

Hindi name: Gular.

Location: Throughout India.

Botany: A middle-sized or large tree with smooth, reddish-brown bark. Leaves alternate, ovate or elliptic-lanceolate, glabrous. Flowers unisexual enclosed in receptacles. Fruits on the trunk and larger branches in bunches, yellow orange coloured syconium.

Chemical composition: Cellulose, tannin, and lignin.

Actions: Unripe fruit is astringent in taste. Ripe fruit is sweet in taste and cold in potency.

Therapeutics: Bleeding diathesis, apoplexy, burning sensation and thirst.

Phytoactivity: Hypolipidemic (Agarwal and Chauhan, 1988) and antibacterial: leaf-extract (Mandal, Saha and Pal, 2000).

Parts used: Root, root-bark, leaves fruit, milky-juice and galls.

Asvattha (Ficus religiosa L.)

Ayurvedic synonyms: *Ksiravrksa, hemdugdha, sadaphala, kalaskanda, yagyayogya, yagyeya, supratistitha, sitvalka, jantuphala, puspasunya, pavitraka, saumya* and *sitphala*.

Family: Moraceae.

English name: Pipal tree.

Hindi name: Peepal.

Location: Sub-Himalayan forests, Bengal and Central India.

Botany: A medium sized, glabrous tree. Leaves: 10-15x10-12 cm, ovate-round, entire, coriaceous, shining, apex long tailed. Fruit: receptacles sessile, paired, smooth, depressed, globose, dark purple when ripe.

Chemical composition: Tannin.

Actions: Sweet and astringent in taste, cold in potency, pacifies *Kapha* and *Pitta*.

Therapeutics: Cures blood diseases, burning sensation. Ripe fruit rapidly cures diseases of the vagina. Ripe fruit acts as cardiac tonic and is cold in potency. It cures bleeding diathesis, poisoning, pain, burning sensation, vomiting, edema and anorexia.

Phytoactivity: Hypolipidemic (Agarwal and Chauhan, 1988).

Parts used: Bark, fruit, seeds and leaves.

Parisa (Ficus arnottiana (Miq.) Miq.)

Ayurvedic synonyms: *Kapitana, ksiri, suparsava, kamandalu, sringi, barosakhi, gardbhanda, kapitaka, dridprorha, plavaka, plavanga* and *mahabala*.

Family: Moraceae.

English name:

Hindi name: Paras pipal.

Location: India.

Botany: Tree.

Chemical composition: Tannins.

Actions: Pungent and astringent in taste and cold in potency,

Therapeutics: Blood diseases, apoplexy, vertigo and delirium.

Plaksa (Ficus lacor Buch.-Ham.)

Syn: *Ficus virens* Aiton

Ayurvedic synonyms: *Hasvaplaksa, susita, sitaviryaka, pundra, mahavroha, hasvaparna, pimpri, bhidura* and *manglachaya*.

Family: Moraceae.

Hindi name: Pakar.

Location: India.

Botany: A large spreading evergreen tree low-crowned thick shady tree, 35 to 40 feet high with greenish-grey smooth bark, sending down aerial roots. Leaves are alternate, narrow, and abruptly acuminate. Fruit when ripe are white.

Chemical composition: a amyrin, β amyrin, lupeol, sitosterol, stigmasterol and campesterol.

Actions: Pungent and astringent in taste and cold in potency,

Therapeutics: Blood diseases, apoplexy, vertigo and delirium.

Parts used: Stem bark.

Kakodumbarika (Ficus hispida L.f.)

Syn: *Ficus heterostyla* Merrill; *Ficus oppositifolia* Willd.

Ayurvedic synonyms: *Phalgu*, *malapu* and *citrabhesaja*.

Family: Moraceae.

Hindi name: Daduri.

Location: Throughout India.

Botany: Dioecious tree, 3–18 m high with milky latex, hollow branches; bark grey and peeling off. Leaves opposite, ovate or ovate-oblong, serrate or entire, acuminate. Flowers pyriform and yellow.

Chemical composition: Saponin and tannin.

Actions: Unripe fruit is astringent in taste. Ripe fruit is sweet in taste and cold in potency. Ingestion of the dried unripe fruit and application of powder to the skin produced a lowered minimal erythema dose by irradiation with an ultraviolet lamp (Ansari *et al.*, 1975).

Therapeutics: Bleeding diathesis, apoplexy, burning sensation and thirst.

Phytoactivity: Methanolic leaf-extract: hepatoprotective (Mandal, *et al.*, 2000) and leaf-extract: anti-diarrhoeal (Mandal and Kumar, 2002) and ethanol extract of bark: hypoglycemic (Ghosh, *et al.*, 2004).

Parts used: Bark, fruit and milk.

Note: Some *Ayurvedic* physicians use *sirisa* (*Albizia lebbek* Benth. Fabaceae) and *vetasa* (*Salix caprea* L. Saliaceae) in place of *parisa*.

Kakodumbarika is not constituent of *Panca Ksira Vrksa*. It has been included on account of member of family Moraceae.

References

Agarwal, V., and Chauhan, B.M. 1988. *Plant Foods Hum Nut.* **38(2)**:189-97.

Anonymous. 1998. *Indian Herbal Pharmacopoeia* Volume 1. Worli, Mumbai: Indian Drug Manufacturers Association.

Ansari, Z., Dioivedi, R.M., and Singh, G. 1975. *Int. J. Derm. Venereol.* **41**: XVII. Mandal, S.C. *et al.*, 2000. *Phytother Res.* **14(6)**:457-9.

Cherian, S., and Augusti, K.T. 1993. *Indian J. Exp. Biol.* **31(1)**: 26-29.

Chopra, R.N.; Chopra, I.C.; Handa, K.K.; Kapur, L.D. 1982. *Indigenous Drugs of India*, 2nd ED, M/S U. N. Dhar & Sons Ltd. Calcutta.

Daniel, R.S. *et al.*, 2003. *Indian J Exp Biol.* **41(4)**:296-303.

Ghosh, R. *et al.*, 2004. *Indian J Pharmacol.* **36(4)**: 222-225.

Gogate, V.M. 1982. *Dravyagunavignyana*, Continental prakashan, Pune (1982).

Kapoor, L.D. 1990. *CRC Handbook of Ayurvedic Medicinal Plants*. Boca Raton: CRC Press.

Krishnamurthy, A. 1969. *The Wealth of India vol VIII*. New Delhi, Publication and Information Directorate, Council of Scientific and Industrial Research.

Mandal, S.C.; Kumar, C.K. 2002. *Fitoterapia.* **73(7-8)**:663-7.

Mandal, S.C.; Saha, B.P.; Pal, M. 2000. *Phytother Res.* **14(4)**: 278-280.

Nadkarni. K.M.; Nadkarni, A.K. 1976. *Indian Materia Medica*. Bombay, Popular Prakashan.

Sivarajan, V.V. 1994. *Ayurvedic Drugs and their Plant Sources*. Lebanon, New Hampshire: International Science Publisher.

Subramanian, P.M.; Misra, G.S. 2005. *Pol J Pharmacol Pharm.* **30(4)**: 559-562.

Usher, G. 1974. *A Dictionary of Plants Used by Man*. (Publisher not listed).