



## SHATAVARI (ASPARAGUS RACEMOSUS): AN AYURVEDIC ASPECT REVIEW

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### ABSTRACT

Ayurveda is an ancient and the oldest medical system in the world. Dating back almost 5000 years, it is also considered to be an ancient science of healing that enhances longevity. Herbal medicines are considered to be safe and efficient and have lesser side effects which made it to increase its consumption all over the world. It has been found that the consumption of herbal medicine has been increased by 80% all over the world. *Asparagus racemosus* is commonly called as Shatavari is one of the important drug in Ayurveda. Roots are the active part of the plant and is found to have many pharmacological activities like Antidepressant activity, Hepato protective Activity, Anti-diarrheal Activity, Antitussive activity. This article is intended to provide the complete information about the drug Shatavari.

**KEYWORDS:** *Asparagus racemosus*, drug Shatavari, Anti depressant activity, anti diarrheal.

### INTRODUCTION

Since civilization several herbal drugs are used by the mankind. Shatavari is one among them and it is the most important drug which is widely used in Ayurveda from ancient times.

Atharvanaveda mentioned about manifold actions of the drug mentioned and highlighted by its synonyms like Shatavirya and Dashavirya. Shatavari means “she who possesses a hundred husbands” indicates that this herb is highly effective.

### **Shatavari**

**Botanical name:** *Asparagus racemosus*.

**Asparagus:** derived from – A intestine, sparano= in allusion to strong prickles.

**Racemosus:** having an inflorescence with along undivided axis.

It belongs to Liliaceae (Asparagaceae) family. The genus *Asparagus* includes about 300 species around the world. The genus is considered to be medicinally important because of the presence of steroidal saponins and sapogenins in various parts of the plant. Out of the 22 species of *Asparagus* recorded in India and is widely distributed across the globe and its distribution ranges from tropical Africa, Java, Australia, Sri Lanka, Southern parts. of China and India, but it is mainly cultivated in India.

Charaka has included this drug in balya and vayasthapana varga. Susrutha included in vidharigandhadi and kantaka panchamula and acharya kashyapa has dedicated the whole chapter on shathavari in kalpasthana with the title shatapushpa shatavari adhyaya.

It is an effective antispasmodic, appetizer, stomach tonic, aphrodisiac, galactagogue, astringent, antidiarrhoeal, antidysenteric, laxative, anticancer, anti-inflammatory, blood purifier, antitubercular, antiepileptic and also in night blindness, kidney problems and in throat complaints.

### **MATERIAL AND METHODS**

References related to proposed title are collected from classical texts of ayurveda. Various publications, internet, books, research papers and proceedings of seminars related to the topic are collected.

#### **Botanical profile of the plant**

**Kingdom:** Plantae

**Order:** Asparagales

**Family:** Asparagaceae

**Sub family:** Asparagoideae

**Genus:** *Asparagus*

**Species:** *Asparagus racemosus* L

### Synonyms

- Adharakantaka : Presence of recurved spines.
- Abhiru : Free from external invasion
- Durmara : It is a climber not easily perishable
- Madhabhanjani : It destroys the effect of alcohol.
- Rishyaprokta : It is praised by many saint
- Swadurasa : It has madhura rasa.
- Atirasa : Its tuberous roots contain more juice
- Sukshmapathra : It has thin linear leaves
- Shataveerya : Efficient in many disorders and having manifold action.
- Shatapadi : It has hundreds of roots which are long and tuberous
- Vari : Regarded as one of the best drug
- Phanijihwaparni : Leaves are like those of snake tongue.
- Pivari : Stulakanda or succulent tuberous stout roots.
- Narayani : That is of sowmya in nature due to predominance of aapmahabhutha
- Dvipishathru : Antagonistic to thikshna.

### Classification according to different nighantukaras

Nighantukar	Varga
1. Bavaprakashanighantu	:- Guduchadivarga
2. Raja nighantu	:- Shatavhadivarga
3. Kaiyadeva nighantu	:- Oushadhivarga
4. Dhanvantharinighantu	:- Guduchyadhivarga
5. Madanapalanighantu	:- Abhayadhivarga

### Morphological description

**Habitat:** *A. racemosus* is an important species found in tropical and subtropical regions in India.

**Roots:** Roots are tuberous, finger-like and clustered ranging from 30 cm to 1 m in length, smooth and tapering at both ends.



**Fig. 1.**

**Stem and Leaves:** *A. racemosus* is a thorny, climbing undershrub with woody, whitish grey or brown coloured with small spines. Stems are delicate and brittle. The leaves of the plant are reduced to scales and spine called cladodes.

**Flower and Fruit:** The inflorescence has tiny white flowers, in small spikes. (Figure 2).

**Flower**



**Fig. 2.**

Fruits are globular, or vaguely three lobbed, pulpy berries, purplish black when ripe, seeds with hard and brittle testa. (Figure 3)

**Fruit**



**Fig. 3.**

**Flowering and fruiting**

The plant flowers during February–March leaving a mild fragrance in its surrounding and by the end of April, fruits can be seen with attractive red berries.

According to Nighantukara's it is of two varieties, those are Shatavari and Maha Shatavari.

**Phytochemicals**

**Dried Root:** Sitosterol, Saponins A4, A5, A6, A7 and A8. Structure of Saponin A4 was assigned as sarasapogenin -3 (d – glucopyranosyl 1 (1 4) D – glucopyranosyl (1 4) (L- rhamno – phranosyl (1 2) D - glucopyranside).

**Flowers and fruits:** Sarasapogenin : glycorides of quercetin, rutin and hyperoside.

**Ripe fruits:** Cyanide - 3- galactoside and cyaniding – 3- glucorhamnoside.

**Roots:** Steroids, Sapogenins.

**Flowers:** Free quercetin twospirostonic and furostanolic saponins and sapogenin.

**Traditional uses in different systems of herbal medicine**

The plant is further used with *Azardichta indica* by the tribal communities for controlling blood sugar level. In eastern part of India the plant has attained religious virtue and the people believe that the plant will protect them from evil spirits.

**Ayurvedic properties**

Rasa :- Madhur, Tikta

Guna :- Guru, Snigdha

Virya :- Sheeta

Vipaaka :- Madhur

**Doshagnata:** Vata pittagna

**Rogagnata**

Kshayapaha, Grahani, Gulma, Shotha, Agnimandhya, Rakthavikara, Rakthapitta, Arshas, Artavakasaya.

**Karmas**

Rasayana, Medhya, Pustivardhaka, Netrya, Vrisya, Balya, Atisarajit, Stanyavardhaka, Sukravardhaka, Shotahara.

**Formulations and preparations**

Shatavari ghrita, Shatavari Taila, Shatavari Modaka, Shatavari Mandura, Shatavaryadi Kwatha, Mahanarayana Taila, Shatavari Chinnarohadi Kashaya, hatavaryadi Churna, Shatavari Guda.

**Part used:** Tuberous root

**Dose**

Swarasa 10 -20 ml

Churna -3-6 gm

Kashaya -50-100ml

**Therapeutic uses**

1. Stanyavardhana: Paste is prepared by triturating with milk and taken along with milk.
2. Rasayana: Ghee prepared from the paste and decoction of taken with the sugar acts as Rasayana.
3. Swarabheda: Powder of Shatavaritaken with honey and ghee is useful in Swarabheda.

**Benefits of shatavari in various phases of female health****Menstrual disorders**

Kashyap mentioned the use of Shatavari in curing amenorrhoea, delayed menarche, excessive and heavy menstruation (menorrhagia, metrorrhagia, meno-metrorrhagia), hypomenorrhoea, having improper menstrual flow. Vata dosha is responsible for all types of yoni vyapad (gynecological disorders). The “guru” and “snigdha” guna of Shtatavari works well against Vata. Hence, these imply the utility of Shatavari in all sorts of gynecological disorders.

**Infertility and recurrent abortion**

Shatavari is known to play a good role in treating infertility (bandhyatwa) and recurrent abortion (garbhasrava and garbhapata). Kashyap mentioned that Shatavari is congenial and brings menstruation and progeny. Sushruta and Kashyap, both have mentioned that Shatavari has the quality of vrishya (aphrodisiac) which brings about vitality and hence helps in attaining conception

**Menopause**

Decrease in estrogen levels is certainly the most prominent reason for menopause dry vagina, urinary problems etc. related symptoms like hot flushes, insomnia, depression, irritability, dry



vagina syndromes. Kashyap have described the benefits of Shatavari in menopause, dry vagina, polyuria. It also possess rasayana property which is effective in restoring health and act as a rejuvenative. Shatavari is a hormone balancing herb along with potent anti-stress activity. system from inside to relieve menopause. Due to its guru and snigdha nature, it nourishes the female reproductive symptoms. Shatavari is a phyto-estrogen rich herb.

### Substitutes and adulterants

In Indian markets apart from *Asparagus racemosus*, the roots of *Asparagus sarmentosus* Linn., *Asparagus curillus* Ham., *Asparagus filicinus* Ham. and *Asparagus sprengeri* Regel are also being probably sold in the name of Shatavari.<sup>[13]</sup>

Acharyas have mentioned the substitute drugs for Shathavari in case its non –availability

- Vidari or Musuli (Figure 4)
- Svethamusuli (Figure 5)



Vidari (Figure 4) Svethamusali (Figure 5) Shatavari (Figure 6) Shatavari is also used as substitute for several drugs like.

- Meda and Mahameda –Shatavari moola (Bhavaprakasha)
- Kakoli and Ksheerakakoli –Shatavari moola (kayadeva)

### Pharmacological activity

**Antioxidant property:** Crude extract and purified aqueous fraction of *A. racemosus* have been demonstrated for its antioxidant effect.<sup>[14]</sup> The activity was tested in rat liver cell mitochondrial membrane damage induced by generated free radicals. The lipid peroxidation

induced was evaluated by the formation of thiobarbituric acid reactive substances (TBARS) and lipid hydroperoxides (LOOH).<sup>[15]</sup>

**Antidepressant activity:** Antidepressant activity was evaluated in mice using tail suspension test (TST) and forced swim test (FST). The methanolic extract decreased immobility periods significantly in TST, FST, which indicated significant antidepressant activity underlining the fact that the efficiency of the extracts was comparable to fluoxetine and imipramine used as reference drugs in the study.<sup>[16]</sup>

**Hepato protective Activity:** The hepato-protective activity of *A. racemosus* was evaluated against isoniazid-induced hepatotoxicity in male albino rats. Hepatoprotective activity was resultant of inhibited production of free radicals, acting as a scavenger and reducing the free radical generation via inhibition of hepatic CYP2E1 activity.<sup>[17,18]</sup>

#### **Anti-diarrheal activity**

The extracts of *A. racemosus* were evaluated for its antidiarrheal activity in castor oil-induced diarrhoeal rats. The ethanolic and aqueous extracts have been shown to possess inhibitory activity against gastrointestinal tract motility after charcoal meal administration and PGE2 induced enteropooling, taking loperamide as a reference drug.<sup>[19]</sup>

**Anti-cancer property:** The root extract was shown to have a protective effect in the mammary cell carcinoma. Steroidal components of the *A. racemosus* were investigated for the apoptotic activity and inferred to have the capacity to tumor cell death.<sup>[20,21]</sup>

**Antitussive activity:** The methanol extract of *A. racemosus* roots showed significant antitussive activity on sulphur dioxide induced cough in mice with the cough inhibition being comparable to that of 10–20 mg/kg of codeine phosphate.<sup>[22]</sup>

#### **CONCLUSION**

Shatavari is one of the potential ayurvedic herb with multiple beneficial actions. All the Ayurvedic classical texts gives references regarding the multiple actions of the herb. An attempt is made in this article to understand the herb in all the dimension. But yet many studies has to be conducted to understand the complete potential of the drug in various conditions. Therefore understanding the shatavari according to classical and modern way is very essential in this present era to prove the multi biological activity of the drug.



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