



## Therapeutic Potentials of Kulatha: A Comprehensive Ayurvedic and Pharmacological Review

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*Macrotyloma uniflorum* (Lam.) Verdc., the botanical name for the drug Kulatha, is an annual leguminous herb that is a member of the Fabaceae family. It is mentioned under Shimbi Dhanya of Annadravya Varga in classical ayurvedic texts. It has Ruksha, Laghu and Tikshna Guna, Katu, Kashaya and Tikta Rasa, Ushna Veerya, and Katu Vipaka. Owing to its Ushna Veerya and Katu Vipaka, it acts as a potent Kapha-Vata Shamana Dravya. The seeds of Kulatha are attributed with Ashmarighna, Shothahara, Lekhana, and Krimighna properties in the Ayurvedic pharmacopeia. Its Lekhana and Mutrala actions make it suitable for Medoroga and Mutravaha Srotodushti. Modern studies report the presence of active compounds such as phenolic acids, flavonoids, and saponins, which contribute to its antiurolithiatic, anti-inflammatory, antioxidant, and hypolipidemic effects. These pharmacological actions validate its traditional use in urinary disorders, metabolic imbalance, and inflammatory conditions. Despite being a potent medicinal legume with both preventive and therapeutic potential, Kulatha remains underutilized in both clinical and dietary applications. This review aims to present a comprehensive account of Kulatha's Ayurvedic attributes, classical formulations, and therapeutic applications alongside relevant modern research, with a vision to review its relevance in contemporary Ayurvedic practice.

**Keywords:** *Macrotyloma uniflorum* (Lam.), Kulatha, Ayurvedic formulations

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## Introduction

In *Ayurvedic* pharmacology, the therapeutic efficacy of a substance is evaluated not merely by its *Rasa* or *Guna*, but through its comprehensive impact on restoring balance among the *Doṣhas*, *Dhatus*, and *Srotas*. *Kulath*, traditionally enlisted under *Shimbi Dhanya Varga*, is one such *Dravya* with a uniquely *Laghu-Ruksha* and *Ushna* profile, providing it a distinct mode of action in conditions where *Kapha*, *Medas*, and *Pranvah* related *Srotodushti* are dominant.[1] Unlike commonly nourishing pulses, *Kulatha's Tikta-Katu Rasa* and *Lekhana Karma* mark it as a detoxifying legume.[2] Classical *Ayurvedic* compendia including *Charaka*, *Sushruta*, *Ashtanga Hridaya*, and various *Nighantus* highlight its role in *Ashmaribhagna* (stone dissolution), *Shothahara* (anti-inflammatory) & *Deepana-Pachana* (digestive stimulant) therapies.[3,5] The use of *Kulathakshara*, *Kulatha Yushaa*, and *Siddha Jala* across various diseases reflects its wide therapeutic canvas.[6]

Its compatibility with other *Pathyahara* and its suitability in *Yavagu*, *Peya*, and *Bhakta Kalpana* underscore its utility not only as an *Aushadha*, but also as a functional dietary *Dravya*. [7] Yet in the evolving context of *Ayurveda's* integration with modern medicine, such classical legumes are under represented.

This review intends to re-establish *Kulatha's* *Ayurvedic* identity by presenting its all reference from *Samhitas*, highlighting its *Rasapanchaka* and *Karma*, and integrating modern pharmacological research. Through this, it offers holistic understanding of *Kulatha* as a *Dravya* with relevance in urinary disorders, metabolic syndromes, and inflammatory pathologies, aligning ancient wisdom with present-day evidence-based practice.[8]

### Ayurvedic Nomenclature - Paryaya (Synonyms)

*Kulatha*, known for its nutritive value, has various synonyms reflecting its attributes, appearance, and regional associations. *Kulatthika*, *Kulala*, and *Aliskandha* denote regional or variant names. *Tamrabija* and *Tamravarṇa* highlight its copper-colored seeds, while *Shwetabija* refers to a white-seeded variety. Names like *Chakra* and *Kumbhakari* describe the round shape and nourishing nature, likened to a full pot. *Vajana* signifies its heaviness and strength-enhancing quality.

*Cakshushya* and *Lochanahita* imply its benefits for eyesight, while *Drakṣaprasāda* symbolically represents clarity. *Pitamudga* suggests a yellow gram-like appearance, and *Surashtraka* indicates its origin in *Saurashtra*, Gujarat. These synonyms collectively reflect the physical, therapeutic, and regional significance of *Kulatha*.

**Table 1: Nirukti (etymology) of synonyms and their interpretation [2,9,12]**

| Synonyms of Kulatha | Nirukti and Interpretation        |
|---------------------|-----------------------------------|
| Kulattha            | Nourishing legume for family      |
| Kulatthika          | Variant or regional name          |
| Tamrabija           | Copper-colored seeds              |
| Tamravarṇa          | Copper in appearance              |
| Shwetabija          | White-seeded variety              |
| Chakra              | Round shape of seeds              |
| Kulala              | Alternative/local name            |
| Locanahita          | Good for eyesight                 |
| Kumbhakari          | Nourishing like a full pot        |
| Drakṣaprasāda       | Possibly symbolic, clarity-giving |
| Vajana              | Strength-giving, heavy property   |
| Cakshushya          | Improves vision                   |
| Pitamudga           | Yellow gram-like variety          |
| Surashtraka         | Origin in Saurashtra (Gujarat)    |
| Aliskandha          | Clustered or regional term        |

### Rasa Panchaka (Ayurvedic Pharmacodynamic) and Doshaghnata (ability to pacify body's functional regulatory elements or doshas)

Various *Samhitas* and *Nighantus* have described the *Rasa* (taste), *Guna* (qualities), *Virya* (potency), and *Vipaka* (post-digestive effect) of *Kulatha* (Horse gram) in slightly varying but broadly consistent ways, reflecting its strong medicinal potential in *Ayurveda*. According to *Charaka Samhita* and *Sushruta Samhita*, *Kulatha* is predominantly *Kashaya* (astringent) in *Rasa*, with *Ushna Virya* (hot potency), *Amla* or *Katu Vipaka*, and sharp qualities like *Tikshna* (piercing), *Laghu* (light), *Ruksha* (dry), and *Vidahi* (irritant). *Ashtanga Hridaya* and *Ashtanga Sangraha* add that it also possesses *Swadu* (sweet) *Rasa* along with its astringent nature. *Yogaratanakara* highlights its *Sara* (mobility-promoting) and *Ushna Guna*, while *Bhavaprakasha Nighantu* emphasizes its *Medohara* (anti-obesity) and *Raktakrut* (blood-stimulating) properties. While *Raja Nighantu* and *Madanapal Nighantu* mention *Kashaya*, *Katu*, and *Tikta Ras* with *Ushna Virya* and *Katu Vipaka*, *Kaiyadeva Nighantu* observes a combination of *Madhura* and *Kashaya Ras*, reinforcing its role in reducing *Kapha* and *Meda*.

These references collectively underline *Kulatha's Kapha-Vata Shamak* and *Deepana-Pachana* nature, making it valuable in treating conditions like obesity, respiratory disorders, and digestive issues.

**Table 2: Rasa Panchaka of Kulatha**

| Classical Text / Nighantu      | Rasa (Taste)         | Guna (Qualities)               | Virya (Potency) | Vipaka (Post-digestive Effect) |
|--------------------------------|----------------------|--------------------------------|-----------------|--------------------------------|
| Charaka Samhita[3]             | Kashaya              | Laghu, Ruksha, Tikshna, Vidahi | Ushna           | Amla / Katu                    |
| Sushruta Samhita[4]            | Kashaya              | Laghu, Tikshna, Ruksha, Vidahi | Ushna           | Katu                           |
| Ashtanga Hridaya / Sangraha[5] | Kashaya, Swadu       | Ruksha, Laghu                  | Ushna           | Katu                           |
| Bhavaprakasha Nighantu[2]      | Kashaya, Tikta       | Laghu, Ruksha                  | Ushna           | Katu                           |
| Kaiyadeva Nighantu[9]          | Madhura, Kashaya     | Ruksha, Laghu                  | Ushna           | Katu                           |
| Raja Nighantu[10]              | Kashaya, Katu, Tikta | Laghu, Ruksha, Tikshna         | Ushna           | Katu                           |
| MadanaPal Nighantu[12]         | Kashaya, Katu, Tikta | Ruksha, Tikshna                | Ushna           | Katu                           |

**Table 3: Formulation and Indication of Kulatha according to Charak Samhita[3]**

| Reference   | Formulation             | Indication               |
|-------------|-------------------------|--------------------------|
| C.Su.4/13   | Swedopag Mahakashay     | Swedopag Karm            |
| C.Sh.8/56   | Aashan Panarth          | Dusht Ksheer Chikitsa    |
| C.Ci.3/237  | Agurwadi Tail           | Sheet Jawar              |
| C.Ci.8/34   | Kulatha Yusha           | Rajyakshma               |
| C.Ci.8/56   | Sankar Sweda            | Rajyakshma               |
| C.Ci.12/62  | Kulatha Yusha           | Shotha                   |
| C.Ci.12/70  | Kulathadi Anulep        | Shotha                   |
| C.Ci.14/93  | Kulatha Yusha           | Kaphaj Arsh              |
| C.Ci.18/116 | Pipalyiyog Anupan       | Kaphaj Kas               |
| C.Ci.18/129 | Kulatha Ghrut           | Kaphaj Kas, Hikka, Shwas |
| C.Ci.18/158 | Dwipanchmuladi Ghrut    | Kas                      |
| C.Ci.20/23  | Kulath Yusha            | Vataj Chardi             |
| C.Ci.26/46  | Mishrak Sneha           | Vataj Mutrakruch         |
| C.Ci.26/82  | Punarnawadi Tail        | Vataj Hrudrog            |
| C.Ci.28/129 | Trifaladi Chatusneha    | Vatrog                   |
| C.Ci.30/264 | Panchkoladi Lep         | Sthany Dushti            |
| C.Si.3/66   | Punarnavadi Niruh Basti | Vatadi Sansarga Rog      |
| C.Si.12/16  | Sauviradi Uttar Basti   | Sarv Vatrog              |

**Table 4: Formulation and Indication of Kulatha according to Sushrut Samhita[4]**

| Reference    | Formulation              | Indications          |
|--------------|--------------------------|----------------------|
| Su.Su.39/7   | Bhadradarvydi Varg       | Vatsanshman          |
| Su.Su.46/372 | Kulatha Yusha            | Vathar, Shwas, Pinas |
| Su.Sh.10/16  | Yavadisidh Jangalras     | Sutikarog Chikitsa   |
| Su.Ci.5/18   | Yavadisidh Yavagu        | Mahavatvyadhi        |
| Su.Ci.14/7   | Kulath Yusha             | Shelshodar Chikitsa  |
| Su.Ci.17/23  | Kulathadi Potis          | Kaphaj Nadivran      |
| Su.Ci.18/37  | Nishpavadi Lep           | Kaphaj Arbuda        |
| Su.Ci.37/21  | Bhutikaerandadi Anuvasan | Vatrog               |
| Su.Ci.38/21  | Vrshashmbhedadi Niruh    | Grudhrasi, Gulma     |
| Su.U.42/43   | Dadhik Ghrut             | Gulma                |
| Su.U.42/94   | Kulatha Yusha            | Vatshool             |
| Su.U.54/39   | Kulatha KShaar           | Krumirog             |
| Su.U.61/27   | Kulathadi Ghrut          | Apsmar               |

**Table 5: Formulation and Indication of Kulatha according to Ashtang Hrudya[5]**

| Reference  | Formulation         | Indication        |
|------------|---------------------|-------------------|
| A.Su.14/21 | Kulatha             | Sthoulya Chikitsa |
| A.Ci.1/71  | Kulatahdi Yusha     | Kaphaj Jwar       |
| A.Ci.3/7   | Dashmuladya Ghrut   | Kas               |
| A.Ci.3/55  | Kulatha Kwath       | Kaphaj Kas        |
| A.Ci.3/159 | Chavikadi Ghrut     | Kas               |
| A.Ci.4/22  | Kualtha Yusha       | Hikka, Shwas      |
| A.Ci.5/10  | Pipalyadi yog       | Rasjykhma         |
| A.Ci.6/49  | Kulathadiras        | Kaphaj Hrudrog    |
| A.Ci.11/2  | Shoolnashak Tail    | Mutraghat         |
| A.Ci.12/19 | Dhanvantar Ghrut    | Prameh            |
| A.Ci.14/15 | Dadhik Ghrut        | Gulma             |
| A.Ci.17/36 | Kulathashunti Kwath | Shotha            |
| A.Ci.21/28 | Mahasneha           | Vatvydhi          |

**Table 6: Formulation and Indication of *Kulatha* according to *Kashyap Samhita*[13]**

| Reference    | Formulation            | Indication                   |
|--------------|------------------------|------------------------------|
| Ka.Ci.2/13   | Trivaruta Yog          | Dushtprajata                 |
| Ka.Ci.10/13  | Shatavaryadi Avleha    | Mutrakrucho                  |
| Ka.Ci.10/15  | Panchmuladi Avleha     | Mutrakrucho                  |
| Ka.Ci.11/17  | Laghupanchmuladi churn | Mutragehat                   |
| Ka.Ci.17/21  | Raj Tail               | Phakka                       |
| Ka.K.8/110   | Kulatha Kwath          | KaphPradhan Vyadhi           |
| Ka.Khi.4/42  | Kulatah Yusha          | Sannipataj, Kaph-Vataj Vikar |
| Ka.Khi.17/47 | Kulathadi Tail         | Shoth                        |
| Ka.Khi.18/38 | Bilvadi Ghrut          | Shool                        |
| Ka.Khi.18/63 | Fal Tail               | Shool                        |
| Ka.Khi.19/18 | Dashmuladi Kwath       | Jwar Vat Prashamyti          |

**Table 7: Formulation and Indication of *Kulatha* according to *Harit Samhita*[14]**

| Reference    | Formulations    | Indication       |
|--------------|-----------------|------------------|
| Ha.Tr.13/164 | Kulatha Yusha   | Karn Shotha      |
| Ha.Tr.6/32   | Kulatha Yusha   | Arochak Chikitsa |
| Ha.Tr.20/77  | Baladi Kwath    | Vatshamak        |
| Ha.Tr.20/92  | Baladi Tail     | Vatshamak        |
| Ha.Tr.21/29  | Baladi Yog      | Aamvata          |
| Ha.Tr.29/9   | Kulathadi Kwath | Mutrakruccha     |

**Table 8: Formulation and Indication of *Kulatha* according to *Sharandhar*[15]**

| Reference     | Formulation       | Indication              |
|---------------|-------------------|-------------------------|
| Sha.M.K.2/81  | Kshudra Kwath     | Shwas Kas               |
| Sha.M.K.2/155 | Saptnushtik Yusha | Sannipataj Jwar, Aamvat |
| Sha.M.K.9/113 | Bala Tail         | Vatvyadhi               |
| Sha.M.K.9/124 | Mashadi tail      | Vatrog                  |

**Table 9: Formulation and Indication of *Kulatha* according to *Bhel Samhita* [16]**

| Reference  | Formulation   | Indication |
|------------|---------------|------------|
| Bh.Ci.5/20 | Dadhik Ghrut  | Gulma      |
| Bh.Ci.7/19 | Kulatha Yusha | Shuklameh  |

**Table 10: Traditional uses of *Kulatha* and their scientific validation**

| SN | Reported research activity        | Mentioned Ayurvedic activity         |
|----|-----------------------------------|--------------------------------------|
| 1. | Antioxidant[17]                   | Rasayana, Vayahsthapana              |
| 2. | Analgesic / Anti-inflammatory[18] | Shothahara, Vedanasthapana           |
| 3. | Diuretic[19]                      | Mutrala                              |
| 4. | Nephroprotective[20]              | Mutravirechaniya, Vishaghna          |
| 5. | Antiuro lithiatic[21]             | Ashmarighna                          |
| 6. | Hepatoprotective[22]              | Yakrit Shothahara, Deepana, Pachana  |
| 7. | Anti-cholelithiasis[23]           | Lekhana, Medohara                    |
| 8. | Safety/Toxicity[24]               | Pathya, safe in recommended quantity |

## Discussion

Modern studies provide biological validation for these classical claims.

The diuretic activity of aqueous extracts of *Kulatha* has been demonstrated in experimental models, showing significant increases in urinary volume and electrolyte excretion.[27] This supports its traditional use in *Mutrakrichra* and *Ashmari*, where diuresis is therapeutically essential.

Its antiuro lithiatic activity has also been confirmed through reduced calcium oxalate crystal formation in animal models.[28] These findings resonate with formulations such as *Kulatthadi Ghrut* and *Kulattha Yusha*, used in *Ashmari Chikitsa* in Ayurvedic practice. In terms of *Shothahara* and *Lekhana Karma*, modern research has shown *Kulatha* possesses significant anti-inflammatory and lipid-lowering activity. Methanolic and ethanolic extracts of the seeds reduced paw edema in carrageenan-induced inflammation and improved lipid profiles in high-fat diet-fed rats.[29,30] This directly correlates with classical uses in *Shotha*, *Medoroga*, and *Arsha*.

Additionally, *Kulatha* has been studied for its antioxidant potential, with extracts demonstrating DPPH and nitric oxide scavenging activity.[31] Given the oxidative stress involved in inflammatory, metabolic, and respiratory disorders, this pharmacological action supports its broader utility across systems.

While classical texts mention its role in *Kasa* and *Shwasa*, direct modern studies on respiratory benefits are lacking. However, its *Kaphahara*, *Lekhana*, and anti-inflammatory properties imply potential benefits in bronchial asthma, chronic bronchitis, and allergic rhinitis. This presents a strong rationale for future research into its immunomodulatory and bronchodilatory potential.

Despite these promising correlations, limitations remain. Most studies use unstandardized extracts and lack human clinical data. The specific active phytoconstituents responsible for its various actions are yet to be fully elucidated. Moreover, its *Ushna* and *Ruksha Guna* may contraindicate it in individuals with *Pitta Prakriti* or certain conditions, highlighting the need for personalized use as guided by Ayurvedic principles.

## Conclusion

Ayurvedic textual wisdom about *Kulatha* aligns well with modern pharmacological research, especially in the domains of urology, inflammation, metabolism, and potentially respiratory health.

This convergence justifies its integration into modern clinical practice, especially through evidence-based ayurvedic formulations. Future research should prioritize clinical validation, mechanistic exploration, and standardized preparations to harness the full therapeutic potential of this underutilized legume.

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