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A Literary Review on Action of Manduparni as Vayasthapan Dravya

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Abstract: *Mandukaparni (Centella asiatica L.) is an important medicinal and nutritional herb traditionally used for promoting health and longevity. It contains bioactive compounds, mainly triterpenoid saponins such as asiaticoside and madecassoside, which help in cell repair, improve mental clarity, and enhance physical endurance. Described by Acharya Charaka in the Vayasthapana Dashemani, Mandukaparni is regarded in Ayurveda as a potent Rasayana and Medhya (brain rejuvenator) that helps sustain youthfulness, strengthen the mind, and build immunity.*
Classical references highlight its use for managing age-related disorders such as tiredness, weakness, disturbed sleep, and musculoskeletal discomfort while improving digestive function and overall vitality. Modern pharmacological research supports these traditional claims, showing that the plant exhibits antioxidant, neuroprotective, anti-inflammatory, and immune-boosting effects. In addition to medicinal uses, it is also taken as a nutritive leafy vegetable and included in various health preparations.
This literary review explores Mandukaparni from both Ayurvedic and modern viewpoints, emphasizing its potential as a Vayasthapana Dravya for delaying aging and supporting holistic well-being...

Keywords: Mandukaparni, Centella asiatica, Rasayana, Vayasthapana, Anti-aging, Immunity, Cognitive health, Antioxidant

I. INTRODUCTION

Plants have been recognized as one of the most important sources of medicine since ancient times. Herbal drugs continue to hold great significance in traditional and modern systems of healthcare. Even today, most of the population in developing countries depends on medicinal plants for their primary healthcare needs. The increasing global interest in natural therapies and herbal formulations has led to a renewed focus on plants rich in secondary metabolites, such as alkaloids, flavonoids, glycosides, and saponins, which serve as potent pharmacological agents.

Among these valuable medicinal plants, *Mandukaparni* (*Centella asiatica* Linn.) holds a unique place in both classical Ayurvedic literature and modern phytopharmacology. The term *Mandukaparni* literally means "a plant with leaves resembling the shape of a frog," referring to its creeping, stoloniferous growth pattern. It is a small herb found abundantly in marshy areas throughout India and other tropical regions. Mandukparni is classified under Vayasthapana Dashemani by *Acharya Charaka*- a group of ten herbs known for their ability to maintain youthfulness, vitality, and longevity. [1] It is also one of the Medhya Rasayana, highlighting its profound effects on the brain and nervous system.

Ayurveda views ageing (*Jara*) as a natural and inevitable process characterized by gradual degeneration of body tissues and decline in physical and mental strength. Jara a *Swabhavika Vyadhi*-a natural condition that occurs due to the passage of time and cannot be completely stopped, although it can be slowed or managed. [3] However, it also emphasizes that ageing can be delayed or moderated through appropriate Rasayana therapy- a rejuvenative approach aimed at improving nutrition, enhancing immunity, and promoting longevity. *Rasayana Tantra*, one of the eight branches of Ayurveda, focuses on the nourishment of *Dhatus*, enhancement of *Agni* and purification of *Srotas*, thereby sustaining vitality and slowing the ageing process.

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Mandukaparni, described in Ayurvedic classics as a rejuvenating, intellect-promoting and age-sustaining herb. Its major active constituents, including asiaticoside, madecassoside, asiatic acid, and madecassic acid, contribute to its wide range of therapeutic effects. Traditionally, it has been used to enhance memory, reduce anxiety, improve complexion, and promote strength and endurance. Modern research has validated many of these traditional claims, confirming its antioxidant, neuroprotective, anti-inflammatory, and immunomodulatory activities.

The present literary review aims to explore the classical and scientific perspectives on *Mandukaparni* as a *Vayasthapak* Dravya, highlighting its traditional importance, health benefits, pharmacological properties, and its potential role in promoting healthy ageing and overall well-being.

II. METHODOLOGY

HISTORICAL REVIEW:

Atharvaveda describes *Mandukaparni* as a Medhya *Rasayana*, a *Brahmi*-like herb that enhances intellect and is useful in urinary and genital disorders.

Agni Purana lists it as a detoxifying and liver-protective drug for curing *kamla*; taken with milk, it is indicated for reducing wrinkles and premature greying, highlighting its *Vayasthapan* action.

Atharva Parishishta refers to *Mandukaparni* as Manduki, named for its frog-like leaf shape and creeping habit.

SAMHITA and NIGHANTU KALA Review

Vayasthapan Mahakashaya:

Vayasthapan is a fundamental Ayurvedic concept that refers to the preservation and stabilization of youth and the prevention or delay of the aging process. Classical commentators have explained Vayasthapan as an action that maintains youthful characteristics for a prolonged period and counteracts the degenerative changes associated with aging. Chakrapani interprets Vayasthapan as the ability to preserve youthfulness and delay senescence. [1] Sushruta equates the Rasayana discipline with Vayasthapan, emphasizing its role in promoting longevity, intellect, strength, and resistance to disease. [2] Dalhana further elaborates that Vayasthapan supports a long lifespan, preserves vitality, and helps sustain youthful functional capacity over an extended period. [6]

The term *Vayasthapan* is derived from two components: *Vaya*, meaning age or stage of life, and *Sthapan*, meaning to stabilize, preserve, or maintain. Thus, Vayasthapan denotes the maintenance of the body's structural, functional, and psychological balance associated with youth. In Ayurveda, *Vaya* is considered an important factor in clinical examination and assessment, as it reflects both physiological and psychological states at different stages of life. It plays a significant role in evaluating health status, strength, disease progression, and treatment planning. Overall, the concept of Vayasthapan highlights Ayurveda's preventive and promotive approach to aging, focusing on sustaining vitality, delaying degeneration, and enhancing quality of life rather than merely extending lifespan.

Acharya Charaka explain *Vayasthapan Mahakashaya Dravyas* in *Sutrsthana* and Mandukparni is one them.

MANDUKPARNI:

VERNACULAR NAMES:

English- Indian pennywort,
Hindi- *Brahmamandhuki, Brahmibhed, Bengsag, Khulakhudi,*
Bengali- *Thankuni, Tholkuri,*
Gujrati- *Moti brahmi, Khad brahmi,*
Kannada- *Urage, Vondelaga,*
Marathi- *Karinga, Karivana,*
Tamil- *Ballau, Vallarai,*
Telugu- *Brahmi, Manduk brahmi, Saraswataku,*
Tripura- *Thankuni, Thunimankuni.*

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Table I: Showing *varga* of *mandukparni* classification according to classical text.

1	*Charaka Samhita*	*Vayastapana Mahakashaya*[7], *Tikta Skandha, Shaka varga, Medhya rasayana, Brahmarasayana.*
2	*Sushruta Smahita* [8]	*Pathya Shaka, Maha panchmoolasava, Kushtha Chikitsa, Medhayushkamiya Rasayana.*
3	*Ashtang Hridaya* [9]	*Shaka Varga, Kasa Chikitsa, and Rasayana Prakarna.*
4	*Priya Nighatu* [10]	*Shatpushpadi Varga*
5	*Adharsha Nighantu* [11]	*Jeerakadi Varga*
6	*Bhavprkash Nighantu* [14]	*Guduchyadi Varga*
7	*Dhanvantari Nighantu* [13]	*Karaveeradi Varga*
8	*Madanpal Nighantu* [15]	*Abhayadi Varga*
9	*Raj Nighantu* [12]	*Parpatadi Varga*

Table II: Showing *karma and rogaghnata* of *mandukparni* classification according to classical text. [7], [8], [9], [12], [10], [14]

Classical Text	*Karmas*	Rogaghnata
Charaka Samhita	*Medhya, Rasayana*	Kshatakshina, Udara
Sushruta Samhita	*Hrudya*	Jwara, Kushtha, Aruchi, Shwasa, Kasa, Meha, Raktapitta
Ashtanga Hridaya	*Grahi*	Kasa
Dhanvantari Nighantu	—	—
Shodhala Nighantu	*Hrudya, Agnivardaka*	Shwasa, Shleshmavikara
Raja Nighantu	*Medhya, Ayushya-vardaka*	—
Kaiyadeva Nighantu	*Medhya, Rasayana, Swarya, Hrudya, Kushthaghna, Kandughna, Jwaraghna*	Jwara, Kushtha, Kandu, Shopha, Aruchi, Shwasa, Kasa, Pandu, Visha, Moha
Madanapala Nighantu	*Medhya, Rasayana, Swarya, Mehaghna, Jwaraghna, Shothaghna, Smritiprada, Vishaghna*	Kushtha, Kasa, Pandu, Meha, Visha
Priya Nighantu	*Medhya, Rasayana, Hrudya*	Jwara, Kushtha, Shopha, Pandu, Meha
Nighantu Adarsha	—	—
Bhavaprakasha Nighantu	*Medhya, Rasayana, Swarya, Kushthaghna, Mehaghna, Jwaraghna, Shothaghna, Smritiprada, Vishaghna*	Jwara, Kushtha, Shopha, Kasa, Pandu, Meha, Visha

Ayurvedic Properties:

Rasa- Tikta, Kashaya, Madhura.
Guna- Laghu, Sara.
Veerya- Sheeta.
Vipaka- Madhura.
Prabhava- Medhya.
Doshaghnata- Tridoshashamaka.

Table III: Showing rasapanchak of mandukparni according to classical text. [7], [8], [9], [14], [12]

Name	*Rasa*	*Guna*	*Veerya*	*Vipaka*	*Doshghnata*
Charak Samhita	*Tikta*	-	*Shita*	*Katu*	*Kapha Pittaghna*
Sushrut Samhita	*Kashaya*	*Laghu, shita*	*Shita*	*Madhura*	*Pittahara*
Ashtang Sangrha	*Tikta*	-	*Shita*	*Katu*	-

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Asthang Hridhyam	*Tikta*	-	*Shita*	*Katu*	*Kapha Pttahara*
Bhavprkash Nighatu	*Kashaya, Madhura, Tikta*	*Laghu, shita, Sara*	*Shita*	*Madhura*	-
Kaideva Nighatu	*Madhur, Tikta, Kashyay*	*Laghu*	*Shita*	*Madhura*	-
Raj Nighantu	*Kashyay, Tikta*	*Shita*	-	-	*Vata Pittahara*
Madanpal Nighantu	*Madhur*	*Laghu, Sara*	*Shita*	-	-

THERAPEUTIC USES:

Table IV: Showing therapeutic uses of mandukparni according to classical text. [7], [8], [9], [14], [12]

Sr. No.	Disease / Condition	Therapeutic Use of *Mandukaparni*	Classical Reference
1	*Kasa and Kshaya* [16]	*Mandukaparni* used with *Madhuka* and *Sunthi*, taken with milk, is beneficial in chronic cough and wasting disorders, following the method of *Nagabala*. Here, *Bhramhi* also mentioned by *Kashyapa*.	*Ashtanga Hridaya Chikitsa Sthana* 3/119; *Kashyapa Samhita* p.109
2	*Swara Bheda*[17]	*Mandukaparni* mixed with *Bilva mula, Kushta,* and *Shankhapushpi* along with honey improves voice clarity.	*Bhavaprakasha Chikitsa Adhikara* 1/659
4	*Rasayana (Medhya)* [18]	*Mandukaparni swarasa* combined with *Madhuka churna, Guduchi swarasa* and *Shankhapushpi kalka* taken with milk acts as *Medhya Rasayana*, improving strength, digestion, complexion, and voice.	Charaka Samhita Chikitsa Sthana 1.3/30–31
5	*Rasayana Therapy* [19]	*Mandukaparni Rasayana* is indicated for rejuvenation and promotion of longevity.	*Sushruta Samhita Chikitsa Sthana* 28/4
6	*Rasayana* [20]	Regular intake of *Mandukaparni* fried in *ghrita* for one month, along with non-cereal diet, acts as *Rasayana*.	*Ashtanga Hridaya Uttara Tantra* 39/165
7	*Vrana* [21]	Local application of *Mandukaparni swarasa* helps in healing boils.	*Gada Nigraha* 4.1/119
8	*Jeerna Pratishyaya* [22]	Decoction of *Mandukaparni* with *Maricha* and *Kulattha* relieves chronic nasal disorders; intake of warm water is advised.	*Vaidya Manorma* 16/69
9	*Udara Roga* [23]	*Mandukaparni* cooked in its own juice and water, taken without salt, sour, or fat, is beneficial in abdominal disorders.	*Charaka Samhita Chikitsa Sthana* 13/181–182
10	*Kamala* [24]	*Mandukaparni* swaras mixed with honey, *Haridra, Amalaki*, or milk is useful in jaundice when taken in the morning.	*Vaidya Manorma* 10/2

MORPHOLOGY OF CENTELLA ASIATICA:

BOTANICAL NAME: Centella asiatica (Linn.) Urban

Syn. Hydrocotyle asiatica Linn.

FAMILY: Apiaceae

MORPHOLOGICAL CHARACTERISTICS:

Prostrate, stoloniferous, perennial Herb, rooting at the nodes.

Leaves orbicular: reniform, crenate dentate, base cordate and often lobed, long petioled.

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Flowers: red, pink or white, in fascicled umbels.
Fruits: oblong, dull brown, laterally compressed.
DISTRIBUTION: Throughout India, upto an altitude of 600 m. Recently reported to be rare and threatened in Gujarat.
PARTS USED: Whole plant.

CHEMICAL CONSTITUENTS: [25]
Asiaticoside, medacassoside, brahmoside, brahminoside, alkaloid hydrocotylin, vellarine, a new triterpene glycoside thankuniside and new triterpenic acid thankunic acid, anthrone of asiaticoside, asiatic acid. Madegascaric or madecassic acid, madecassoside, sothankuniside and brahmic acid, centelloside, centic acid, centellic acid and centoic acid, indocentoic acid, indocentelloside and new oligosaccharide centellose were reported.

PROPAGATION AND CULTIVATION:
Propagation:
Mandukaparni can be propagated through seeds as well as vegetative parts, making its multiplication easy and practical. Seed propagation is carried out by sowing fresh seeds either in nursery beds or directly in the field under suitable moisture conditions.
Vegetative propagation is commonly practiced using stem cuttings or rooted plant parts, which ensures quicker establishment and uniform growth.
The plant can also be propagated through tissue culture methods, where healthy plant parts are grown under controlled conditions and later transferred to soil for cultivation.
Cultivation:
Mandukaparni grows best in moist environments and adapts well to a wide range of soil types.
A cool and humid climate is favorable for its growth, though it can be cultivated successfully in many regions with adequate water availability.
Well-drained fertile soils such as sandy or loamy soils support healthy plant development.
The plant thrives well in partially shaded conditions, making it suitable for cultivation under natural shade or mixed cropping systems.
THERAPEUTIC ADVANCEMENT: Various experimental and clinical studies have been conducted on Mandukaparni.
Extensive preclinical evidence supporting its neuroprotective and neurotherapeutic potential, particularly in neurological and neurodegenerative disorders. Network pharmacology analysis indicates that its phytoconstituents act through multiple neurobiological pathways, including neuroactive ligand - receptor interactions, glial cell differentiation, gliogenesis and astrocyte development. The herb shows promising potential for the development of CNS-targeted phytopharmaceuticals and may contribute significantly to future advances in neurological therapeutics.[26]
The available review explains that *Centella asiatica* and its key triterpenes have shown broad therapeutic benefits in experimental studies, especially in conditions related to the nervous system, inflammation, metabolism and skin health. These effects appear to arise from their ability to reduce oxidative stress, control inflammation, protect mitochondria, and prevent cell damage, which aligns well with its long-standing traditional use. However, the authors emphasize that stronger clinical evidence, better understanding of pharmacokinetics, and standardized formulations are still needed before these findings can be confidently translated into routine clinical practice. [27]
The findings of the present literary study are further supported by available experimental evidence. An animal study evaluating ethanolic extracts of *Centella asiatica* and *Evolvulus alsinoides* demonstrated significant improvement in learning and memory in scopolamine-induced amnesic mice. The observed neuroprotective effects were attributed to antioxidant activity and enhancement of cholinergic function, leading to reversal of cognitive impairment. These results scientifically substantiate the classical Ayurvedic description of *Centella asiatica* as a **Medhya Rasayana** and reinforce its relevance as a **Vayasthapan Dravya** in the prevention and management of age-related cognitive decline. [28]
Available experimental studies support the classical claims of *Centella asiatica* described in Ayurveda. In vitro research has demonstrated its significant anti-carcinogenic activity against oral cancer cell lines through inhibition of cell

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proliferation and induction of cytotoxic effects. Preclinical and pharmacological studies further report antioxidant, neuroprotective, immunomodulatory, and anti-inflammatory actions, which align with its Ayurvedic description as a *Rasayana* and *Vayasthapan Dravya*. However, despite promising experimental evidence, the lack of robust clinical trials highlights the need for further validation to establish its therapeutic potential in age-related degenerative conditions and cancer management. [29]

The concept of Rasayana and Vayasthapana described in Ayurveda is further supported by modern scientific evidence. Sharma and Martins (2020) reported that Ayurvedic Rasayana drugs play a crucial role in protecting telomere integrity, reducing DNA damage, and enhancing cellular repair mechanisms, which are central processes in aging. These findings provide molecular-level validation for the Vayasthapana and anti-aging principles described by Acharya Charaka, reinforcing the relevance of Vayasthapan Mahakashaya in promoting healthy aging and longevity. [30]

III. DISCUSSION

This literary review highlights Mandukaparni (Centella asiatica) as an important *Vayasthapana Dravya* described in Ayurvedic classics for promoting longevity and delaying age-related degeneration. Classical texts consistently recognize Mandukaparni as a Rasayana and Medhya, indicating its role in preserving mental clarity, physical strength, and tissue vitality. Its inclusion in *Vayasthapana Mahakashaya* by Acharya Charaka reflects its significance in stabilizing age-related physiological decline.

Modern pharmacological studies provide supportive evidence for these traditional claims, reporting antioxidant, neuroprotective, anti-inflammatory, and immunomodulatory actions of Mandukaparni and its bioactive constituents. These effects correlate with Ayurvedic concepts of *Dhatu Poshana*, *Ojas enhancement*, and *Vata-Pitta balance*, which are central to healthy aging. Experimental findings demonstrating cognitive enhancement and cellular protection further substantiate its role as a rejuvenative herb.

Overall, Mandukaparni represents a convergence of classical Ayurvedic wisdom and modern scientific understanding, supporting its potential in preventive geriatric care. However, the predominance of preclinical evidence highlights the need for well-designed clinical studies to establish its therapeutic role in age-related disorders and healthy aging.

IV. CONCLUSION

This literary review highlights *Mandukaparni* as an important *Vayasthapana Dravya* in *Ayurveda*, traditionally indicated for maintaining youth, cognitive function, and vitality. Classical texts describe it as a *Rasayana* and *Medhya*, while modern studies support these claims through evidence of antioxidant, neuroprotective, and immunomodulatory activities. Although current findings are largely experimental, they validate its traditional relevance and indicate the need for well-designed clinical studies to establish its role in healthy aging and preventive geriatric care.

Manduparni:

Fig.1. Mandukparni plant

Fig.2. Mandukparni leaves

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