



ORIGINAL RESEARCH PAPER

Ayurveda

REVIEW OF A MIRACULOUS AYURVEDIC HERB: VIJAYASARA (PTEROCARPUS MARSUPIUM ROXB.)

KEY WORDS: Asana, Bijak, rejuvenator, hepatoprotective.

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ABSTRACT

Vijayasara is commonly known as Asana or Bijak, Indian kino or Malabar kino, is a traditional medicinal plant from the Fabaceae family. It is widely distributed in India and Sri Lanka. This plant has been used for various medicinal purposes for thousands of years, especially the heartwood and the bark as anti-diabetic remedies. The plant extract contains numerous pharmacological compounds such as Kino tannic acid Pterostilbene marsupsin, which have shown efficacy in treating conditions like cataract and hypertriglyceridemia. Additionally, the extract is used as a cardiac tonic, anti-diarrheal, for skin disorders, as a rejuvenator, and hepatoprotective. The aim of review of article is to study the pharmacological activity, cultivation, occurrence, distribution, botanical description, traditional medicinal uses, and chemical constituents of Vijayasara (*Pterocarpus marsupium* Roxb.)

INTRODUCTION

Plants have been essential to human life, especially before the rise of chemical medicine in the 16th and 17th centuries. About 80% of the world's population in developing countries relies on traditional therapies, like herbal medicine products, for primary healthcare. Ayurveda is widely used as a primary healthcare system, with about 2000 species of plants documented in its literature. *Pterocarpus marsupium* Roxb., also known as Vijayasara, is a plant considered as Rasayana in Ayurveda. These drugs are known to boost immunity and relieve stress.

Ayurvedic medicine uses various parts of its curative and soothing properties. The flowers are used as antipyretics, the heartwood prevents bleeding and rejuvenates, the wood is used for body aches and indigestion and the gum known as Kino is used as an antidiarrheal and for toothache relief. The bruised leaves are applied externally for skin diseases, boils and sores. Water kept in a round piece of wood helps with chest pain, and diabetes. The bark is effective in preventing cataract formation and reducing hyperglycaemia in diabetic rats and the heartwood is useful as hypoglycaemic agent.

Material and Method

Botanical Name: *Pterocarpus marsupium* Roxb.
Family: Fabaceae (Shimbi/Aparajita Kula)

Sanskrit Names: Bijak, Asana, Pitasara, Pitalalak, Sugandi, Sugandha, Karsya, Sarjak, Mahasarja, etc.

- Pitasara: Heartwood is yellow in colour.
- Pitalalak: Heartwood resembles Sala Heartwood.
- Sugandi: Flowers are aromatic.
- Karsya: Due to emaciation property.
- Sugandha: Exudate/heartwood has pleasant odour.

Vernacular Names:

- Hindi: Vijayasara, Beejsara,
- English name: Indian Kino tree
- Tamil name: Vegai, Venga katal
- Telugu Name: Vegisa, Peddagi
- Malayalam: Venga
- Kannada: Banga, Banga mara
- Bengali: Peetashal, Piyasal
- Marathi: Vivala, Bibala
- Gujarati: Biyo
- Oriya: Piashala
- Assami: Aajar
- Urdu: Bijasara

Taxonomical Classification

Table No. 1: Taxonomical Classification

Taxonomical classification	Taxon
Kingdom	Plantae
Phylum	Angiosperm
Class	Eudicots
Order	Fabales
Family	Fabaceae
Genus	Pterocarpus
Specie	P. marsupium

Ayurvedic Properties

Table No. 2: Showing Ayurvedic Properties of Vijayasara

Rasa	Kashaya, Tikta
Guna	Laghu, Ruksha
Virya	Ushna
Vipaka	Katu
Doshaghnata	Kaphapittashamak
Rogaghnata	Madhumeha, Prameha, Sthaulya, Kustha, Udard, Visarp, Shotha, Shwitra, Palitya, Krimi, Raktavikara, Abhighataj Vedana, Bhagna.
Karma	Madhumehahara, Mutrasanghrahniya, Kusthaghna, Keshya, Stambhana, Sandhaiya, Rasayana, Raktapittashamak, Krimighna

Morphology

It is a medium to large deciduous tree that can grow up to 30 meters in height.

- **Leaves:** compound and alternate, measuring 15-23 cm long, with 5-7 leaflets that are oblong, glabrous on both surfaces, and shiny above. The petioles are smooth and wavy, measuring 5-6 inches long.
- **Stem:** Stout and crooked with dark brown or grey bark, which has shallow cracks and exfoliates in thin flakes.
- **Flowers:** Numerous white flowers with a yellow tinge, arranged in short lateral and terminal racemes. The calyx is tubular-campanulate with 5 blunt teeth, and the corolla is papilionaceous with nearly equal petals.
- **Stamens:** 10 in number, with filaments and a staminal tube that is often slit on both sides.
- **Pistil:** Small, stipulate, and hairy, with a pointed style.
- **Pods:** Indehiscent, stalked, greatly compressed, and orbicular, measuring about 1/2 inch wide, with a parchment-like wing.
- **Seeds:** Solitary and kidney-shaped, or two separated by a strong partition, without endosperm.
- Flowering and Fruiting time Autumn winter season.

Distribution

It is found in western Peninsula and Southern India, including

regions such as Tamil Nadu and Bihar, as well as in Ceylon (Sri Lanka). It is especially prevalent in central and southern part of India.

Chemical Constituents

Asana Contains a variety of chemical constituents, including: Kino tannic acid found in gum kino. B-eudesmol, marsupol, carpusin, propterol, marsupinol, propterol-B (a flavone). New sesquiterpene alcohol: selin-4(15)-en-13, 11-diols. Pterostilbene, a new compound: marsupsin. A new chalcone derivative: pseudobaptigenin. Liquiritigenin and its iso derivatives. Other related derivatives. A non-glucosidal tannin, kinoin and kino-red. Protocatechuic acid. These compounds contribute to the plant's medicinal properties and potential therapeutic applications.

Systemic Action

It exhibits various systemic actions through external application and internal administration.

External Application:

- Anti-inflammatory and fracture healing properties
- Promote hair growth.
- Leaf paste: Effective in skin disorder like urticaria and leukoderma
- Oil: beneficial for premature greying of hair.
- Gum: can be chewed to relief toothache.

Internal Administration:

- Digestive system: Absorbent and anthelmintic properties; bark and gum are indicated for diarrhoea; bark decoction and powder are beneficial in helminthiasis.
- Circulatory system: indicated for bleeding disorders, Amavata, Vatarakta, Sandhivata, and associated inflammatory conditions.
- Reproductive system treats disease affecting female genitalia (Yoni Doshahara)
- Excretory system: heartwood decoction indicated for diabetes; reduces urine output; decoction with milk and sugar aids in fast healing of fractures and wounds; beneficial in obesity and associated conditions due to its scraping action; rejuvenate effect on the body.
- Twak: indicated for urticaria and erysipelas.

Classical Categorization

- ❖ Charak Samhita
- ❖ Sushrut Samhita
- ❖ Chakradatta
- ❖ Raja Nighantu
- ❖ Bhavaprakash Nighantu
- ❖ Kaiyadeva Nighantu
- ❖ Priya Nighantu
- ❖ Dhanvantri Nighantu
- ❖ Shankar Nighantu

Part Used: Heartwood, gum

Dosage

Powder: 3-6gms, gum: 1-3gms, decoction: 50-100ml.

Substitutes and Adulterants

Terminalia tomentosa is sometimes used as a substitute for Pterocarpus marsupium in certain region. Additionally, the dried juice from the trunk of Butea monosperma, known as a substitute and adulterant for Indian Kino.

Propagation and Cultivation:

Pterocarpus marsupium prefers soil with a fair proportion of sand, although it can also thrive in red loam with some clay. The natural habitat receives rainfall between 75 to 200 cm. the tree is often planted as a shade tree in coffee estates in South India.

Natural reproduction occurs seeds with early seedling

development benefiting from sun shelter and loose, weed free soil. For artificial reproduction, seeds are used. Whole pods are sown, and germination can be accelerated by cutting across the end soaking them in water for a few days before sowing. Stump planting of one year old nursery plants give good results. Seedling can also be raised in baskets for planting out, and direct sowing is also successful.

CONCLUSION

Herbal medicines have been used for thousands of years as a natural remedy. Pterocarpus marsupium is a significant plant in Ayurvedic medicine known for its wide range of pharmacological activities and multifaceted medicinal properties.

The plant is used commercially in pharmaceutical preparation, and there is growing emphasis on developing modern drug from P. marsupium due to its non-toxic herbal properties. The literature reviews reveals that Pterocarpus marsupium can be used to treat various pharmacological disorders. However more research is needed to fully understand its active principles and mechanisms of action to maximise its potential.

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