

EMETIC EFFECT OF OF HIJJAL (BARRINGTONIA ACUTANGULA LINN) - A DRUG REVIEW

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ABSTRACT

Ayurveda, the science of life had emerged through adaptations of man with natural touch of healthy living. Medicine, the most vital aspect of life with its immense value for happiness and survival. *Barringtonia acutangula* L. family *Lecythidaceae* is a popular medicinal plant used traditionally for its broad spectrum medicinal properties. *Barringtonia acutangula* was commonly used in India by tribal people for the treatment of liver disorders, diarrheal diseases, eye diseases, splenic disorders and worm infestation. The fruit (*Samudraphal*, *Dhatriphal*) is bitter, acrid, anthelmintic, haemolytic and wound healing. The seed

powder is used to induce vomiting. The bark contains about 15% tannins, ellagic acid and has astringent action and induced vomiting. *Kaphshamna* due to tikshna guna and ushna virya and use vomiting. In Tamil, it is known as *Samutrphalam*. Present review article analyze the classical reference & medicinal use on the basis of various available text.

KEYWORDS: Samudraphala, Indian Oak, adapum, Kadamik, Kanapa, Pivar, Sathphal.^[3]

INTRODUCTION^[1-5]

Barringtonia acutangula is an evergreen tree with strong aromatic tiny red flowers, useful Tropical plant, mainly as a medicine but also for food and materials. *Barringtonia* is a moderate size tree, called by Sanskrit writers Hijja or Hijjala. The fruit is spoken of as

Samudra-phala and Dhatriphala or "nurse's fruit," and is one of the best known domestic remedies.

Botanical Description^[1,2,3,4,18]

Barringtonia acutangula is an evergreen tree with Simple, alternate leaves, 40cm long pendulous racemes, 1.5cm across, fragrant and dark scarlet flowers with 4 lobed ovate calyx and 2 celled ovary of red or pink colour. It has Ellipsoid to ovoid Berry, 1.5 x 0.6cm, fibrous, truncate at both ends, crowned by small persistent calyx. The berry bears one ovoid black seed. Flowers are seen in GRISMA RITU and fruits are seen in SHARADA RITU.

Chief Characters^[1,2,3,5,18]

Barringtonia acutangula Linn. (Family-Lecythidaceae) popularly known as *Samudraphal* in an important medicinal plant of India. It is an evergreen tree of 9-12 m in height common in the sub-Himalayan. *Barringtonia acutangula* is a moderate sized, evergreen, glabrous tree, reaching upto 8–15 meters. It has thick, smooth and oval shaped leaves, petioles are reddish. The fruit is a drupe, yellowish-brown, oblong, bluntly quadrangular, broadest in the middle, slightly narrow and truncate at each end and fibrous.

Vernacular Names of *Barringtonia Actangula*.^[1,14,18]

Table. 1.

English	Small indian oak, Indian oak
Hindi	अदल पिचुल हिज्जल निचुल समुन्दरफल
Marathi	समुद्रफळ नेवर धात्रीफळ a
Sanskrit	निचुल Nichul, रक्तमन्जर Raktamanjara, समुद्रफल Samudraphala, हिज्जल Hijjala, पिचुल Pichu
Bengali	Hijala
Konkani	Imgli

Taxonomical Classification

Table 2.

Kingdom	Plantae
<i>Division</i>	<i>Magnoliophyta</i>
<i>Class</i>	<i>Magnoliopsida</i>
<i>Order</i>	<i>Ericales</i>
<i>Family</i>	<i>Leythidaceae</i>
<i>Genus</i>	<i>Barringtonia</i>
<i>Species</i>	<i>Acutangula</i>

Species^[2,3]

- *Barringtonia rubra* Baill. ex Laness.
- *Butonica acutangula* (L.) Lam.
- *Caryophyllus acutangulus* (L.) Stokes
- *Eugenia acutangula* L.
- *Huttum acutangulum* (L.) Britten
- *Michelia acutangula* (L.) Kuntze

Gana of *Barringtonia actangula* in Various TEXT^[6,7,8]

Table 3.

<i>Charaka</i>	<i>Vamanopaga, virechaneeya</i>
<i>Sushruta</i>	<i>Urdhwabaghahara gana</i>
<i>Bhavaprakasha Nighantu</i>	<i>Guduchyadi varga</i>

Rasa Panchaka in various nighantu and classical text.^[9,12,14,15]

Table no. 4.

	<i>Rasa</i>	<i>Guna</i>	<i>Virya</i>	<i>Vipak</i>	<i>Prabhav</i>	<i>Doshkarma</i>
<i>P.V</i>	<i>Tikta, katu</i>	<i>Laghu, Ruksha Teekshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vamnopag</i>	<i>Kapsa pita shamak</i>
<i>R.N</i>	<i>Katu</i>	<i>Laghu ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vamnopag</i>	<i>Vata shamak</i>
<i>B.N</i>	<i>Katu</i>	<i>Laghu</i>	<i>Sheet</i>	<i>Katu</i>	<i>Vishnashak</i>	<i>vata prakopak</i>
<i>M.N</i>	-	-	-	-	-	-
<i>P.N</i>	-	-	-	-	<i>Vamnopag</i>	-

Ayurvedica Properties in Nighantu^[8,9,12,14,15]

Table. 5.

<i>Karma</i>	<i>R.N</i>	<i>B.N</i>	<i>P.N</i>	<i>M.N</i>	<i>P.V</i>	<i>K.N</i>	<i>Chakradata</i>	<i>Vangsen</i>
<i>Vamnopag</i>		–	++	++	++	–	–	–
<i>Vishnashak</i>	++	++	–	–	++	–	–	–
<i>Bhutnashan</i>	++	–	–	–	++	+	–	–
<i>Krminashak</i>	++	–	–	–	++	+	–	–
<i>Chakshu -shrava</i>	–	–	–	–	–	–	++	++
<i>Amaatissaram</i>	–	++	–	–	–	–	–	–
<i>Udarshool</i>	–	++	–	–	–	–	–	–
<i>Tamak shawas</i>	–	++	–	–	–	–	–	–

Pharmacology Action^[2,3,4,5,18]

It is kapha and pitta suppressant. It is very effective in skin related ailments. It improves the skin complexion. It prevents indigestion and is effective in diarrhea. It prevents dehydration in the body helping proper absorption of water. It purifies blood and prevents any infection happening in body. It helps in expelling out the mucus from the body and hence it keeps the respiratory tract clean. It regularizes the menstrual cycle and also manages urinary tract. It is helpful in relieving from fever. It is a general health tonic and hence is very effective in avoiding general health weakness.^[1]

Chemical Composition^[1,2,3,14]

In Fruit *Glucoside, Saponin Barringtonin Barringtonic Acid Barringotogenoal and tannin.*

Pharmacological Activities^[1,2,3,18]

Antibacterial activity

Antitumour activit

Antioxidant potential

Hypoglycemic activity

Hepatoprotective effect

Antifungal activity

Anti-inflammatory activity

Anthelmintic activity

Antidiarrheal activity

Ayurvedic Action^[8,9,14]

Jwarghna - Alleviates fever.

Kasahar - Gives relief in cough.

Rakshoghna - Anti-bacterial

Raktadoshahar - blood purifying

Sangrahi - Assimilating

Vamak - Emesis of bile, mucus and other contents of the stomach.

Vatahar - Pacifies Vata.

Virechana - Removes from the anal canal aggravated Doshas.

DOSE^[8,9,14]

1. The fruit powder is given in dose of 1/2 grams – 1 gram.
2. The fruit powder is given in dose of 3-6 grams for inducing vomiting.
3. The fresh leaf juice can be taken in dose of 10-20ml

Folklore Use^[18]

- Fruit is useful as vomak (emetic) in kaphaja disease and virechak in pittaj disease.
- Leaf swarasa with madhu given in diarrhoea.
- Bark is useful in amoebic dysentery.

METRIAL AND METHODS

The various classical and modern texts, research papers and material related references regarding to were collected and classified acc. to their effects.

CONCLUSION^[2,3,18]

Medicinal Plants form the backbone of traditional medicine. Different parts of *Barringtonia acutangula* such as leaves, fruit, roots and axillary bud have been used traditionally to treat pains in body, eye ailments, abdominal disturbances, blood impurities, cold, and asthma, diseases of liver, spleen and for diabetes. The root and leaves of *Barringtonia acutangula* possess hypolipidemic, antibacterial and antifungal activity respectively in various animal studies. The leaves are bitter, constipating and tonic, and are useful in diarrhoea and dysentery. The fruits are acrid, bitter, cooling, anthelmintic, emetic, purgative, expectorant, diuretic, They are useful in vitiated conditions of pitta, colic, intestinal worms.

REFERENCES

1. https://www.bimbima.com/health/barringtonia-acutangular/3829/#constituents_of_barringtonia_acutangular.

2. Maninderjet kaur, gurvinder singh, chander mohan rayat bhra institute of pharmacology. shubam sahuo, pk panda p.s behra indain institute of technology.
3. Mohan, Raghu Sashi kumar national tapai university dpt of chemistry chemical biology.
4. Prof.J.K.ojha, A handbook of Dravya guna, Chaukhamba publications, Tpg-253.
5. K.niteshwar & K.hemadri, Dravyaguna vijnana, chaukhamba publications, Tpg Agnivesa, Charaka Samhita, Revised by Charaka and Drdhabala, Commentary by Pt.Kasinath Sastri and Dr.Gorakhanatha Chaturvedi, Re-print 2004, Varanasi, Chaukhamba Bharati Academy.
6. Sushrutha, Sushrutha Samhita, Edited wih Ayurveda-tattva-sandipika by Kaviraja ambikadutta shastri, Foreward by Dr.Pranajivana Manekchanda Mehta, Part -1, Chaukhambha Sanskrit Sansthan Varanasi.
7. Sri Bhavamisra, Bhavaprakasha Nighantu, Commentary by Prof.K.C.Chunekar, Edited by dr.G.S.Pandeya, Chaukhamba Bharti Academy.
8. Acharya Kaiyadeva, Kaiyadeva Nighantu (Pathyapathya Vibhodhaka), edited by Prof. Priya Vrat Sharma, Dr.Guru Prasada Sharma, First edition 1979, Varanasi, Chaukhambha Orientalia.
9. Shaligrama, Shaligrama Nighantu, Edition 2007, Mumbai Khemraj Shrikrishna das Printers & Publishers.
10. Vahata. Astanga Nighantu, Edited by P.V.Sharma, 1st Edition, Kuppuswamy Shastri Research Institute, Madras, 1973.
11. Sharma Priya Vrat, Dravyaguna Vijnana, Volume II, Re-print 2011, Varanasi, Chaukhambha Bharati Academy.
12. Krushnashastry N., Pandurang J., Nighantu Ratnakar, 1936, Saraswati Pustakalaya, kanpur.
13. Sharma Priya Vrat, Priya Nighantu along with the author's Hindi commentary entitled Padma, Edition 2004, Varanasi.
14. Nrupa Madanpala, Madanpala nighantu, edited by Gangavishnu Srikrishnadas, Printed in 1961.
15. Prof.(Dr.) Gyanendra Pandey, Shodhala nighantuh, Edited by, Prof.R.R Dwive https://wiki2.org/en/Barringtonia_acutangula
16. Nirmal kumar, shivani, anil kumar singh department of dravyaguna institute of medical sciences, banaras hindu university U.P.