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# Ksheerkakoli (Lilium polyphyllum D. Don) – An Endangered plant of Asthavarga Mentioned in Samhitas

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**Abstract-** The first time Acharya Sharagdhar uttered the word Asthavarga. It contains eight medicinal plants: Kakoli, ksheerkakoli, Meda, Mahameda, Jeevak, Rishbhak, Riddhi, and Vridhhi. The natural habitats of all these plants are found in the Himalayas, especially in the North-West Himalaya in Uttarakhand, Jammu & Kashmir, and Himachal Pradesh, where they can be found between 1500 and 4000 meters above sea level. Since their natural habitats are unique in terms of the ecological environment, they are only found in limited areas. In Ayurveda, a wide range of herbs are used as treatments for various ailments. Of these, Ksheerkakoli is the one. The Astavarga Group refers to Ksheerkakoli (Lilium polyphyllum D. Don) as a narcotic; however, the botanical identity of the species is debatable, and other medications are marketed or used by the same name. Astavarga is a crucial component of many Ayurvedic remedies, including Chavyanprasha. Even though significant work has been done to identify the medicinal plants listed under Astavarga, the genuine plant of Ksheerkakoli (Lilium polyphyllum D. Don) still needs to be identified. The current study examines the pharmacological and botanical qualities of the medicinal plants known as Ksheerkakoli (Lilium polyphyllum D. Don).
**Keywords-** Ayurveda, Asthavarga, Ksheerkakoli ,Lilium polyphyllum.

**Introduction-**

Ksheerkakoli, also called white lily (*Lilium polyphyllum* D.Don ex Royle), is a member of the Liliaceae family. This perennial herb has narrow leaves and can reach a height of 1-3 meters. It is bulbous in nature. It is discussed in the Ayurvedic medical system under Astavarga plants. "Astavarga" is a collection of eight medicinal herbs with restorative properties that are used to make several Ayurvedic tonics. Another name for this herb is kshirkakoli. It is gathered for its calming, astringent bulbs, which are used as a diuretic, aphrodisiac, and refrigerant in a variety of traditional and modern remedies.[1] Its medicinal benefit is also attributed to a variety of compounds found in its bulbs, including saponins and linalool[2]. Many Ayurvedic tonics, including Chyavanprash, Astvarga Churan, and Jivaniya ghrita, are made with this plant. Because of its extensive therapeutic uses and high rates of exploitation, this plant is classified as highly vulnerable or endangered.[3].

The traditional medical knowledge that is either verbally passed down from one generation to the next or is available in local dialects is where Lilium polyphyllum's therapeutic uses and usage methods originate. However, many of its potentially beneficial medicinal benefits are lost since the following generation is reluctant to learn about them.[4]

**Scientific Classification:** [5]

Kingdom- Plantae
Clade-Tracheophytes
Clade- Angiosperms
Clade- Monocots
Order- Liliales
Family- Liliaceae

Genus- Lilium
Species- L. polyphyllum
**English Name:** White Himalayan lily
**Sanskrit/ Hindi Name**: Kshirakakoli
**Habit-** A perennial herb upto 60- 120 cm in height.
**Habitat**: Up to a height of 1800–3700 meters above sea level, it can be found all over the world in Pakistan, Nepal, Tibet, West China, and Afghanistan. located in Jammu & Kashmir, Uttarakhand, and Himachal Pradesh in India, as well as the Western Temperate Himalayas, up to an elevation of 2,000–4,000 meters.[6]
**Botanical characteristic features:** This stem is erect, slender, hollow, and leafy; leaves are sessile, alternate, nearly opposite, or whorled; they are 7–12.5 cm long and 5–12 mm broad, linear or narrow, lanceolate or oblanceolate, acuminate, with paralled venation, lower leaves occasionally whorled, and have papillose margins; flowers are pendulous, 10–12 cm in diameter, fragrant, showy, drooping, solitary, whorled, or in a terminal raceme elevated on the bare top of the stem; pedicel, 7–9 cm long; bracts, whorled, crenulate, leaf-like; segments 6, oblanceolate, 1.8 cm broad, revolute from the middle, generally narrowly nectariferous at the base; perianthtepals: 6, 6–8 cm long, broadly infundibular, dull yellowish or greenish outside, white inner mottled with long purple streaks and dots; Six stamens, with exserted divergencies, filiform filaments, and huge, versatile, dorsifixed anthers measuring 1.2 cm in length; Superior ovary, trilocular, long, declinate style; capitate stigma, obsurely three-lobed; fruits, oblong, three-angled, erect, coriaceous, loculicidal, three-lobed capsule, 2-3 cm long; seeds many, round, brown, and compressed vertically; testa pale, membrane-bound; bulbs are a white, loose mass made up of a few long, thin, subequal fleshy imbricating scales without any outer coverings. [7]
**Flowering:** Mid June-mid July. **Fruiting:** July-September.
**Active ingredients:** Neridiol, linalool, α-terpineol, kaempferol, citronellal, caryophyllene, humulene, and others are found in its bulb.Three steroidal glycerides including β-sistosterol-3-glyceryl-2'-linoleiyl-3'- linoleiate, Glyceryl-1-n-octadec-9-enoyl-2-ndecanoyl-3-n-decanoate, and Glyceryl-1-octadec-9'-enoyl-2-octadec-9", 12"-dienoyl-3- tetracosanote were obtained from the methanolic extract of the Lilium polyphyllum bulb.[8]
**Properties & Action:** The bulbs have the following properties: they are aphrodisiac, diuretic, expectorant, galactagogue, sweet, bitter, and tonic. It mostly demonstrates anti-inflammatory, astringent, and calming qualities[9]. Pro-healing, anti-oxidant, pro-apoptotic, anti-allergic, anti-parasitic, anti-diabetic, anti-adipogenic, anti-thrombotic, anti-inflammatory, anti-metabolic syndrome, immunoregulatory, hepatoprotective, anti-atherosclerosis, anti-cancer, and pro-wound healing. anti-inflammatory, anti-fungal, insect repellent, hepatoprotective, anti-nociceptive, and antibacterial. [10,11,12]
**Parts Used:** Bulbs.
**Dosages:** Powder 3-6 gm or as directed by the Physician.
Formulations: Astavarga churna, Chyavanprash rasayan, Vachadi taila, Mahakalyan ghrita, Mahamayura ghrita, Jivaniya ghrita, Vajikaran ghrita, Brahini gutika and Jivaniya gana churna. [13]
**Substitutes:** Aswagandha (Withania somnifera (Linn.) Dunal), Fritillaria roylei Hook., Fritillaria oxypetala D. Don, Safed musali (Chlorophytum arundinaceum Baker). One Lilium species, Lilium wallichianum Schult. & Schult. f., is also mentioned as a substitute. It is a perennial bulbous herb that can grow up to 120–180 cm long. Its leaves are linear, measuring 15–30 cm long and 6–18 mm wide. Its flowers are sub-solitary, horizontal, sweet-scented, trumpet-shaped, and white or cream in color with hints of yellow or green.[14]
**Ayurvedic Properties-**[15]

| **Properties** | **Ksheerkakoli** |
|---|---|
| ***Lilium polyphyllum* D. Don** | |
| Family | Liliaceae |
| Rasa | Madhur |
| Guna | Guru |
| Veerya | Sheeta |
| Vipaka | Madhur |
| Dosa Karma | Pitta-Vaat Shamaka |
| Karma | Garbhsandhakar, Shukral,Vayahsthapana, Stanyavardhaka |

**Medicinal Uses:** [16,17,18]

- Agalactia, cough, bronchitis, vitiated pitta conditions, strangury, burning sensation, hyperdipsia, haematemesis, rheumatalgia, and general debility can all benefit from the usage of bulbs.
- Lilium polyphyllum has been used in the traditional medical system to treat intermittent fever and sexual abnormalities. It has also been stated that the bulbs of Lilium polyphyllum are eaten in the Gangatori region of India. These bulbs can be fried in vegetable oil with potatoes, which may increase sexual potency and keep the body warm in the winter.
- Due to its galactagogue qualities, it helps expectant mothers secrete more milk.
  - treats respiratory tract issues and possesses expectorant qualities.
  - Its antipyretic qualities are used to treat fever.
  - Its diuretic qualities encourage the flow of urine.

**Discussion-** To gather sufficient data for the study, a variety of literary sources, including journals, the internet, and classical and contemporary Ayurvedic literature, were screened. The characteristics of Ksheerkakoli, also known as Lilium polyphyllum D. Don, are discussed in the Nighantu texts Dhanwantari, Raja, and Kaiyadeva, as well as in Madanpal and Bhavaprakash. In Ayurveda, Lilium polyphyllum is used in a group known as "ASTAVARGA," which is known for its anti-aging and vitality properties, along with seven other species: Habenaria intermedia, Habenaria edgeworthii, Malaxis muscifera, Malaxis acuminata, Polygonatum verticillatum, Polygonatum cirrhifolium, and Fritillaria roylei. Because these plants are so uncommon, in the past even the greatest of kings could not afford to own Astavarga.

**Conclusion-** The therapeutic value of Ksheerkakoli (Lilium polyphyllum D. Don) is discussed in this review study. It belongs to the "Astavarga" group of plants in the Ayurvedic herbal formula. Its vital ingredients are recognized to strengthen our immunity and give our bodies resistance against a variety of illnesses. Unfortunately, there is a dearth of recorded texts describing its medical benefits, as most of the traditional medicinal knowledge was passed down orally from one generation to the next. It needs to be immediately protected and conserved because it has a lot of medical potential. To guarantee its supply, a thorough survey of its natural environment is needed, and a serious investigation into its potential medical use is needed. Furthermore, the extent of scientific research on this plant is limited by overexploitation for trade and commerce as well as habitat degradation from overgrazing. Since this plant is listed as endangered by the IUCN, protecting it is both required and our duty. It has significant therapeutic value.

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**References-**

1. Dhayani A. Exploring Liliumpolyphyllum in Uttarakhand, India. The Lily yearbook of North American Lily Society. 2007, 79-82.
2. Sharma BD, Balkrishna AV. Vitality strengtheningAstavarga plants (Jeevaniya & b VayasthapanPaudhe).Divya publishers, DivyayogMandir, Haridwar,Uttaranchal, 2005.
3. Badola, H.K., Pal, M. 2002. Endangered medicinal plants in Himachal Pradesh. Current Science 83 (7): 797-798.
4. Dhyani, A., Nautiyal, B.P., Nautiyal, M.C. 2010. Importance of Astavarga plants in traditional systems of medicine in Garhwal, Indian Himalaya, International Journal of Biodiversity Science, Ecosystem Services & Management Vol. 6, Nos. 1–2, March– June, 13–19.
5. www.n.m.wikipedia.org
6. Acharya B, Srivastava A, Mishra RK, Patel S, Vashistha RK, Singh A, Jadon V, Saxena P. 2012. Astavarga plants – threatened medicinal herbs of the North-West Himalaya. International Journal of Medicinal and Aromatic Plants 2:661-676.
7. Uniyal Mayaram. Medicinal flora of Garhwal Himalayas. Nagpur (India): Shree Baidyanath Ayurved Bhawan, 1989.
8. Javed, H.; Azimullah, S.; AbulKhair, S.B.; Ojha, S.; Haque, M.E. Neuroprotective effect of nerolidolagCrossReneuroinflammation and oxidative stress induced by rotenone. BMC Neurosci. 2016, 17, 58.
9. Balakrishna A, Srivastava A, Mishra RK, Patel SP, Vashistha RK, Singh A, Jadon V. and Saxena P. Astavarga

plants – threatened medicinal herbs of the North-West Himalaya. International Journal of Medicinal and Aromatic Plants. 2012; 2(4): 661-676.
10. Sanchez-Monroy, V.; Ramírez-Moreno, E. Kaempferolinhibits Entamoebahistolytica growth by altering cytoskeletal functions. Mol. Biochem. Parasitol. 2015, 204,16–25.
11. Devi, K.P.; Malar, D.S.; Nabavi, S.F.; Sureda, A.; Xiao, J.; Nabavi, S.M.; Daglia,M. Kaempferol and inflammation: from chemistry to medicine. Pharmacol. Res. 2015, 99, 1–10.
12. Seol, G.H.; Kang, P.; Lee, H.S.; Seol, G.H. Antioxidant activity of linalool in patients with carpal tunnel syndrome. BMC Neurol. 2016, 16, 17.
13. Chand, Lal (Commentator), Shri Vagabhatta Virachitam, 1963. Astanghrdya, Motilal
Banasri Das, Delhi.
14. Dey, A. C. 1982. Indian medicinal plants used in Ayurvedic preparations, Bishan Singh Mahender Pal Singh, Dehradun.
15. Chunekar KC. Bhavaprakasa-Nighaṇṭu. Reprint Edition. Varanasi (India): Chaukhambha Bharati Academy, 2013, 59.
16. Warrier, P.K., Nambiar, V.P.K., Ramamurthy, C.R. 1994. Indian Medicinal Plants, Orient Longman, Chennai.
17. Dhyani A, Nautiyal BP, Yadav VK, Nautiyal MC. Variation in morphological, biochemical and antioxidant properties of Lilium polyphyllum.
18. Dhyani A, Bahuguna YM, Semwal DP, Nautiyal BP and Nautiyal MC. Anatomical features of Lilium polyphyllum D. Don ex Royle (Liliaceae). Journal of American Science. 2009; 5(5): 85-90.