ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 18, Issue, 05, pp.37096-37099, May, 2026
DOI: https://doi.org/10.24941/ijcr.50526.05.2026

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

A CRITICAL REVIEW ON KOSHATAKI

[1]Dr. Sakshi A. Sonule and [2]Dr. Ajay kumar Gupta

[1]PG scholar, P.G. Department of Shalya Tantra, Uttarakhand Ayurveda University, Rishikul Campus, Haridwar, Uttarakhand Indian Pin code- 249401; [2]H.O.D. and Professor, P.G. Department of Shalya Tantra, Uttarakhand Ayurveda University, Rishikul Campus, Haridwar, Uttarakhand Indian Pin code- 249401

ARTICLE INFO

Article History:
Received 14th February, 2026
Received in revised form
26th March, 2026
Accepted 15th April, 2026
Published online 29th May, 2026

Key Words:
Koshataki, *Kshar*, *Luffa acutangula,* Ridge Gourd, Taroi

Corresponding author: **Dr. Sakshi A. Sonule**

ABSTRACT

The perennial plant *Luffa acutangula* (Cucurbitaceae) is used extensively in the traditional Indian medical system to cure a variety of ailments. It is mostly found in India, Southeast Asia, China, Japan, Egypt, and other regions of Africa. *Koshataki* (*Luffa acutangula*) has long been valued for its ability to treat ailments like *Gulma* (abdominal tumors), *Arsha* (hemorrhoids), *Kamala* (jaundice), *Kushtha* (skin problems), etc. It has been mentioned for preparation of *Kshar* by *Acharya Sushruta*. Therapeutic applications of *Koshataki* is supported by contemporary phytochemical research, which has identified more than 50 bioactive substances, including as flavonoids, saponins, and anthraquinones, etc. The plant has strong antifungal, analgesic, anti-inflammatory, and antibacterial qualities, according to pharmacological research. The phytochemistry, pharmacology, and medicinal potential of the plant are outlined in this paper.

Citation: Dr. Sakshi A. Sonule and Dr. Ajay kumar Gupta. 2026. "A critical review on koshataki*". International Journal of Current Research*, 16, (05), 37096-37099.

INTRODUCTION

Koshataki (*Luffa acutangula*), a member of the Cucurbitaceae family, is a well-known medicinal plant that is frequently used in traditional medical procedures and is detailed in classical *Ayurvedic* literature,known by many names, including *Rajakoshataki*, *Jaalini*, or *Koshataki.* This climbing annual herb is widely grown as a vegetable and medicinal plant throughout tropical Africa, Southeast Asia, and India. Although the soft fruits are eaten, other parts of the plant, including the fruit, seeds, and fibrous endocarp, have long been used medicinally. In *Ayurveda*, *Koshataki* is primarily recognized for its *Shodhana* (purificatory) potential and is classified among drugs useful in *Vamana* and *Virechana karma*, owing to its *Tikta–Katu rasa*, *Ushna virya*, and *Lekhana*, *Bhedana*, and *Kapha-Pitta shamaka* properties [1]. Classical texts such as *Charaka Saṃhita*, *Sushruta Saṃhita*, and various *Nighantus* mentioned *Koshataki* in the management of disorders including *Kushtha* (skin diseases), *Udara roga*, *Krimiroga*, *Jvara*, *Prameha*, *Pandu*, and *Shotha*, highlighting its wide therapeutic spectrum [2]. Externally, it has been used for inflammatory conditions, wounds, and localized swellings, while internally it has been valued for its detoxifying and metabolic regulatory actions**.** Studies have demonstrated its antioxidant, anti-inflammatory, anti-microbial, anti-helmintic, anti-diabetic, and anti-cancer activities, which are attributed to its rich phytochemical profile including flavonoids, saponins, cucurbitacin, phenolic compounds, and ribosome-inactivating proteins.

ETYMOLOGY

The Sanskrit name *Koshataki* derives from ***kosha*** (meaning "sheath" or "case") referring to how the seeds are encased within a fibrous network, a characteristic feature of the mature fruit [3].

AYURVEDA REVIEW

***Koshataki*[4]**

Botanicalname-*Luffa acutangula*
Family-Cucurbitaceae
RasaPanchaka*ofKoshataki:*
Rasa- *Tikta, katu*
Guna- *Laghu, Ruksha, Tikshna*
Virya- *Ushna*
Vipaka- *Katu*
Doshaghnata- *Kapha-Pittahara*
Property–*Shoth-hara*
Part used- *Panchang*

TAXONOMIC CLASSIFICATION

- **Kingdom:** Plantae
- **Phylum:** Tracheophyta (Vascular Plants)
- **Class:** Magnoliopsida (Dicotyledons)
- **Order:** Cucurbitales
- **Family:** Cucurbitaceae (Gourd Family)
- **Genus:** *Luffa*
- **Species:** *Luffa acutangula* (L.) Roxb.

SYNONYMS [5]

Dharaphala- The fruit is having ridges
Pitapushpa - Plant bears yellow flowers
Ghosha- Dried fruit of *Koshataki* produce sound on shaking
Jalini- The pulp is fibrous and resembles mesh when ripened
Krithavedhana- Its fruits have naturally arranged ridges
Mrudangaphal- Fruit resembles*Mridanga*

VERNACULAR NAMES [6]

- **English:** Ridge Gourd, Ribbed Gourd, Angled Luffa, Chinese Okra, Dish-cloth Gourd, Vegetable Sponge
- **Hindi:** Taroi, Turai, Kalitori, Nenua, Gilki, Chikni Turai
- **Tamil:** Peerkangai
- **Telugu:** Beera Kayi, Adavibeera
- **Marathi:** Dodka, Dodaki, Shirole, Kadushirali
- **Kannada:** Heerekayi, Heerakai
- **Bengali:** Jhinga, GholaTorai
- **Assamese:** Jika, Bhul
- **Gujarati:** Turiya, Ghisoda, Sirola
- **Malayalam:** Peechinga, Athanga
- **Oriya:** Janchi, Jahni
- **Konkani:** Ghossale
- **Punjabi:** Kalitori

CLASSICAL REFERENCES

Charak Samhita	*Vamaka, Phalini*
Sushruta Samhita	*Urdhwabhagahara, Ubhayatobhagahar,Kshar Dravya*
Ashtanghridyam	*Vamaka, Vishaprathishedha*
DhanwanthariNighantu	*Guduchyadivarga*
MadanapalaNighantu	*Shaka varga*
KaiyyadevaNighantu	*Aushadivarga*
Bhavaprakasha Nighantu	*Shaka varga*

TYPES OF *KOSHATAKI*

Two variety

- *Koshataki* (Bitter)- Used for medicinal purpose
- *Raja Koshataki* (Non-Bitter)- Used as vegetable all over the country

According to *Dalhana*[7]- 4 types

- *Brihat phala*
- *Alpa phala*
- *Pitapushpa*
- *Shwetapushpa*

CULTIVATION [8]

Although it may be cultivated in a range of soil types, ridge gourds prefer sandy loam soils with lots of organic matter. The ideal pH range for soil is 6.0 to 7.0. Ridge gourd seeds can be planted in a nursery or straight in the ground. By planting seeds in January through February and June through July, respectively, ridge gourds are grown during the summer and rainy seasons. When ridge gourd fruits reach a length of 6 to 8 inches, they are ready to be harvested.
Market value - ₹25 to ₹45 per kg

BOTANICAL DESCRIPTION [9]

The roots of the plant are yellowish brown in colour and cylindrical in shape. Longitudinal wrinkles on root contribute to their rough texture. Five angled, glabarous stem is brownish yellow in colour along with tendrils up to 6-feet. Flowers are regular and consists of yellow petals. Female flowers are yellow coloured solitary, 2–15 cm long on pedicels, with inferior, longitudinally ridged ovary and 3-lobed stigma while male flowers are light greenish in colour, consist of three free stamens with yellow corolla inserted into the receptacle tube. Leaves are simple, alternate and orbicular in outline with 15–20 cm long, palmately 5–7 angled, triangular to broadly rounded lobes and pale green in colour. Veins and vein islets are prominent. Fruits are cylindrical, pale yellowish brown in colour, bitter in taste, tapered toward the base and are covered with 8–10 prominent ribs. Inner part of the fruit is three chambered, fibrous and easily detachable from the outer part. Seeds are elliptical and black coloured.

TRADITIONAL USES AND ETHNOPHARMACOLOGY

Different parts of *Luffa acutangula* have been used extensively by different ethnic groups in India for medicinal purposes. In Maharashtra and the tribal areas of Madhya Pradesh, leaves and fruit powder are used for the treatment of jaundice. [10] The plant is also used by the tribes of western Maharashtra on insect bite. Fruit powder is applied topically to treat swollen haemorrhoids [11].Oral administration of seed powder is extensively used for the treatment of urinary bladder stone in Rajasthan [12]. Local application of pulverized leaves is reported to be useful in splenitis, haemorrhoids, ringworm infection, and leprosy[13]. Oil extracted from the seeds of ridged gourd and used in the treatment of skin diseases. The pulp of the ridge gourd is ground and applied on the wound to stop bleeding.

PHYTOCHEMICALS [14]

Phytochemical studies of *Luffa acutangula*show that it contains a wide variety of active compounds such as proteins, flavonoids, anthraquinones, fatty acids, and saponins. Special proteins known as ribosome-inactivating proteins (RIPs) are present, which are known for their anticancer, antiviral, and antifungal properties. Flavonoids like apigenin and luteolin contribute to its antioxidant activity. Certain anthraquinone compounds also show potential anticancer effects. The seeds are nutritionally rich, containing good amounts of protein and healthy fats along with essential minerals. In addition, triterpenoid saponins are present, which add to its therapeutic value. Overall, these constituents make the plant pharmacologically important.

PHARMACOLOGICAL ACTIONS

Anti-inflammatory and analgesic effect[15]. The plant exhibits strong anti-inflammatory properties in both acute and chronic conditions. Extracts from the dried leaves and fruits have shown a clear ability to suppress physical swelling. The seed

extracts have shown significant anti-inflammatory and analgesic effect. These effects suggest that the plant can effectively interfere with the biological pathways that trigger inflammation, performing favourably when compared to standard pharmaceutical treatments.

Antioxidant[16]

Luffa acutangula also stands out as a powerful source of natural antioxidants, showing a remarkable ability to combat oxidative stress across multiple testing models. Studies of various extracts ranging from the fruit and seeds to even the peel shows that the plant is packed with compounds that can neutralize harmful free radicals. The plant extracts work well at scavenging radicals and stopping lipid peroxidation, both of which are essential for shielding cells from harm. While methanol extracts show strong activity, aqueous and ethanol extracts are often the most effective.

Anti-bacterial and Anti-fungal Activity[17]: The anti-microbial profile of *Luffa acutangula* shows its broad-spectrum activity against a variety of bacterial and fungal pathogens. Different extracts like methanolic, aqueous, and ethanolic from various parts of the plant such as seeds, leaves, fruits, and roots have been tested. Among these, methanolic extracts, especially from seeds, showed stronger antibacterial effects against organisms like *E. coli* and *Staphylococcus aureus*. Leaf and fruit extracts were also found effective against certain pathogens, while some extracts showed antifungal activity against species like *Candida* and *Aspergillus*. Overall, the plant demonstrates broad-spectrum antimicrobial potential, with methanolic extracts generally showing better activity compared to others.

Immunomodulatory activity[18]: It has been proven that the extract enhances the body's immune response by improving phagocytic activity and increasing neutrophil adhesion. Its effect was found to be comparable to a standard immunomodulatory drug, indicating its potential as an effective immune-boosting agent.

Anti-ulcer activity[19]: The anti-ulcer activity of dried fruit pulp extract, both methanolic and aqueous, was studied in animal model with induced gastric ulcers. The methanolic extract showed better protective effects on the stomach lining by enhancing antioxidant activity and improving mucosal defence and also helped in better healing of ulcers.

CONCLUSION

Koshataki (*Luffa acutangula*) is an important medicinal plant that has been extensively described in classical *Ayurvedic* literature for its therapeutic and purificatory properties. Traditional texts highlight its role in *Shodhana* therapies and its use in the management of various disorders such as *Kushtha, Gulma, Kamala, Shotha,* and other metabolic and inflammatory condition.

Contemporary research studies have revealed that the plant contains a wide range of bioactive constituents, including flavonoids, saponins, anthraquinones, fatty acids, and ribosome-inactivating proteins, which contribute to its diverse pharmacological activities. Experimental studies have demonstrated significant therapeutic anti-inflammatory, anti-oxidant, anti-microbial, immunomodulatory, and anti-ulcer properties, thereby providing scientific support for many of its therapeutic applications.

Taken together, the classical references and contemporary research findings suggest that *Koshataki* possesses significant therapeutic potential. However, further detailed pharmacological studies, standardization of extracts, and well-designed clinical trials, are required to fully elucidate its mechanisms of action and validate its efficacy. Such studies may help in establishing *Koshataki* as a promising plant-based therapeutic agent and strengthen the integration of traditional knowledge with modern medical research.

REFERENCES

1. Sharma P V. Kaiyyadeva Nigantu. First edition; Aushadivarga; Ist chapter Verse 573; Chaukambhaorientalia, Varanasi; P 105
2. Sharma P V. Kaiyyadeva Nigantu. First edition; Aushadivarga; Ist chapter Verse 573; Chaukambhaorientalia, Varanasi; P 105
3. Dravyaguna-vijyana vol-2 by Prof. P. V. Sharma, Chaukhamba Bharti academy, edition 2022, Pancham adhyay, Dipanadivarga, Vaman (Page. No. 383)
4. Dravyaguna-vijyana vol-2 by Prof. P. V. Sharma, Chaukhamba Bharti academy, edition 2022, Pancham adhyay, Dipanadivarga, Vaman (Page. No. 383)
5. https://www.easyayurveda.com/2016/09/21/ridge-gourd-luffa-acutangula-benefits-research/
6. https://www.easyayurveda.com/2016/09/21/ridge-gourd-luffa-acutangula-benefits-research/#:~:text=%E2%80%93%20Peerae%2C%20Peere.,Sanskrit%20Synonyms,cultivated%20all%20over%20the%20country.
7. Sushruta Samhitaof Maharshi-Sushrutaedited By Dr. kevalkrishnathakral vol.1 by Chaukhamba Publications (*Su. Sutra-11*, page no.108) *shloka* no - 11
8. https://agriplexindia.com/blogs/featured/ridge-gourd-farming?srsltid=AfmBOopdZYrUEABmAxbsEQ4cOkfojgFkrxtWVHkENyIPQ5kDtt4UWhFD
9. Sathianarayanan S, Asha Jose, Rajasekaran A, Rijo mary George. Evaluation of protective effect of *Luffa acutangula*extract against bilateral carotid artery occlusion induced stoke in rats, Indian journal of pharmaceutical science and Research 2012;2(1):1-6
10. Samvatsar S., Diwanji V. (2000). Plant sources for the treatment of jaundice in the tribals of western Madhya Pradesh of India. *J. Ethnopharmacol.* 73 313–316. 10.1016/S0378-8741(00)00274-9
11. Dandge S., Rothe P., Pethe A. (2010). Antimicrobial activity and pharmacognostic study of *Luffa acutangula* Roxb var amara on some deuteromycetes fungi. *Int. J. Sci. Inn. Discover.* 2 191–196
12. Katewa SS, Chaudhary BL, Jain A. Folk herbal medicine from tribal area of Rajasthan, India, Journal of Ethanopharmacology 2004, 41
13. Mahbubar R. (2013). Ethno-medico-botanical studies on cucurbits of Rajshahi division, Bangladesh. *J. Med. Plants Stud.* 1 118–125.
14. Manikandaselvi S, Brindha P. Quality control studies on *Luffa acutangula,* international journal of pharmacy and pharmaceutical sciences ISSN -0975-1491 2014, 6

15. Gills NS, Arora R. Evaluation of antioxidant, anti-inflammatory and analgesic potential of the *Luffa acutangula*Roxb, Research journal of phytochemistry 2011;5(4):201-208.
16. Gills NS, Arora R. Evaluation of antioxidant, anti-inflammatory and analgesic potential of the *Luffa acutangula*Roxb, Research journal of phytochemistry 2011;5(4):201-208.
17. Menghani E, Ojha CK, Negi RS, Agarwal Y and Pareek A. Screening of Indian medicinal plants and their potentials as antimicrobial agents. Global Journal of Science Frontier Research 2011; 11(2): http://creativecommons. org/licenses/by-nc/3.0/
18. Kalasakar M., Surana S. (2014). Free radical scavenging, immunomodulatory activity and chemical composition of *Luffa acutangula* Var. amara (Cucurbitaceae) pericarp. *J. Chilean Chem. Soc.* 59 2299–2302. 10.4067/S0717-97072014000100012
19. B. P. Pimple1, P. V. Kadam, M. J. Patil. Protective effect of Luffa acutangula extracts on gastric ulceration in NIDDM rats: Role of gastric mucosal glycoproteins and antioxidants. Asian Pacific Journal of Tropical Medicine

****