



SATAVARI (ASPARAGUS RACEMOSUS WILLD), A WORLDWIDE USED PLANT AND ITS POTENTIALITY-AN AYURVEDIC REVIEW WITH CONTEMPORARY VIEW

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Article Received on
20 November 2018,

Revised on 10 Dec. 2018,
Accepted on 31 Dec. 2018,

DOI: 10.20959/wjpps20191-13015

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ABSTRACT

Asparagus racemosus is commonly called as *Shatavari*, is one of the important herbs describe in *Ayurveda*. *Shatavari* means hundred rooted herbs or who possesses a hundred husbands or acceptable to many. It is considered both a general tonic and a female reproductive tonic. *Shatavari* may be translated as “100 spouses, implying its ability to increase fertility and vitality. *A. racemosus* is a well known *Ayurvedic rasayana* (rejuvenating effect) which prevent ageing, increase longevity, impart immunity and improve mental function, vigor and add vitality to the body. It is commonly used for heart burn, ulcer, neuropathies, as a galactogauge. Its chemical constituents effective against a large number of ailments. This review aims at providing comprehensive information about *Shatavari* and its therapeutically

uses found in *Ayurvedic* text as well as recent research.

KEYWORDS: Satavari, *Asparagus racemosus*, *Ayurveda*. *Rasayana*.

INTRODUCTION

Shatavari is one of the potential herbs with multiple beneficial actions. All the *Ayurvedic* classical texts give references regarding the multiple actions of the herb. It is used as a herbal medicine and often as a vegetable in many parts of the world from long ago. *Shatavari* means hundred rooted herb or curer of a hundred diseases or who possesses a hundred husbands or

acceptable to many. It is considered both a general tonic and a female reproductive tonic. *Shatavari* may be translated as “100 spouses”, implying its ability to increase fertility and vitality. In *Ayurveda*, this amazing herb is known as the “Queen of herbs”, because it promotes love and devotion.^[1] *Achrya Charaka* has included this drug in *balya* and *vayasthapana varga*.^[2] *Susrutha* included in *vidharigandhadi* and *kantaka panchamula*,^[3] and *acharya kashyapa* has dedicated the whole chapter on *shathavari* in *kalpasthana* with the title *shatapushpa shatavari adhyaya*.^[4]

Common name: Satavari.

Botanical name: *Asparagus racemosus willd.*^[5]

Taxonomical Classification:^[5]

- Kingdom – Plantae
- Division – Phenerogames
- Subdivision – Angiosperm
- Class – Monocotyledom
- Series – Coronaries
- Natural order – *liliaceae*

Family - *Liliaceae*

- Genus – *Asparagus.*
- Species – *Recemosus Willd.*

Distribution: Throughout India, tropical and subtropical parts including Sri Lanka, Andaman and ascending in the Himalaya up to an altitude of 1500mm.^[6]

Botanical description: A tall climbing under shrub with annuls woody stems. Spines 5-13 mm long. Cladodes 1.3-2.5cm long, in tufts 2-6, curved, Flowers-white, fragrant, in solitary or fascicled, simple or branched racemes 2.5-5cm long. Fruit-berry, 5-6mm diameter, red.^[7]

Flowering and fruit time: Autumn.^[7]

Parts of use: Tuberous Root.^[7]

Chemical constituents: Satavari contain a large number of phytochemicals, some of them are mentioned below- Sarsapogenine, Saponins A4-A7, Flavanoids- glycosides of quercetin,

rutine, hyperosides in flower and fruits, diosgenin, quercetin 3-glucuronide in leaves, Sitosterol and stigmasterol along with their glucosides, essential fatty acids-gamma linoleimic acids, quercetin 3- glucourbnides, two spirostanolic and furostanolic saponins and sapogenin, Racemofuran, saponin, viz, shatavarin I to IV, Polycyclic alkaloid, asparagamine A and disaccharide, polysaccharides, mucilage in root, Trace minerals are found in roots-zinc, manganese, copper, cobalt, calcium, magnesium, potassium, selenium. etc.^[8&9]

Toxicity: *Satavari* showed diuretic activity at a 3200mg/kg dose without acute toxicity.^[10]

Satavari is a relevant source of occupational allergy inducing allergic contact dermatitis and also IgE mediated reactions.^[11]

Recent research study on pharmacological activity^[12]

1. Anti oxidant activity-Aqueous extract prevent membrane damage induced by free radical generated by gamma radiation in rat mitochondria.
2. Galactagogue activity: It increases in the weight of mammary lobulo alveolar tissue and the milk yield due an increase in prolactin.
3. Adaptogenic activity: Prolonged use of Shatavari Shows an increase in lung weight with no change in the microscopic structure. It also reduced adrenocortical activity and plasma cortisol in experimental animal.
4. Effect on endocrinal system: It is known to produce anti oxytotic, anti ADH, estrogenic activity.
5. Antibacterial activity- Methanol extract of *A. racemosus* shows in vitro Antibacterial activity against *E.coli*, *Shigella dysenteriae*, *Salmonella typhi*.
6. Effect on gastro intestinal system: It is used as anti spasmodic, appetizer, anti diarrhea, ulcero protective.
7. Effect on urinary system: Its root extract are used as irrigation therapy for inflammatory disease of urinary tract and for prevention of kidney stones. It also effective in prostatic hyperplasia.
8. Anti malignant activity: Shoot saponin constituent have been found to have some activity against human leukemia HL-60 cell and inhibit S-180 leukemia cells. It also increases excess production of TNF alpha.
9. Teratogenicity of *Asparagus racemosus* Willd. Root - Methanolic extract of *A. racemosus* roots (ARM; 100 mg/kg/day for 60 days) showed Teratogenicity in terms of increased resorption of fetuses, gross malformations e.g. swelling in legs and intrauterine growth

retardation with a small placental size in Charles Foster rats. Pups born to mother exposed to ARM for full duration of gestation showed evidence of higher rate of resorption and therefore smaller litter size.^[13]

Contraindication: Commission-E of Landon have contraindicated Asparagus in inflammatory diseases.^[14]

Review from Ayurvedic Texts

Vernacular Name^[15]

Sanskrit	- <i>Shatavari</i>
English	- <i>Wild Asparagus</i>
Bengali	- <i>Satamuli</i> .
Hindi	- <i>Satavar, Satamuli</i>
Assam	- <i>Hatanuli</i> .
Gujarathi	- <i>Satavar</i> .
Marathi	- <i>Asvel, Shatavar</i>
Tamil	- <i>Kilavari, Shatamulam</i>
Telegu	- <i>Pilli, Pichchhur</i>
Kanada	- <i>Ashadhi</i>
Punjabi	- <i>Satavari</i>
Malayam	- <i>Sahali, Chatwali</i>
Orrya	- <i>Chotaru</i>
Urdu	- <i>Shatavara</i>

Position in Brihatreyee

- i) **Charak Samhita:** Acharya charaka has described *Satavari* in different *ganas* as *Vayasthapana, Prajasthapana, Garbgasthapana, Madhuraskanda, Mulasava, Sakavarga* etc.^[16]
- ii) **Sushruta Samhita:** Acharya Sushruta has described *Satavari* in *Varunadi gana* and *Vidarigandhadi gana*.^[17] According to action and therapeutic uses of *Satavari, Sushruta* has described as a *pitta samsamana varga* and *vata samsamana varga* also.^[18]
- iii) **Acharya Vagbhata:** According to *Astanga Hridaya* and *Astanga samgraha* *Satavari* is stated as *pitta Samsamana*.^[19] as well as it includes under *varunadi gana* also.^[20]

Position in Nighantu

- *Bhavaprakash Nighantu* : *Guduchyadi varga*.^[21]
- *Dhanwantari Nighantu* : *Guduchyadi varga*.^[22]
- *Kaiyadev Nighantu* : *Ausadhi Varga*.^[23]
- *Raj Nighantu* : *Shatahadi Varga*.^[24]
- *Madanpal Nighantu* : *Abhayadi Varga*.^[25]
- *Saligram Nighantu* : *Guduchadi Varga*.^[26]
- *Priya Nighantu* : *Pippalyadi Varga*.^[27]

Synonymes:^[28]

- According to the general appearance of the plant-*Sitavar, Swetavar, kesari, Indivari, Urdhvakanthi*
- According to character of Seed-*Babru*
- According to character of root- *Satamula, Shasramula, Pivari, Kesi, Jatila, Gatamula*
- According to Habitat- *Dwipika, Visvasa*
- According to Properties -*Surasa, Atirasa, Madhura, Suvirya, Satavirya, Sahasra virya, Maha virya*
- According to Vrisya property- *Vrisya, Parsini, Kasini, Bahuputrid, Bahusuta, Tarangini*
- According to Rasayan property-*Pivara, Mahati, Dipika*
- According to Medhya Rasayana-*Medhakrut*
- According to Medicinal value- *Vari, Abhiru, Risagata, Kancana karini, Abhiruja*

Properties and action (guna –karma):^[29]

Guna – *Guru, Snigdha*

Rasa – *Madhur, tikta*

Virya– *Sheeta*

Vipaka– *Madhur*

Dosa-Karma – *Vata and pitta samak.*

Probha: Not specify.

Different Varieties:^[30,31,32,33] - *Satavari* are of 2 type

Shatavari.

Mahashatavari.

Nighantu quote two variety viz. *Satavari* & *Mahasatavari*. *A. Racemosus* and *A. Sarmentosa* linn are their botanical sources respectively. However, some identify *A. adsendens* as *Mahasatavari*. But this plant is originally considered as *sveta musli*.

Dosage: Dose depend on form of use and mode of use, patient age and also disease conditions. Such as - Powder 6gm; Fresh juice-(10-20ml); Decoction-50-100ml. of the drug.^[34]

Table 1: Properties of *Shatavari* in various *nighantu*.^[21,22,23,24,25,26,27]

Properties		BPN	DN	KN	MPN	RN	SN	PN
Rasa	<i>Madhur</i>	+	+	+	+	+	+	+
	<i>Tikta</i>	+	+	+	-	-	+	+
Guna	<i>Snigdha</i>	+	-	-	+	-	+	-
	<i>Guru</i>	+	-	+	+	-	-	-
Virya	<i>Sita</i>	+	+	+	+	-	-	+
Vipaka	<i>Madhur</i>	-	-	-	-	+	-	-

Table 2: Dose karma of *shatavari* in various *nighantu*.^[21,22,23,24,25,26,27]

Dose karma	BPN	DN	KN	MPN	RN	SN	PN
<i>Pacify vata</i>	+	-	-	-	-	-	-
<i>Vatapitta hara</i>	-	+	-	-	-	-	-
<i>Vatapittasrajita</i>	-	-	+	-	-	-	-
<i>Pittajita, kaphavatahora</i>	-	-	-	-	+	+	-
<i>Tridoshaghana</i>	-	-	-	+	-	-	-
<i>Vatapittapaham</i>	-	-	-	-	-	-	+

Table 3: Therapeutic use of *Shatavari* in various *nighantu*.^[21,22,23,24,25,26,27]

Therapeutic Use	BPN	DN	KN	MPN	RN	SN	PN
1. <i>Netra</i>	+	-	+	-	-	+	-
2. <i>Gulma</i>	+	-	+	-	-	+	-
3. <i>Soth</i>	+	-	+	+	-	+	-
4. <i>Ashraghna</i>	+	+	+	+	-	+	-
5. <i>Rasayana</i>	+	+	-	+	-	+	+
6. <i>Vajikaran</i>	-	+	-	-	-	-	-
7. <i>Pittajasulahara</i>	-	-	-	-	+	-	+
8. <i>Atisara</i>	+	-	+	+	+	+	-

Table 4: Karma of Shatavari in various nighantu.^[21,22,23,24,25,26,27]

KARMA	BPN	DN	KN	MPN	RN	SN	PN
<i>Madhya</i>	+	-	+	-	-	+	-
<i>Agni</i>	+	-	+	-	-	+	-
<i>Pusthikara</i>	+	-	+	-	-	+	-
<i>Hridya</i>	+	-	-	-	-	-	-
<i>Vrishya</i>	+	+	-	-	+	-	-
<i>Rasayana</i>	+	+	+	+	+	+	+
<i>Sukrasthyanakara</i>	+	-	+	+	-	+	+
<i>Balya</i>	+	-	+	+	-	+	+
<i>Kshyajita</i>	-	+	-	-	-	-	-
<i>Vatagna</i>	-	-	-	-	+	+	-

Therapeutic administration:

External use- Satavari juice use as a Nasya (nasal drop) in Raktapitta. (Bleeding disorder).^[35]

Internal use

Powder of Satavari along with honey and ghee is very useful in Swarabheda (hoarseness of voice).^[36]

Satavari paste with milk use as a Stanyavardhaka (galactagogue).^[37]

Shatavari Gokshura, chatsuparni cooked with milk and use for Painfull Haematuria,^[38]

Satavari ghrita along with sugar act as a Rasayana (Rejuvenative).^[39]

Formulation^[40]

1. Shatavari ghrita- Vatarakta
2. Shatavari taila- Vatarakta
3. Shatavari mondoor- Vataja sula, pittaja sula.
4. Shatavari modaka- Vatavyadhi, dourbalya.
5. Shatavaryadi kwath- Raktapitta, daha.
6. Shatavari guda- Murccha, Raktapitta.
7. Shatavaryadi churna- Sukrakhaya.
8. Shatavari chinnaruhadi kasaya- Vatarakta, Raktapitta.
9. Mahanarayana taila- Ardit, Manyasthambha.
10. Brihat Shatavari ghrita – Pittaja Yonivyapada.
11. Shatavaryadi grita-Rakta pitta.

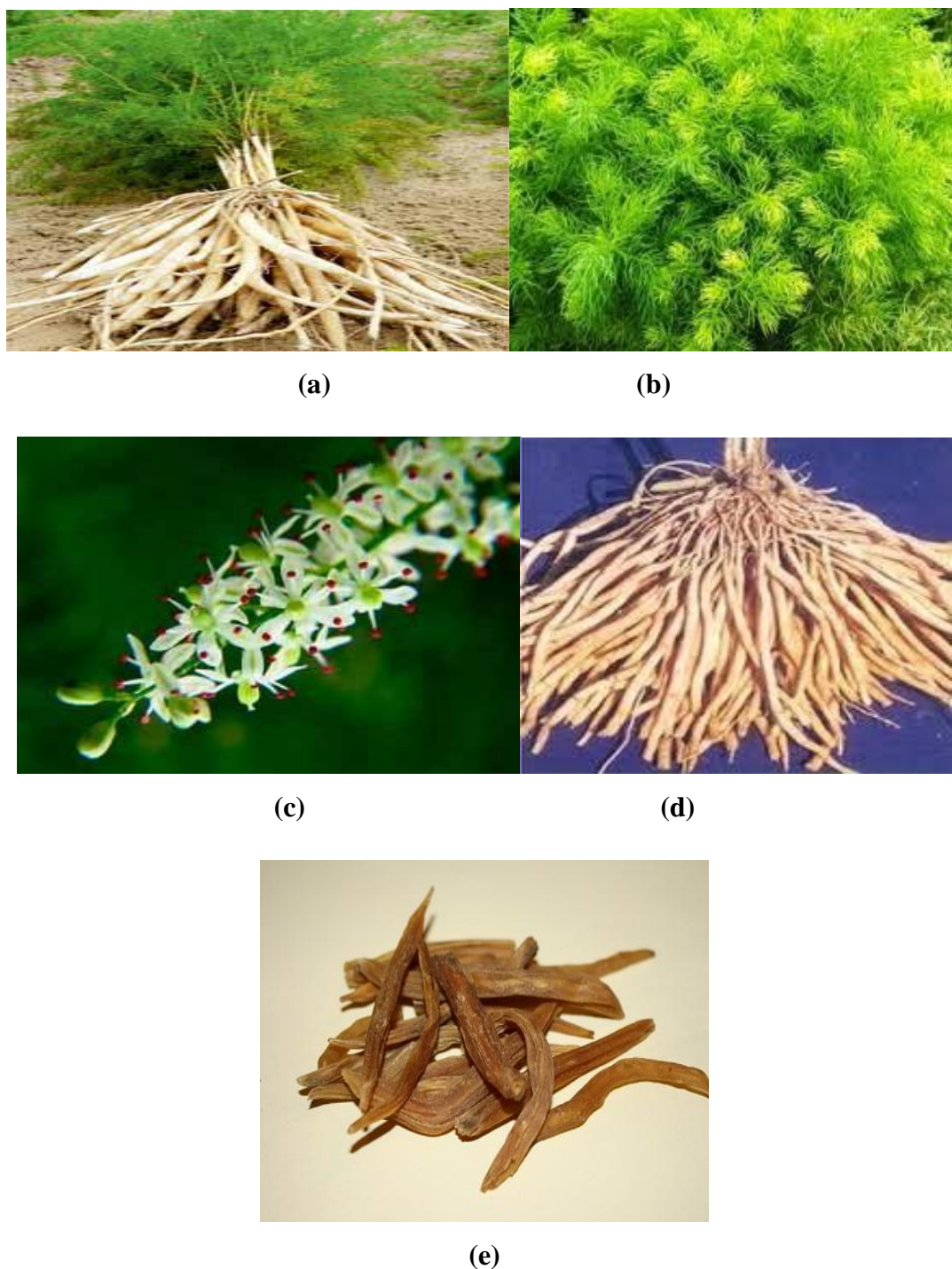


Figure 1: Showing: *Asparagus racemosus*. (a) Whole Plant of *A. racemosus*. (b) Leaves (c) Flower (d) Root (e) Dry root.

DISCUSSION AND CONCLUSION

Throughout the millennia *Asparagus racemosus* has evolved queen of the herbs having multiple phytochemical effective against a large number of ailments. The plant finds considerable importance in the traditional herbs based remedies the world wide. At present era it is popular as an Adaptogen. Though it is termed as female reproductive tonic but it also

used in different ailments in male. Asparagus should be used in proper caution during pregnancy because it shows teratogenic activity. Not only that, it also produced dose dependent diuretic activity and IgE mediated allergic reaction. Numerous chemical compounds and uses are listed for this plant but it is near to impossible to explain its activity at a time. Detailed study of its various compound and catalogued this plant properly is necessary for people awareness.

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