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Review Article

A SHORT REVIEW ON *ASTAVARGA* PLANTS- LOSING THEIR EXISTENCE

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ABSTRACT

Ayurveda is a rich source of Indian traditional knowledge governing the rules and regulations of living a healthy and long life. It preaches a disciplined way of good eating habits, physical activities and following their regular routine. Any indiscipline in observing these practices would lead to various health disorders and exhibit symptoms accordingly. In ancient times, *Rishis* and traditional healers/ *Vaidyas* thought about some plants as gifts of God which possessed divine power in their various parts and could treat any type of symptomatic disorders. *Astavarga* is a formulation developed from eight different plants by *Ashwani Kumars* to treat the frail and emaciated body of *Rishi Chyavan*. This formulation created the magic of rejuvenating *Chyavan* and since then is referred to as still famous *Chyavanprash*. These eight plants were selected from different ecological niches of Himalayas. Over a period of time, the availability of some of these eight plants has become scarce and manufacturers of his formulation are using substitutes which put a question mark on the efficacy of this wonder drug. An effort has been made in this article made to gather information from different sources about these plants and establish their current status which throws light on the measures to be taken to improve their status.

KEYWORDS: *Astavarga; Ayurveda;* frail; rejuvenating; ecological; formulation.

INTRODUCTION

Ayurveda (a Sanskrit word, '*Ayus*' means life and '*Veda*' means science or knowledge) is a '*science of long life*' practiced in India since the prehistoric period. The aim of *Ayurveda* is to use the inherent principles of nature to maintain and prolong the life of a person by restoring a balance among body, mind and spirit [1] Ayurveda is the study of life and has been upgraded by various *Rishis* and saints, for example, *Aswani Kumars, Atreya, Bhardwaja, Dhanwantri, Charak* and *Susrut* and many others. During early period of development of Ayurveda, *Ashwani Kumars,* who had the vast reputation as *Ayurvedic* wonder healers, saw the old, delicate, and starved body of *Rishi Chyavan* and choose to revive him through Ayurvedic medication. *Rishi Chyavan* was conceived in the genealogy of Maharishi *Bhrigu*, who was a great astrologist, His astrological findings are valid even today. Accordingly, *Ashwani Kumars* came out with a formulation using eight different plants which miraculously rejuvenated the body of *Rishi Chyavan* and this preparation came to be known as *Chyavanprash*. The group of these eight plants is called *Astavarga*. With the gradual decline of Gurukul system of education the information about the proper identification of these plants got diluted[1, 2]. Recent attempts by a group of scientists and sages have enabled the proper identification of the eight *Astavarga* plants[2].

HOME OF *ASTAVARGA*

Himalaya is a great reservoir of various flora and fauna. The Himalayan region possesses natural vegetation which is important from aesthetic, medicinal and nutritional points of view. According to an estimate between 35,000 and 70,000 plant species are used in medicine worldwide[3-5]. It is believed that over 1,600 species of medicinal plants have been traditionally used in India[6], Himalayas is recognized as one of the hotspots of biodiversity that harbors nearly 8,000 species of flowering plants including 25.3% endemic ones[7,8-14]. Each one of these plants has its specific territory in the Himalaya, particularly the North-West [Table 1].

In addition to north-west Himalaya, some members of *Astavarga* have been reported to be occurring in adjoining Asian counties [Ref: Table- 2]

Table 1: Members of *Astavarga* Plants

S.No.	Local Name	Botanical Name	Family	Distribution in Himalaya	References
1	*Kakoli*	*Roscoea purpurea* Smith	*Zingiberaceae*	Eastern himalaya and sikkim	15
2	*Kshirakakoli*	*Lilium polyphyllum D. Don*	*Orchidaceae*	Jammu & Kashmir, Uttarakhand and Himachal Pradesh	16

3	*Jeevak*	*Crepidium acuminatum* (D. Wear) Szlach	*Orchidaceae*	Himachal Pradesh, Uttarakahand	16
4	*Rishbhak*	*Malaxis muscifera* (Lindl)Kuntze	*Orchidaceae*	Sikkim, Himachal Pradesh, Jammu & Kashmir and Uttarakhand	16
5	*Meda*	*Polygonatum verticillatum* (Linn.)	*Liliaceae*	Kashmir, Sikkim, Himachal Pradesh and Uttarakhand	17-19
6	*Mahameda*	*Polygonatum cirrhifolium* (Wall.) Royle	*Liliaceae*	Himalayas ,Himachal Pradesh, Sikkim	16
7	*Riddhi*	*Habenaria intermedia* D. Wear	*Orchidaceae*	Temperate Himalaya To Kashmir To Sikkim, Uttarakhand and Himachal Pradesh	16
8	*Vriddhi*	*Habenaria edgeworthii* Hook.f. ex Collett	*Orchidaceae*	Himachal Pradesh, Uttarakhand To North West Himalaya	16

Table 2: Botanical description of *Astavarga* plants

S. No	Botanical Name	Family	Habit	Habitat	Flowering Period	References
1	*Roscoea purpurea* Smith	*Zingiberaceae*	A perennial rhizomatous herb upto 15-30 cm in height	In the world found in Pakistan, Bhutan and Tibet. In India central and eastern Himalaya and Sikkim	June-July	15,16
2	*Lilium polyphyllum D. Don*	*Liliaceae*	A perennial herb upto 60-120 cm in height	In the world found in Pakistan, Nepal, west china, Tibet and Afghanistan. In India Jammu & Kashmir, Uttarakhand and Himachal pradesh	Mid June - mid July	16
3	*Crepidium acuminatum* (D. Wear) Szlach	*Orchidaceae*	A terrestrial, pseudo bulbous, 5-25 cm in height	In the world found in Cambodia, china and South-East Asia. In India Himachal Pradesh, Uttarakhand Arunachal Pradesh, Assam, Nagaland, Manipur, Mizoram, Tripura.	July-August	20,21,22
4	*Malaxis muscifera* (Lindl) Kuntze	*Orchidaceae*	A perennial, terrestrial herb, variable in size, 15-45 cm in height	In the world found in Afghanistan, Bhutan, Nepal, China and Pakistan. In India Sikkim, Himachal Pradesh, Jammu & Kashmir and Uttarakhand.	July-August	20,22,23
5	*Polygonatum verticillatum* (Linn.)	*Liliaceae*	A perennial herb, 0.3-1.2 m in height	In the world found in Europe, Turkey, North and Central Asia, Pakistan, Afghanistan and Tibet. In India found in Kashmir, Sikkim, Himachal pradesh and Uttarakhand.	July-August	16,18
6	*Polygonatum*	*Liliaceae*	A tall,	In the world found in	July-August	17,18

	cirrhifolium (Wall.) Royle		perennial herb, 30-120 cm in height	Northern Asia, China, Nepal, Bhutan and Pakistan. In India found in Himalayas, Himachal Pradesh, Sikkim, Manipur and Uttarakhand		
7	*Habenaria intermedia* D. Wear	*Orchidaceae*	A stout, terrestrial perennial herb, 25-50 cm in height	In the world found in Pakistan, Bhutan and Nepal. In India found in temperate Himalaya to Kashmir to Sikkim, Uttarakhand and Himachal pradesh	July-August	19,21,24,25
8	*Habenaria edgeworthii* Hook.f. ex Collett	*Orchidaceae*	A tuberous terrestrial orchid, growing up to 30-60 cm in height	In the world found in Nepal and Pakistan. In India found from Himachal Pradesh, Uttarakhand to North west Himalaya	July-August	16

THERAPEUTIC IMPORTANCE

The efficacy of formulation with *Astavarga* plants is due to the presence of specific phytochemicals in different parts of the plants. Different formulations have different therapeutic value against many disorders [Ref: Table: 3]

Table 3: Phytochemical, Formulations and Therapeutics Values of *Astavarga* Plants

Sr No	Botanical Name	Part Used	Phytochemical	Formulation	Therapeutics	References
1	*Roscoea purpurea* Smith	Rhizome	Its rhizome contains flavonoids, alkaloid, tannins, saponin, glycosides and phenolic mixes	*Astavargachurna, Chyavanprashrasayan, Vachaditaila, Chitrakaditaila, Mahakalyanghrita, Mahamayura ghrita, Jivaniya ghrita, Nagabala sarpi, Vajikaran ghrita, Brahini gutika* and *Jivaniya gana churna*	It is valuable in haematemesis, inordinate thirst and rheumatic torment	16,25
2	*Lilium polyphyllum D. Don*	Bulb	Its globule contains linalool and α-terpineol	*Astavargachurna, Chyavanprashrasayan, Vachaditaila, Mahakalyan ghrita, Mahamayura ghrita, Jivaniya ghrita, Vajikaran ghrita, Brahini gutika* and *Jivaniya gana churna*	It is valuable in agalactia, hack, bronchitis , vitiated, fundamental shortcoming, strangury, smoldering sensation, hyperdipsia, irregular fevers, haematemesis , rheumatalgia and general debility	16,26
3	*Crepidium acuminatum* (D. Wear) Szlach	Pseudobulb	Its pseudobulbs contains alkaloid, glycoside, flavonoids and β-sitosterol	*Astavargachurna, Chyavanprash rasayan, Chitrakadi taila, Vachadi taila, Mahakalyan ghrita,*	It is helpful in haematemesis, fever, original shortcoming, blazing sensation,	21,27,28, 29,30

				Mahamayura ghrita, Mahapadma taila, Jivaniya ghrita, Vajikaran ghrita, Brahini gutika and *Himvana agada*	dipsia, thinness, tuberculosis and general debility, burning sensation, fever, and as tonic	
4	*Malaxis muscifera* (Lindl) Kuntze	Pseudobulb	Pseudobulb contains an intense standard, alkaloid, flavonoid and glycoside.	*Astavargachurna, Chyavanprash rasayan, Chitrakadi taila, Mahakalyan ghrita, Mahamayura ghrita, Mahapadma taila, Jivaniya ghrita, Vajikaran ghrita* and *Himvana agada*	It is valuable in sterility, original shortcoming, inner and outside hemorrhages, dysentry, fever, thinness, smoldering sensation and general debility	20,24,31
5	*Polygonatum verticillatum* (Linn.)	Rhizome	Rhizome contains lysine, serine, aspartic corrosive, threonine, diosgenin, β-sitosterol, sucrose and glucose	*Vachadi taila, Astavarga churna, Chyavanprash rasayan, Chitrakadi taila, Mahakalyan ghrita, Mahamayura ghrita, Mahapadma taila, Jivaniya ghrita, Brahini gutika, Vajikaran ghrita* and *Indrokta rasayan*	Regular use of rhizome powder diminishes feebleness, debility and improves other restoring properties	32,33
6	*Polygonatum cirrhifolium* (Wall.) Royle	Rhizome	Its rhizome contains glucose, sucrose and two new steroidal saponins sibiricoside A and B	*Vachadi taila, Astavarga churna, Chyavanprash rasayan, Chitrakadi taila, Mahakalyan ghrita, Mahamayura ghrita* and *Indrokta rasayan*	It is helpful in hack, disease, skin illnesses, anorexia, worms, weakening, gout, debility, fever, sexual debility	34,35
7	*Habenaria intermedia* D. Wear	Tubers	Tuber contains intense substances, starch and minerals, Additionally contains taxol an anticancer medication	*Vachadi* oil, *Vajikaran ghrita, Astavarga churna* and *Chyavanprash rasayan*	It is valuable in blazing sensation, thirst, fever, hack, asthma, solid agony, sprains, joint pain, infection, skin maladies, anorexia, worms, thinness, gout and general debility, Root extract used as nervine and cardiac tonic, Powder used for blood diseases	20,22
8	*Habenaria edgeworthii* Hook.f. ex Collett	Tubers	Tuber contains intense substances, minerals, starch and phenolic mixes	*Mahamayura ghrita, Astavarga churna* and *Chyavanprash Rasayan*	Cooling, emolient, cerebrum tonic, blood purifier. Tuber is helpful in blazing sensation, unnecessary thirst, fever, hack, asthma, craziness, infection, skin	36,22

					illnesses, anorexia, worms, skinniness, gout and general debility	

STATUS OF ASTAVARGA PLANTS

Due to multipurpose therapeutic uses, *Astavarga* plants are always in demand by local Ayurvedic practitioners and industry. Due to indiscriminate over collection and gradual habitat change the very existence of these plants is in jeopardy. The present status of these plants is presented in Table-4.

Table 4: Status of *Astavarga* Plants

S.No.	Botanical name	Synonyms	Status	References
1.	*Roscoea purpurea* Smith	-	Common	31,37
2.	*Lilium polyphyllum D. Don*	*Lilium punctatum Jacquem*. Ex Duch.	Endangered	38
3.	*Crepidium acuminatum* (D. Wear) Szlach	*Malaxis acuminate* D.Don, *Microstylis wallichii*	Rare	38
4.	*Malaxis muscifera* (Lindl) Kuntze	*Microstylis muscifera* (Lindle.) Ridl.	Rare, Threatened	38
5.	*Polygonatum verticillatum* (Linn.) allioni	*Convallaria verticillata* Linn.	Threatened	38
6.	*Polygonatum cirrhifolium* (Wall.) Royle	*Convallaria cirrhifolia* Wall	Rare	38
7.	*Habenaria intermedia* D. Don	*Ochyrorchis intermedia* (D.Don) Szlach.	Common	38
8.	*Habenaria edgeworthii* Hook.f. ex Collett	*Platanthera edgeworthii* (Hook.f.ex Collet)	Rare	38

SUBSTITUTES OF ASTAVARGA PLANTS

Timely non availability of *Astavarga* plants, the local herbalists and Ayurvedic industry have experimented with substituting other medicinal plants [Ref: Table-5].

Table 5: Substitutes of *Astavarga* Plants

S.No.	Botanical Name	Substitutes	References
1	*Roscoea purpurea* Smith	*Aswagandha* (*Withania somnifera* (Linn.) Dunal) and *Kali musali* (*Curculigo orchioides* Gaertn)	39
2	*Lilium polyphyllum D. Don*	*Aswagandha* (*Withania somnifera* (Linn.)Dunal), *Safedmusali* (*Chlorophytum arundinaceum* Baker), *Fritillaria* roylei Hook. *Fritillaria oxypetala* D. Don.	16
3	*Crepidium acuminatum* (D. Wear) Szlach	*Vidarikand* (*Pueraria tuberosa* (Wild.)DC), Safedbehmen (*Centaurea behen* Linn.) and *Guduchi* (*Tinospora cordifolia* (Willd.) Miers, *Malaxis cylindrostachya* (Lindl.) Kuntze and *Malaxis mackinnoni* (Duthie) Ames)	20
4	*Malaxis muscifera* (Lindl) Kuntze	*Vidari kand* (*Pueraria tuberose* (Willd.) DC.) and Lal behmen (*Centaurium roxburghii* (D. Don) Druce	40
5	*Polygonatum verticillatum* (Linn.)	*Satavari* (*Asparagus racemosus* Willd.), S*alam mishri* (*Eulophia campestris* Wall.) *Polygonatum verticillatum* (Linn.)	18
6	*Polygonatum cirrhifolium* (Wall.) Royle	*Satavari* (*Asparagus racemosus* Willd.), *Nagbala* (*Sida veronicifolia* Lam.), *Shakakul mishri* (*Polygonatum multiflorum* (Linn.) All.) and *Prasarani* (*Paederia foetida* Linn.).	16
7	*Habenaria intermedia* D. Wear	*Varahikand* (*Tacca integrifolia KerGawl*.), *Bala* (*Sida cordifolia* Linn.) and *Chiriya musali* (*Asparagus filicinus* Buch.-Ham. ex D. Don)	40
8	*Habenaria edgeworthii* Hook.f. ex Collett	*Varahikand* (*Tacca integrifolia* Ker Gawl.), *Salam panja* (*Dactylorhiza hatagirea* (D. Don) Soo) and *Maha bala* (*Sida acuta* Burm.f.). *Habenaria griffithii* Hook.f.	40

CONCLUSION

Astavarga plants are in high demand from Ayurvedic practitioners and industry. At present these plants are collected during the season from wild. Such indiscriminate collection as endangered the survival of these plants. It is a top priority to conserve the genetic resource in-situ. The ex-situ conservation in as many place is as possible is mandatory. The propagation and cultivation techniques have to be standardized so that farmers can take up large scale cultivation. In this way, the industry can purchase the raw material from the farmers which reduces the pressure on natural wild population. The government and non-governmental organization should develop a strategy to regulate the trade.

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