



## OVERVIEW ON MYRISTICA FRAGRANS (JATIPHALA)

Bhavna Parihar<sup>1</sup>, Shiromani Mishra<sup>2</sup>, Reeta Malviya<sup>3</sup>

<sup>1</sup>P.G. Scholar, Dept. of Dravyaguna, Govt. Dhanvantari Ayurveda College Ujjain, M.P. India

<sup>2</sup>Guide & Reader, Dept. of Dravyaguna, Govt. Dhanvantari Ayurveda College, Ujjain, M.P. India

<sup>3</sup>Co-Guide & Lecturer, Dept. of Dravyaguna, Govt. Dhanvantari Ayurveda College, Ujjain, M.P. India

Corresponding Author: [bparihar.india1@gmail.com](mailto:bparihar.india1@gmail.com)

<https://doi.org/10.46607/iamj1510122022>

(Published Online: December 2022)

### Open Access

© International Ayurvedic Medical Journal, India 2022

Article Received: 14/11/2022 - Peer Reviewed: 05/12/2022 - Accepted for Publication: 17/12/2022



## ABSTRACT

The tradition of using herbal drugs and herbal remedies for treating human ailments is very old and in the last few years, the demand for herbal remedies has increased when conventional medicine is ineffective in the treatment of diseases. *Myristica fragrans* Houtt, commonly known as nutmeg. Nutmeg is a very common spice, which is used around the world. It is described in almost each medicine system such as *Ayurveda*, *Siddha*, *Unani*, and folk system. It has a wide range of fixed oils and essential oils in it for ex. myristicin, safrole, myristic acid, etc. Nutmeg is considered a medicinal plant for its extraordinary properties as an aphrodisiac, antifungal, anticonvulsant hepatoprotective, antimicrobial, anti-diabetic, anti-cancer, etc. The review aim is to compile a multidimensional review of the highly valuable drug *Jatiphala* from classical texts and its pharmacognostical, pharmacological, therapeutic uses and associated side effects.

**Keywords:** *Jatiphala*, *Myristica fragrans*, *Nighantu*

## INTRODUCTION

*Ayurveda*, a natural system of medicine, originated in India more than 3,000 years ago. It is a science that deals with different types of herbal and mineral drugs

which are used in different types of diseases as a single drug or compound formulation. They have men-

tioned a large number of drugs among which *Jatiphala* is one of them.

The name *Jatiphala* is a combination of two words “*Jati*” and “*Phala*”.<sup>[1]</sup>

*Jati*= Aroma

*Phala*= Fruits

The seed is popularly known as *Jayaphala* and the fleshy red covering on the seed is mace is known as *Javitri* or *Jatikosha*.<sup>[1]</sup>

Nutmeg is a shelled, dried seed derived from *Myristica fragrans*, a tropical evergreen tree. Nutmeg contains several health benefits and is a source of many proteins, minerals, oils, and resins.

For ages, *Jatiphala* is used as an ingredient of *Garam masala* in Indian homes. It is customary to use *Jatiphala* seed rubbed in water or seed paste for gastric trouble, diarrhoea, vomiting, and stomachache in infants. In traditional folklore medicine, *Jatiphala* is used as a stimulant, carminative, emmenagogue, and abortifacient drug. Nutmeg possesses various pharmacological activities like hepatoprotective activity, antioxidant activity, memory enhancing activity, cytotoxicity, Aphrodisiacs activity, Anti diabetic activity, Anti-depressant activity, Anti-microbial activity, Anti-bacterial activity, Anti-inflammatory activity, Hypocholesterolemic effect, etc.<sup>[1]</sup>

#### **Aims and objectives-**

- To compile a multidimensional review of *Jatiphala* from classical texts.
- To collect numerous therapeutic uses and actions from different classics.

#### **Material and methods-**

##### **General Description-**

**Botanical Name-** *Myristica fragrans* Houtt.

**Family-** Myristicaceae

**Hindi Name-** *Jaiphala*

**English Name-** Nutmeg, True nutmeg, false aril, Mace tree, Fragrant nut tree.

**Common name** – Nutmeg

**Vernacular Name**<sup>[1]</sup>

**Arabic:** Jiansiban, Jouzbawwa

**Bengali:** Jaiphala, Jaitri, Jayapatri, Jotri, Japatri

**Cambodia:** Bochkak

**Chinese:** Toulou, jou Toukou

**German:** Muskatnuss, Muskatnussbaum

**Greek:** Kaaryonaromatikon, Moscharion

**Gujarati:** Jaiphala, Jayfar, Javantari Italian: Moscatero, Nocemoscata

**Kannada:** Jadikai, Jaykai, Jaidikai, Jaji, Jajipatri

**Kashmiri:** Jafal

**Malayalam:** Jatika, Jatikosha, Jatipatri. Surabhi

**Marathi:** Jaiphala, Jayapatri Oriya: Jaiphala

**Punjabi:** Jaiphala, Jauntari

**Russian:** Muskatnoetrava

**Tamil:** Sathikkai, Jathikkai, Jadhikai. Jadhikkai Adiphalam,

**Telugu:** Jajikaya, Jaji, Jati, Jajipatri, Lavangamu Sivigaram, Kosham

**Urdu:** Jauzbuwa, Jaiphala.

#### **Taxonomy classification of *Myristica fragrans***<sup>[2]</sup>

Taxonomic Rank Taxon

Kingdom: Plantae

Class : Dicotyledons

Subclass : Monochlamydae

Series : Microembryaceae

Family : Myristicaceae

Genus : *Myristica*

Species : *fragrans*

**Habitat-** *Myristica fragrans* is a native medicinal herb of Moluccas and Banda Islands in the South Pacific. It is grown in tropical areas, mainly in Indonesia, Grenada in the West Indies, and Sri Lanka. In India, it is cultivated in the high rainfall Zone of the Western Ghats including Kerala, Karnataka, and Tamil Nadu up to 700 to 800 m in elevation. Nilgiri, Salem, Tirunelveli, Ramanathapuram, Coimbatore, Kanyakumari, and Madurai districts of Tamil Nadu are famous for its cultivation.<sup>[1]</sup>

**Basonym of drug-** The plant has got shell-like fruit.<sup>[2]</sup>

#### **Synonyms -**

1. **Jatikosha:** The aromatic fruit has a netted aril over the seed inside it.
2. **Jatiphala:** The fruit is aromatic in nature.
3. **Kosha:** The seed is enclosed inside the aril.
4. **Malatiphala:** The fruit has got sweet aroma that resembles jati (jasmine)

5. **Putra:** The fruit containing a hollow structure that encloses the seed.
6. **Madashounda:** The smell of fruit causes intoxication. With pippali, it is also used after consuming alcohol.
7. **Majjasara:** The kernel of the fruit is used for medicinal purposes.
8. **Malatisuta:** The fruit has fragrance and is covered with koṣha (aril).
9. **Saumanasam phalam:** The fruit has a charming look or is very beautiful.
10. **Jatishrungam:** The fragrant aril can be peeled off easily.
11. **Shalukam:** The fruit looks like a tumor.
12. **Jatiasaaram:** The fruit has fragrance and is covered with koṣha (aril).

**Table 01: Classical Categorization**

| Texts                                | Varga             |
|--------------------------------------|-------------------|
| Dhanvantari Nighantu <sup>[5]</sup>  | Chandanadi Varga  |
| Shodhala Nighantu <sup>[6]</sup>     | Chandanadi Varga  |
| Madanpal Nighantu <sup>[7]</sup>     | Karpuradi Varga   |
| Kaiyadev Nighantu <sup>[8]</sup>     | Oushadi Varga     |
| Bhavaprakash Nighantu <sup>[9]</sup> | Karpuradi Varga   |
| Shaligram Nighantu <sup>[10]</sup>   | Karpuradi Varga   |
| Priya Nighantu <sup>[11]</sup>       | Haritakyadi Varga |
| Raj Nighantu <sup>[12]</sup>         | Chandanadi Varga  |
| Nighantu Adarsha <sup>[13]</sup>     | Jatiphaladi Varga |

**Botanical Description-** Evergreen aromatic tree, usually dioecious, 9-12 m high. Bark-greyish black.

- **Leaves-** Coriaceous, elliptic or oblong-lanceolate, deep green above and greyish beneath, reddish-grey when ripe.
- **Flowers-** creamy-yellow, fragrant, borne in umbellate cymes.
- **Fruits-** globose or broadly pyriform, 6-9 cm long, pear-shaped, glabrous, often drooping, yellow; pericarp fleshy, 1.25 cm thick, splitting into two halves when mature.
- **Seed-** arillate, albuminous, broadly ovoid, with a shell-like purplish-brown testa; aril fleshy, lacinate, red. <sup>[3]</sup>

**Varieties-** Varieties *Myristica fragrans* are most commonly used as Nutmeg. *Myristica malabarica* is a common adulterant, it is also called Bombay Nutmeg. In some places, *Myristica dactyloides* (M. Laurifolia Hook f. & Thoms) is used as *Jaiphal*.<sup>[4]</sup>

**Prashasta** <sup>[10]</sup>

- *Grahya jatiphala- Sashabda, Snigdha, Guru.*
- *Agrahya Jatiphal- Shabdaheen, Ruksha, Laghu.*

**Properties-**

**Ras-** Katu, Tikta

**Guna-** laghu, Tikshna

**Vipaka-** Katu

**Virya-** Ushna

**Doshghnata-** Kapha Vata Shamak.

**Indication-** krimi, Kasa, Chardi, Svasa, Mukha Vairasya, Sosa, Punasa, Hrdruja, Trisna, Visaroga, Yavana pitika.<sup>[3]</sup>

**Chemical constituents-** Beta Pinene, Alpha Terpinene, Safrole, Methyl Eugenol, Myristicin, Elemicin, Trimyristin, Dihydro-disoeugeneol, Myristic acid, Epicatechin, Cyanadin, Nectandrin B, Verrucosin, Lignans, and neolignans, etc. <sup>[3]</sup>

**Pharmacological Actions-** The kernel and mace are reported to have carminative. Deodorant, stimulant, aphrodisiac, antidiarrheal, anthelmintic, hypolipidemic, hypocholesterolemic effect, anti-depressant, antidiabetic, cytotoxicity, memory-enhancing activity, antioxidant, hepatoprotective, pesticidal activity. Antibacterial, antifungal, anticonvulsant, anti-inflammatory, smooth muscle relaxant, analgesic,

expectorant, diuretics, emmenagogue, and antispasmodic activities.

**Table 02: Guna and Doshakarma of *Jatiphala* in *Nighantu*.**

| <i>Nighantu</i>                              | <i>Rasa</i>                 | <i>Guna</i>            | <i>Veerya</i> | <i>Vipaka</i> | <i>Doshakarma</i>      |
|--|-----------------------------|------------------------|---------------|---------------|------------------------|
| <i>Dhanvanatari Nighantu</i> <sup>[5]</sup>  | <i>Kashaya, Katu</i>        | <i>Laghu</i>           | <i>Ushna</i>  | <i>Katu</i>   | <i>Vaatahara</i>       |
| <i>Madanpala Nighantu</i> <sup>[7]</sup>     | <i>Katu, kashaya</i>        | <i>Laghu</i>           | <i>Ushna</i>  | <i>Katu</i>   | <i>Kapha-vaatahara</i> |
| <i>Kaiyadev Nighantu</i> <sup>[8]</sup>      | <i>Tikta, Katu</i>          | <i>Laghu, Teekshna</i> | <i>Ushna</i>  | <i>Katu</i>   | <i>Kapha-vaatahara</i> |
| <i>Bhavaprakasha Nighantu</i> <sup>[9]</sup> | <i>Tikta, Katu</i>          | <i>Laghu, Teekshna</i> | <i>Ushna</i>  | <i>Katu</i>   | <i>Kapha-vaatahara</i> |
| <i>Shaligram Nighantu</i> <sup>[10]</sup>    | <i>Kashaya, Katu</i>        | <i>Laghu</i>           | <i>Ushna</i>  | <i>Katu</i>   | <i>Kapha-vaatahara</i> |
| <i>Priya Nighantu</i> <sup>[11]</sup>        | <i>Katu, Tikta</i>          | <i>Sughandhi</i>       | <i>Ushna</i>  | <i>Katu</i>   | <i>Kapha-vaatahara</i> |
| <i>Raja Nighantu</i> <sup>[12]</sup>         | <i>Kashaya</i>              | <i>Laghu</i>           | <i>Ushna</i>  | <i>Katu</i>   | <i>Vaatahara</i>       |
| <i>Mahoushadha Nighantu</i> <sup>[14]</sup>  | <i>Kashaya, Katu, Tikta</i> | <i>Laghu</i>           | <i>Ushna</i>  | <i>Katu</i>   | <i>Kapha-vaatahara</i> |
| <i>Shankar Nighantu</i> <sup>[15]</sup>      | <i>Katu</i>                 | <i>Laghu</i>           | <i>Ushna</i>  | <i>Katu</i>   | <i>Kapha-vaatahara</i> |

**Therapeutic uses** <sup>[2]</sup>

**External Use**

1. *Atisaar* (diarrhea) *Jatiphala* paste prepared with waste is applied on the navel region to check *arisaar* (B Ratica)
2. *Vyanga* (freckles): Local application of a paste of *Jatiphala* or its aril (*Jatipatri*) removes freckles (8.P.C.61/42) RA 5/16)
3. *Vipadika* (cracked feet): A paste of *Jatiphala* is applied locally to cure cracked feet (B.S. kustaci/1181)

**Internal Use**

1. *Atisaar* (diarrhea): *Jatiphala* and *Shunthi* pounded with cold water are given to check diarrhea (SB 4/141), Oral intake of *Jatiphala*, *Lavang*, *Jeeraka*, and *Tankana* powder mixed with *Madhu* and

*Sharkara* controls all types of diarrheas (B.Ratisaar ci./30).

2. *Visuchika* (cholera): In case of thirst and mild nausea water boiled with *Lavanga* or *Jatiphala* should be given (C.D. 6/91).

**Part used-** Seed(*Jaiphala*), Mace(*Javitri*), Oil. (A.N.)

**Formulation-** *Jatiphaladi churna*, *Jatiphaladi vati*, *Garbhachintamani raia Mahagandhaka vati*, *Ahiphenasava*. *Kasturibhairava ras Khadiradi gutika*.

**Discription( references) in Ayurvedic textbooks:**

- ✓ ***Brihatrayis*** Though *Jatiphala* and *Jatikosa* are described seperately by the *Viddha Trayi*, their utility is restricted. *Jatiphala* is the seed, and *Jatikosa* (*Jatipatrika*) is the synonym of *Javitri* (aril of the seed).

**Table 03:**

| <i>Brihatrayis</i>              | <i>Jatiphala</i>                                 | <i>Jatikosa</i>  |
|---------------------------------|--|--|
| <i>Charak</i> <sup>[16]</sup>   | Thrice (C.S.Su. 5/73; Ci. 17/126 & Ci. 28/151) a | Twice (C.S.Ci. 26/209 & Ci. 28/150)  |
| <i>Sushrut</i> <sup>[17]</sup>  | Twice (S.S.Su. 46/202 & Ci. 24/31-Jät)           | (S.S.Su. 46/202)   |
| <i>Vagbhata</i> <sup>[18]</sup> | <i>Vägbhata</i> (A.H.Gi. 21/77 & Ut 22/93)       | (A.H.Ci. 21/77). <i>Vägbhata</i> described <i>Jätikosa</i> as <i>Jatipatrika</i> (A.H.Ut. 22/93) |

✓ ***Laghutrayis***

- *Bhav prakash* discribed it in *Karpuradi Varga*
- *Śärnigdhara* mentioned *Jätiphala* as an example of *Sukrastambhana dravyas*.

Substitutes <sup>[2]</sup>- 1. *Myristica beddomei* 2. *Myristica attenuata*

Adulterants <sup>[2]</sup>- 1. *Myristica malabarica*, 2. *Myristica argentea*

### Side Effects of Nutmeg:

- ✓ Nutmeg might produce side effects similar to that of anticholinergic poisoning. When taken in a large dose, it might lead to neurological symptoms like tingling, hallucinations, giddiness, and euphoria. There might be delirium and extreme drowsiness following these symptoms.
- ✓ The common unpleasant side effects include vomiting, dizziness, nausea, abdominal pain, headache, tremor, chest pain, and tremor. Nutmeg contains elemicin and myristicin which are narcotic and produce psychotropic effects (affecting mental activity).
- ✓ Consuming large quantities of nutmeg might also produce temporary constipation, difficulty in urination, and increased fat accumulation in the liver. Powdered nutmeg can be helpful as a hallucinogenic drug, but excess intake might lead to delirium and epileptic convulsions.

### Precautions to take with Nutmeg:

- ✓ Taking nutmeg is not safe to take during pregnancy and must be avoided. Pregnant women might present with agitation, palpitations, anxiety, dry mouth, blurred vision, and chest tightening when taken in large amounts.
  - ✓ It is essential to not take it in high doses since it possesses narcotic effects.
  - ✓ It might trigger asthma and cause allergies.
  - ✓ There is not sufficient information about the safety of consuming nutmeg during breastfeeding. It is better to avoid taking nutmeg while breastfeeding.
- Excess intake of nutmeg might decrease fertility in men. Nutmeg should not be consumed if you are attempting to conceive a child.

### DISCUSSION

In Ayurveda, several drugs and many formulations of drugs are described *Jatiphala* is among them, it is frequently described drug by various authors in *Samhitas* and *Nighantu's* like *Dhanvantari*, *Kaideva* and *Bhavaprakash Nighantu*, etc. Nutmeg is a shelled, dried seed derived from *Myristica fragrans*, a tropical evergreen tree. Nutmeg contains several health bene-

fits and is a source of many proteins, minerals, oils, and resins.

### CONCLUSION

*M. fragrans* is a promising herb which is most commonly known as the herb of the kitchen and used in traditional systems of medicine for treating numerous human ailments. It possesses various medicinal values & is explored in detail as per Ayurveda literature.

### REFERENCES

1. Monika & Sahu Subash Gallery of medicinal plants (Dravyaguna Vigyan) Thieme medical and scientific private limited, Noida up 2020.
2. Dr. Prakash L. Hegde, Dr. Harini A., Dravyaguna Vijnana Vol.II, Chaukhambha Publication New delhi Reprint 2019 P. 396-401
3. Dr. J.L.N. Shastri ,Dravyaguna Vigyan Vol.II, Chaukhambha Orientalia Varanasi, Edition reprint 2019-page no.
4. www.easyayurveda.com
5. Sharma P.V (editor). Dhanwantari Nighantu. 3<sup>rd</sup> ed. Varanasi: Chaukhambha Orientalia; 2002; p.97
6. Pandey G, Dwivedi RR (Ed.). Sodhala Nighantu. 1<sup>st</sup> edition. Varanasi: Chaukhambha Krishnadasa Academy, 2009; 73, 74 and 251. 3 varga /
7. Vaidya Panchanan Pandit Ram Prasad, Madanpal Nighantu, Khemraj Shree Krishna das prakashan Mumbai, Edition 1998, P. 79
8. Sharma Priyavrat, Dr. Guru Prasada Sharma, Kaiyadeva-Nighantu, Chaukhambha Orientalia, Delhi, Edition First,1979, P.245
9. Chuneekar Krishnachandra. Bhavaprakash Nighantu. Rev. ed. Varanasi: Chaukhambha Bharti Academy, Reprint 2002; Karpuradi varga / 216- 218
10. Vaisya LS. Shaligrama Nighantu Bhooshana. Reprint. Mumbai: Khemaraj Sri Krishna Das; 2002: p. 34-36. 7<sup>th</sup>, 8<sup>th</sup> part Karpuradi varga.
11. Sharma PV. Priya Nighantu. Rep. Ed. Varanasi: Chaukhamba Surbharati Prakashan; 2004; 20-21. 1<sup>st</sup> varga / 81-83.
12. Tripathi I. Dravyagunaprakashika Hindi commentary on Raja nighantu. Varanasi: Chaukhambha Krishnadas Academy, 2006; 410.Varga /75-78 and 22 varga/5, 23.
13. Vaidya Bapalala G. Nighantu Adarsha, Chaukhamba Bharati Varanasi, reprint 2005. P. 370-371

14. Tripathi indredev Mahoushadha Nighantu ed. Chaukhamba Bharati Varanasi, reprint 2006
15. Gauda S.D. Shankar Nighantu, vol-1. Rep ed. Varanasi: Chaukhamba vidyabhavan, 2002; P.102 1<sup>st</sup> varga / p. 278.
16. Kashinath Shastri, Dr. Gorakhanatha Chaturvedi, Charak Samhita of Agnivesha, vol.I, edition- 6<sup>th</sup> Chaukhamba Vishwabharati Varanasi 1978
17. Ambikadutta Shastri, Sushrutasamhita, Part II, Chaukhamba Sanskrit sansthan Varanasi Reprint 2016
18. Kaviraj Atrideva Gupta, Ashtanghridyam of Vagbhata, Chaukhamba Sanskrit Sansthan Varanasi, Reprint 2005
19. Vijnana Vol.II, Chaukhamba Bharti Academy Varanasi, Reprint third edition 2005, P.458

**Source of Support: Nil**

**Conflict of Interest: None Declared**

How to cite this URL: Bhavna Parihar et al: Overview on Myristica Fragrans (Jatiphala). International Ayurvedic Medical Journal {online} 2022 {cited December 2022} Available from: [http://www.iamj.in/posts/images/upload/3358\\_3363.pdf](http://www.iamj.in/posts/images/upload/3358_3363.pdf)