

RUDRAKSH (*ELAEOCARPUS GANITRUS* GAERTN.K.SCHUM): THE HIMALAYAN TREE

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ABSTRACT

Elaeocarpus ganitrus Gaertn. K. Schum is an Evergreen large tree of Rudraksha. The word Rudraksha is consequent from two words – Rudra (रुद्र) and Aksha (अक्ष). Rudraksha tree was formed by the tear of Lord Shiva and signifies from ancient times. Rudraksha is a big leaved tree belonging to the family *Elaeocarpaceae* found in the Himalayan region and gangetic plains. According to *Ayurveda*, Rudraksha cures many health problems like anorexia, anxiety, diabetes, neurological, skin related disorders. *Elaeocarpus ganitrus* have many pharmacological effects like *Anti-epileptic*, *anti-diabetic*, *anti-inflammatory*, *anti-bacterial*, *anti-convulsive*, *anti-hypertensive* etc. The chemical constituents of *Elaeocarpus ganitrus* Roxb. contains quercetin, gallic and elagicacids, elaeocarpine, iso-elaecarpine and

Rudrakine. This article is an attempt to review about the power of Rudraksh, its spiritual and medicinal uses.

KEYWORDS: *Elaeocarpus ganitrus*, Rudraksh, Medicinal, Mukhi, Lord Shiva.

INTRODUCTION

Elaeocarpus ganitrus Roxb. commonly known as Rudraksha in India belongs to the *Elaeocarpaceae* family and grows in the Himalayan region.^[1] Rudra and Aksha, thus merge to create Rudraskha, a power bead dear to Lord Shiva. Rudra got transformed to Lord Shiva and Aksha denotes the ‘Eye’ meaning thereby that it is a powerful natural bead linked to the

most powerful God of Hindu Trinity-Mahadeva, Rudra or Shiva. Rudraksha are the beads from trees belonging to *Elaeocarpus Ganitrus* Roxb. Variety grown at locations of South East Asia (Java, Parts of Malaysia, Taiwan, China) and south Asia (Northern India and Nepal). Rudraksha is distributed in different parts of India. Rudraksha trees have interesting features. It is a medium sized evergreen tree, bears oblong lanceolate, sub-entire, or irregularly crenate, glabrous, acute or acuminate simple leaves. The leaves are like mango tree, seriated and petiolate. While flowers appear in dense racemes in old leaf axils. Fruits, globose, somewhat ovoid purple drupes, contain tubercled stones. Rudraksha seeds (stones) contain five cells fused together with marking lines running vertically on its surface. Fruits of the plant are wearing by Hindu mystics as necklaces and in their daily worship for purpose of counting prayers and various magical properties are recognized to them. The Rudraksha means fruit of the Rudra tree.

The Seed is used as a prayer bead is used in Hinduism as well as in other traditions. The seeds are associated with the Hindu Lord Shiva, as described in Vedic texts. Rudraksh bead is one sacred facet of Indian culture due to associated religious, ethno botanical.^[2] It is considered to have very high cosmic force due to its link with eye of Lord Shiva in various old literature of Hindu Mythology. The motherland or birth place of rudraksha is mountains of Himalayas.^[3] Foot hills and Terai regions of tropical evergreen forests of Nepal, Assam, Bihar, West bengal and South konkan regions of Western ghats bear Rudraksh trees. This tree also occurs in Maharashtra and Madhya Pradesh. The chemical constituents of *Elaeocarpus ganitrus* Roxb. contains quercetin, gallic and elagic acids, elaeocarpine, iso-elaecarpine and Rudrakine.^[4,5]

TAXONOMICAL CLASSIFICATION

Botanical name: *Elaeocarpus ganitrus* Gaertn. K. Schum

Kingdom-Plantae

Division- Mangoliophyta

Class-Magnoliopsida

Order-Oxalidales

Family-*Elaeocarpaceae*

Genus-*Elaeocarpus*

Species-*E.ganitrus*

Common name- Rudraksha

Habit-Tree

VERNACULAR NAMES

Sanskrit-Rudraksha

Hindi-Rudraki

Bengali-Rudrakya

Marathi-Rudraksha

Assam-Rudrai

SYNONYMS

Sanskrit-Rudraksha

Hindi-Rudraki

English-Wooden begger bead

Bengali-Rudrakya

Marathi-Rudraksha

Assam-Rudrai^[15]

BOTANICAL DESCRIPTION

It is a medium size tree found at a height or depth of three thousand meters above or below sea level. *Eaeocarpusganitrustrees* grow to 60–80 ft and are found in the slopes of the Himalayas to Nepal, Sikkim, South and Southeast Asia. Theseed is spherical, obovoid or oval, variable in size about 1 or 2 cm in diameter, longitudinally grooved, tubercled, brown, divided into five segments.^[6] It is a large evergreen tree with large leaves. Its height ranges from 50–200 feet. Leaves are large and shining green on the sun facing side and dull stringy on earth facing side. Flowers become visible in the month of April, may and are white or yellow in colour.^[7,8] Fruits start appearing in June and ripen near October. Ripe fruit is fleshy and has a seed with blue shell. Inner part or bead lying in the seed is called Rudraksha.^[9]

a) Macroscopic- Seed stony, very hard, spherical, obovoid or oval, variable in size, about 1 or 2 cm in dia., longitudinally grooved tubercled, brown, divided into five segments.

b) Microscopic- Seed coat contains of multilayered, oval to polygonal stone cells and internally followed by 8 to 10 layers of tangentially elongated, oval-shaped, thin-walled, parenchymatous cells, filled with reddish-brown contents, excepting the middle 2 or 3 layers, endosperm consists of oval to polygonal, thin-walled, parenchymatous cells, rosette crystals

of calcium oxalate and oil globules present in this region, embryo slightly, curved and consists of oval to polygonal, thin-walled, parenchymatous cells, a few having oil globules.

Powder- Reddish-brown, shows polygonal lignified with narrow, lumened stone cells, thin-walled, parenchymatous cells with reddish-brown contents, rosette crystals of calcium oxalate and oil globules.^[10]

The morphological characters of plant are shown below and macroscopically description given in the table no. 1 and 2.^[11-14]

Leaves- Simple, glabrous, oblong-lanceolate, sub-entire or irregularly crenate, acute or acuminate.

Flower- White or yellow colored, in dense racemes and mostly from axils of fallen leaves, fringed petals, anthers are linear, appear in April-may.

Fruits- Round or oval, small, violet or blue colored and acidic in taste Endocarp- Stony endocarp is hard, globular, strongly tubercule, marked with 5 to longitudinal ridges, rarely 1 to 4, reddish brown in color.

Table 1: Macroscopic examination of leaf.

S.No.	Leaf	Inspection/Observation
1.	Apex	Acute
2.	Base	Symmetric
3.	Color	Shining green
4.	Margin	Undulate
5.	Shape	Ovate
6.	Size	5-6 inch in length, 2 inch broad

Table -2: Macroscopic examination of seed.

Sr.no.	Seed	Inspection/Observation
1.	Color	Blue (on fully ripening)
2.	Texture	Hard
3.	Taste	Sour
4.	Shape	Round
5.	Size	½-2 inch



Fig. 1: (Fruit of *Elaeocarpus ganitrus*. Gaertn).

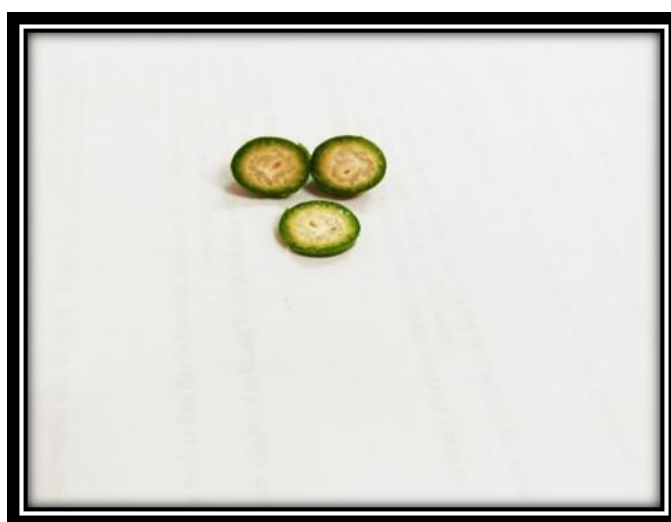


Fig. 2: (Transverse section of *Elaeocarpus ganitrus*. Gaertn).



Fig. 3: (Tree of *Elaeocarpusganitrus*. Gaertn.).



Fig. 4: (Fruit of *Elaeocarpus ganitrus*. Gaertn).

RAS-PANCHAK

Rasa: Madhura

Guna: Snighdha, Sthula

Virya: Usna

Karma: Raksoghna, Arogyaparda, Medya, Hradyam(Somnasyakarah).^[18]

DESCRIPTION OF RUDRAKSH IN DIFFERENT NIGHANTUS^[19-26]

Table no. 3.

Sr no.	Nighantus	Rasa	Guna	Virya	Vipaka	Doshkarma	Other properties
1.	Bhavprakash Nighantu.	-	-	-	-	-	Apasmara, hridyavikara.
2.	Raj-Nighantu.	Amla	-	Ushna	-	Vatkaphnashak.	Vatroga.
3.	Nighantu Adarsh.	-	-	-	-	-	Apasmara, grahani, atisaar
4.	Priya-Nighantu.	Madhur	-	Sheeta	-	-	Vatrakt, jawar, unmada.

CHEMICAL CONSTITUENTS

Rudraksha has various active compounds such as alkanoids, tannins, flavonoids, fixed oil and fatty acids. The *Elaeocarpus ganitrus* fruit have many phyto-constituents such as alkaloids,

flavonoids, tannins, steroids, triterpenoids, carbohydrates, cardiac glycoside gallic acid, quercetin, elaeocarpine, iso-elaecarpine and rudrakaine. Three new ellagic acid derivatives of eleocarpaceae, 4-Omethylellagic acid 3-O-a-rhamnoside, 4-Omethylellagic acid 3O-(300-O-acetyl)-a-rhamnoside and 4-Omethylellagic acid 3O-(400-Oacetyl)- arhamnoside in addition to the known ellagic acid derivative, 4-O-methylellagic acid 3O- (200,300-di-Oacetyl)-a-rhamnoside are used in multi besieged therapy of cancer and a significant antioxidant ability due to its wealthy content of tannins and flavonoids.^[16] *Prosopis* species has been widely used to cure basic ailments in the usual system of medicine.^[17]

MEDICINAL USES OF RUDRAKSHA^[29-30,25]

The uses of Rudraksha plant as per Ayurveda is described below:

❖ रुद्राक्षश्चशिवाक्षरच शर्वाक्षोभूतनाशनः ।

पवनोनीलकण्ठाक्षोहराक्षश्चशिवत्रियः ॥ राज. नि.186

❖ रुद्राक्षमन्त्रमुष्णच वातघ्नकफनाशनम् ।

शिरोऽर्त्तिशमनं रुच्यंभूतग्रहविनाशनम् ॥ राज. नि. 187

- **Raksoghna:** It acts as a disinfectant for various microbial diseases. *Elaeocarpus ganitrus* finds a prominent place in Hindu religion and Ayurveda, the ancient Indian system of medicine. In Hindi it is known as *Rudraksha*.^[18]
- **Medya:** It enhances the memory and intellectual power of the person.^[31]
- **Hridyam:** It is given as a cardiogenic to cure heart diseases.
- **Vataghna:** It balances the Vata component and helps in treating chest pain and early symptoms of rheumatic pain.
- **Kaphanashak:** It balances the Kaphadosha and hence is used to cure the early stages of asthma and used to treat allergies, obesity, swelling and rhinitis.
- **ShirathiShamanam:** It is used to treat migraine.
- **Ruchyam:** It is used to cure stomach-related disorders like indigestion, gases and tastelessness. Rudraksha decoction shows a positive effect against heaviness, tongue cracks, etc.
- **BhutagrahVinashanam:** It is used to cure mental disorders, bad effects of evil spirits and planetary afflictions.

- **Vedanasthapan:** It is used as an analgesic. Rudraksha bead is one sacred facet of Indian culture due to associated religious, ethno botanical^[14] and medicinal values both as preventive and curative.^[28]
- **Pachansansthana:** It regulates the peristaltic movement and helps in treating liver disorders.
- **Raktwahsansthana:** It is used to treat hypertension and acts as an anti-hypertensive agent.
- **Shwasansansthana:** It acts as a bronchodilator and is used to cure cough and other breathing problems like asthma.
- **Taapkaram:** It acts as an antipyretic agent. The paste of Rudraksha and Chandan plant has an effective result in the treatment of measles, pimples, chickenpox and other skin-related diseases.
- **Manasvikar:** It is used to treat mental disorders, provide mental peace and cure psychosomatic diseases and enhance memory power.^[32]
- **Aakshepak:** It is used to treat epilepsy problems.
- **Aaptantrak:** It is used to treat hysteria.
- **Anidra:** It is used as a curative agent against insomnia.
- **Yakritvikar:** It is used to cure liver disorders by increasing metabolism.
- **Kamla:** It is used to treat jaundice.^[33]
- **Rakta-chaap:** It is useful in the treatment of blood pressure problems.
- Rudraksha pendant brings safety to child and mother during pregnancy and brings positive energies.
- Leaves and seeds have many medicinal properties which cure nerve related disorders, anxiety, tachycardia, and inflammatory disorders.

Other Therapeutic Uses of Rudraksha^[27,29,30]

Rudraksha have many Ayurvedic properties that refer to this wonderful bead and gives details of rudraksha for increase body constitutions. The beads, bark and leaves of Rudraksha all are used to cure various ailments like mental disorders, headache, fever, skin diseases etc. Rudraksha may be worn either on arm, wrist or other parts of the body.

- **For improving memory power-** Rudraksha can be used for improving memory power when taken with milk. The fruits of *Elaeocarpus ganitrus* imposes positive effect on stress, anxiety, depression, palpitation and lack of concentration, it cools down the body temperature and brings calm to mind.^[30]

- **For all brain diseases**-Rudraksha can be used for treating all brain diseases like brain fever etc. Different mukhis of Rudraksha beads possess electromagnetic and inductive properties send out equivalent signals to brain, activates certain brain chemicals and neuro transmitters there by imposes positive impact on blood circulation, nervous system and various other organ systems.^[27]
- **As a blood purifier**-Rudraksha shall be used for treating the blood impurities and strengthens the body substance.
- **As antibacterial**-Rudraksha can be used for treating the burns and marks. It can also be used for curing cough and breathing problems.
- **For controlling epilepsy**- By using pulp of Rudraksha fruit or bark, can be used for controlling epilepsy.
- **For curing liver related problems, jaundice, and stomachache**- Rudraksha can be used for treating stomach pain and liver problems.
- **For blood pressure**- Rudraksha can be used to treat high blood pressure, heart diseases etc.
- **As Cosmetic product**- Rudraksha can be used in cosmetics to bring skin glow, also brings in a charming face.

RUDRAKSH AND ITS ASTROLOGICAL USES.^[34-38]

Table No. 4.

Type of Rudraksh	Ruling God	Shape	Major benefit/ Use
1 Mukhi	Shiva	Round and moon shaped.	Enlightens the super consciousness, provides improved concentration and mental structure changes specific to renunciation form Worldly affairs. The wearer enjoys all comforts at his command but still remains unattached
2 Mukhi	Ardhnareeshwar	3 natural lines	Blesses the wearer with 'UNITY'. It could be related to guru-shishya, parents-children, husband-wife or friends. Maintaining oneness is its peculiarity
3 Mukhi	Agni	3 natural lines	The wearer gets free from sins or wrongs from his life and returns to purity. Ideal for those who suffer from inferior complexes, subjective fear, guilt and depression
4 Mukhi	Brahma	4 lines on bead	The wearer gains power of creativity when blessed. Increases memory

			power and intelligence
5 Mukhi	Kaalgani	5 lines on mukhis	Wearer gains health and peace. It increases memory also
6 Mukhi	Kartikeya	6 lines on mukhi	Saves from the emotional trauma of worldly sorrows and gives learning, wisdom and knowledge.
7 Mukhi	Mahalaxmi	7 lines on its surface (mukhis)	It should be worn by those who are suffering from miseries pertaining to body, finance and mental set-up. By wearing this man can progress in business and service and spends his life happily
8 Mukhi	Ganesh	8 natural lines.	Removes all obstacles and brings success in all undertakings. It gives the wearer all kinds of attainments Riddhies and Siddhies. His opponents are finished i.e. the minds or intentions of his opponents are changed
9 Mukhi	Durga	Nine natural lines (mukhis) on its surface	Wearer is blessed with lot of energy, powers, Dynamism and fearlessness, which are useful to live a life of success
10 Mukhi	Vishnu	10 natural lines (mukhis)	This contains the influence of ten incarnations and the ten directions. It works like a shield on one's body and drives evils away
11 Mukhi	Hanuman	11 natural lines (mukhis)	Blesses wearer with wisdom, right judgment, powerful vocabulary, adventurous life, fearlessness and success. Above all, it also protects from accidental death. It also helps in Meditation and removes the problems of yogic practices
12 Mukhi	Sun	12 natural lines (mukhis)	Wearer gets the quality of the sun - to rule and to move continuously with brilliant radiance and strength. Good for ministers, politicians, administrators, businessmen and executives. Removes worry, suspicion and fear. Increases self image and motivation
13 Mukhi	Indra	13 natural lines (mukhis)	Showers all possible comforts of life one can ever desire. It gives riches and honor and fulfills all the earthly desires and gives eight accomplishments (Siddhies), and the god cupid (Kamadeva) pleases with the man who wears it. It is helpful for meditation and spiritual and

			materialistic attainments
14 Mukhi	Hanuman	14 natural lines (mukhis)	Most precious divine gem - Deva Mani. It awakens the sixth sense organ by which the wearer foresees the future happenings. Its wearer never fails in his decisions. Its wearer gets rid of all the calamities, miseries, worries. It protects from ghosts, evil spirits and black magic. It provides the wearer safety, security and riches and self power
15 Mukhi / Pashupatinath	-	15 natural lines (mukhis)	This represents Lord Pashupati and is especially beneficial for economic progress. Its possessor is neither bereft of wealth nor inflicted by any kinds of skin diseases
16 Mukhi/ Hari and Shankar	-	16 natural lines(mukhis)	It represents victory and the possessor is never affected by heat or cold. It is especially useful for the saints living in jungles. The house in which it is kept is free from fire, theft or robbery
17 Mukhi/ Lord Viswakarma	-	17 natural lines	It represents Vishvakarma the builder of this world. It is very effective in gaining unexpected money. It is especially useful in attaining property, vehicles and all physical assets
18 Mukhi/ Bhairav	-	18 natural lines (mukhis)	It represents the mother earth. The possessor remains happy and healthy. It is especially beneficial for the pregnant women in protecting their child
19 Mukhi/ Vishnu narayan	-	19 natural lines	It represents Lord Narayana. The possessor is bestowed with all worldly pleasures. There is no scarcity in their life
Gauri Shankar/ Shiva & Parvati	Moon	Two naturally joined Rudrakshas	Regarded the best for peace and comfort in the family. If a man worships Gauri Shankar at his worshipping place, the pain and suffering and other earthly obstacles are destroyed and the peace and pleasure of family are increased
Ganesh Rudraksha/ Garbhagauri/ Parvati & Ganesha	Ganesh	Two beads joined together naturally	For women wanting to have children. Her motherhood gains perfection

Trijuti/ tribhagi	-	Three naturally joined Rudrakshas are a rare phenomenon	Wearer becomes invincible
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PURE AND GENUINE RUDRAKSHA^[39]

- **Properties Test** - This test gives information that whether the beads show properties like inductance, capacitance, conduction of electric current etc.
- **Cut Test** - This test is most reliable for checking the genuineness of Rudraksha beads. If, on cutting the bead horizontally the bead shows same number of compartments as that of facets, or faces, it is a genuine bead. But, this method has a major drawback that the bead gets destroyed.
- **Copper Coin Test** - If a Rudraksha bead is placed between two copper coins, or copper chips, the bead rotates slightly because of its physical and magnetic properties.
- **Electro-magnetic properties** - The original beads manifests properties like resistance, capacitance, inductance, conductance of electric current, magnetic forces etc.
- **Water test** - The higher valed beads like Trijuti and Gauri-shankar Rudraksha manufactured by artificially gluing the two or three beads can be tested with this method. On boiling the bead with water, sharp discolouration appears at the joints of artificial Rudraksha. The genuine beads sinks in water. Fake traders of Rudraksha deceive the customers by dipping the beads in water. But, it is important to mention, here that fake beads prepared out of wood and impregnated with lead will sink in water thereby giving a fake impression of real Rudraksha.

PHARMACOLOGICAL PROPERTIES OF RUDRAKSH

1. Anti-inflammatory activity

The benzene, chloroform, acetone, petroleum ether, and ethanol, fruits extracts of *Elaeocarpus sphaericus* at a dose level of 200 mg/kg body weight was studied in rat paw edema using different inflammogens. The ethanolic and petroleum ether fruit extracts are effective against carrageenan, bradykinin and PGE. The chloroform fruit extract of *Elaeocarpus sphaericus* showed effect against histamine. Chloroform extract, was essentially

effective in 5-HT induced inflammation⁵⁰ and ethanolic extract also inhibit histamine. In other study petroleum ether, benzene, acetone, chloroform, and ethanol fruit extracts showed significant anti-inflammatory action against both acute and subacute models.^[40-41]

2. Anti-hypertensive activity: In the study of Sakat, Aqueous Seeds extract of *Elaeocarpus ganitrus* showed the antihypertensive effect in renal artery occluded hypertensive in male wistar rats.^[42]

3. Antimicrobial activity: In the study of Singh showed that the petroleum ether, benzene, chloroform, acetone, and ethanol extracts of dried fruit of *Elaeocarpus sphaericus* was investigated against 28 gram-positive and gram-negative bacteria using the plate dilution and disc diffusion methods. The acetone fraction showed marked antimicrobial activity against ten organisms. Benzene extracts was active against *Morganella morganii* and *Salmonella typhimurium*, and ethanol extracts against *Shigella flexnerii*, *Plesiomonas shigelloides*, and *Sh. Sonneii*. According to Shazid, ethanolic leaves extract of *Elaeocarpus serratus* showed antibacterial activity against, *Salmonella typhi*, *Plesiomonas* and *Proteus sp.*, justifying the efficacy of Rudraksh.^[43-44]

4. Antioxidant activity: Kumar reported that positive correlation between the total phenolic content and antioxidant capacity showed in the results of the ethanolic leave extracts of *E. ganitrus*. Ethanolic leave extracts of *E. sphaericus* exhibited metal chelating, total antioxidant capacity, reducing power, ABTS (2, 2-azinobis-3-benzothiazoline- 6-sulphonate) radical scavenging and hydroxyl radical scavenging activities. Result shows that the extract showed maximum Iron chelating activity (76.70%) at 500 µg/ml concentration followed by the scavenging of the ABTS+ radical (55.77%) at the same concentration. However, the extract showed only restrained hydroxyl radical scavenging activity (13.43%). Total antioxidant capacity was found to be 24.18 mg ascorbic acid equivalents at 500 µg/ml extract concentration.^[45]

5. Anti-depressant activity: Ethanol and Petroleum ether extracts of *Elaeocarpus sphaericus*'s fruit decreased the swim stress immobility in mice signifying some scale of antidepressant activity. Pharmacological investigations with the 90 % ethanolic extract of the fruits of *E. ganitrus* showed the occurrence of a major central nervous system depressant effect, characterized by typical behavioral actions, morphine analgesia, anticonvulsant, potentiating of hexobarbitone hypnosis and anti-amphetamine effects. In this study the extract

showed a cardio stimulant, depressor, part of these being mediated through beta adreno receptor stimulation and in part through a direct musculotropic effect.^[46,40]

6. Anti-anxiety activity: *E. ganitrus* was evaluated for antianxiety activity in mice using elevated plus maze model. The chloroform and ethanol extractives were shown effective against anxiety at all doses, but a dose of 200 mg/kg of ethanol extractive was at equality with that of diazepam as clear from statistical equivalence between the results of this dose and that manifested by diazepam. Chloroform extractives also effective at all doses but most effective at a dose of 400 mg/kg⁴⁴. Fruit extract (methanolic) of *Elaeocarpus sphaericus* showed anxiolytic effect in Swiss albino mice.^[47]

7. Anti-asthmatic activity: Singh reported the chloroform, acetone, petroleum ether, benzene, and ethanolic extracts of *Elaeocarpus sphaericus* fruits were found to have mast-cell stabilizing activity, substantiating the effectiveness of Rudraksh in bronchial asthma. In another study the petroleum ether, benzene, chloroform, acetone and ethanol extracts protected guinea-pigs against bronchospasm induced by acetylcholine aerosols and histamine.^[40]

IMPORTANT FORMULATIONS

Gorochanadi Vati, Cukkumtippalyadi Gutika, Dhanwantata Gutika, Svarnmukladi Gutika, Mrtasanjivani Gutika.^[15]

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