

## **KHADIRA (*ACASIA CATECHU* LINN.) - A MEDICO-HISTORICAL REVIEW**

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### **ABSTRACT**

Indigenous Medical wisdom in India known as Ayurveda goes back to a hoary past. We find references in Vedas not only to medical science but to various drugs also. The medico-historical review of Khadira (*Acasia Catechu* linn.) including the historical perspectives, identity, varieties, formulae and therapeutic usage etc. is presented here, based on the classical treatises, medical lexicons, commentaries and other compilations, covering the from Vedic period to present times.

The study relating to the progress of knowledge on Khadira may be examined in a sequential pattern stretching from Vedic period to the medieval period. Khadira is one of the very important drugs of Ayurvedic materia-medica.

### **Synonyms:**

The authorities of various Ayurvedic classics have called Khadira with different names as given alphabetically in the tabular statement. These synonyms are indicative of various aspects of the drug i.e., morphology, therapeutic uses and habitate etc.

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SI. No. Synonyme	Classics											
	AH	AV	BR	BP	CS	DN	KN	RN	RV	SN	SLN	SS
1. Balapatra	+	-	-	+	+	+	+	-	-	+	+	-
2. Brahma shalya	-	-	-	-	+	-	-	-	-	-	-	-
3. Bahushalya	-	-	-	+	+	-	+	-	-	-	+	-
4. Danta Dhavana	-	-	-	+	+	+	-	-	-	+	+	-
5. Dwija Priya	-	-	-	-	+	-	-	-	-	-	-	-
6. Gayatri	+	-	-	+	+	+	+	-	-	+	+	+
7. Gita	-	-	-	-	-	-	+	-	-	-	-	-
8. Gourat	-	-	-	-	-	-	+	-	-	-	-	-
9. Hima Shalya	-	-	-	-	+	-	-	-	-	-	-	-
10. Homa	-	-	-	-	+	-	-	-	-	-	-	-
11. Jihwa Shalya	-	-	-	-	+	+	-	-	-	+	-	-
12. Khadira	+	+	+	+	-	+	-	-	+	+	+	+
13. Kadara	+	+	-	-	+	-	-	-	+	-	-	+
14. Kushthaghna	-	-	-	-	-	-	+	-	-	-	-	+
15. Kantaki	-	-	-	+	+	+	-	-	-	+	+	-
16. Kushtha hrit	-	-	-	-	+	-	-	-	-	-	-	-
17. Kantari	-	-	-	-	-	-	-	+	-	-	-	-
18. Kshatha Ksheeina	-	-	-	-	+	+	+	-	-	+	-	-
19. Karmuka	-	-	-	-	+	-	-	+	-	-	-	-
20. Kubja Kantaka	-	-	-	-	+	-	-	+	-	-	-	-
21. Kandu	-	-	-	-	-	-	-	+	-	-	-	-
22. Kushtha Kantaka	-	-	-	-	-	-	-	+	-	-	-	-
23. Kalskanda	-	-	-	-	-	-	-	+	-	-	-	-
24. Khadiropam	-	-	-	-	-	+	-	-	-	-	-	-
25. Kushthari	-	-	-	-	-	+	-	-	+	-	-	-

SI. No. Synonyme	Classics											
	AH	AV	BR	BP	CS	DN	KN	RN	RV	SN	SLN	SS
26. Kantaki Drima	-	-	-	-	-	+	-	-	-	-	-	-
27. Maha Vriksha	-	-	-	-	-	+	-	-	-	-	-	-
28. Medhya	-	-	-	-	-	+	-	-	+	-	-	-
29. Mrid Patrika	-	-	-	-	+	-	-	-	-	-	-	-
30. Mriga	-	-	-	-	-	+	-	-	-	-	-	-
31. Mrig sheersha	-	-	-	-	-	+	-	-	-	-	-	-
32. Mahasara	-	-	-	-	-	-	+	-	-	-	-	-
33. Nemivriksha	-	-	-	-	+	-	-	+	-	-	-	-
34. Prapunnad	-	-	-	-	-	-	-	-	-	-	-	+
35. Pathidruma	-	-	-	-	+	-	+	+	-	-	-	-
36. Rakta sara	-	-	-	+	-	+	+	-	-	+	+	+
37. Som valka	+	-	-	-	+	-	-	+	-	-	-	+
38. Somasara	-	-	-	-	+	-	-	-	-	-	-	-
39. Somavriksha	-	-	-	-	+	-	-	-	-	-	-	-
40. Shvetarasayana	-	-	-	-	-	-	-	+	-	-	-	-
41. Shyama	-	-	-	-	-	-	+	+	-	-	-	-
42. Shalyaka	-	-	-	-	-	-	+	-	-	-	-	-
43. Shyamasara	-	-	-	-	+	-	-	-	-	-	-	-
44. Saraka	-	-	-	-	+	-	+	-	-	-	-	-
45. Sarashalya	-	-	-	-	-	-	+	-	-	-	-	-
46. Shvethasara	-	-	-	-	+	-	-	-	-	-	-	-
47. Soma valkala	-	-	-	-	+	-	-	-	-	-	-	-
48. Valapatrika	-	-	-	-	+	-	-	-	-	-	-	-
49. Yagnika	-	-	-	+	+	-	-	-	-	-	+	-
50. Yas	-	-	-	-	-	-	-	-	-	+	-	-

### Names in Different languages:

*Assam* - Khoira; *Beng.* - Khair; *Burm.* - Sha; *Can* - Kaggali; *Eng.* - Catechu, Black Catechu; *Guj.* - Kher Kath, Khar; *Hindi* - Khair, Beng; *Kon.* - Kathu; *Mar.* - Khair; *Mal.* - Khadiram; *Oriya* - Khairu; *Sinh* - Rathiri; *Tam* - Karangalli; *Tel.* Sandra<sup>1</sup>

### I. Vedic Period:

In the Vedas this drug is mentioned as Khadira. During the Vedic period (R.V. III:53 - 19; A.V. III: 6-1, X:6 - 12, V: 5-5, VIII: 8-3) the drug was widely used for:

1. Krimi nashana (as anti-bacterial drug)
2. Bal, Veerya (as rejunvative) and
3. Bhuthi Manibandhan (as amulet)

The Atharvans (A.V. III: 8-3) considered the drug as most potential anti-bacterial drug. The niryas (gum resin) of this drug also described as anti-bacterial.

In one context the Atharva Veda III: 6-1 reveals that the most potential man can give birth to potential children in the similar manner the Ashwatha which grow on Khadira is also most potential drug.

In Rigveda III : 53-19 the usage of Khadira as Manibadhan for Graha dosha and Bhrihaspathi, Savitha, Chandrama, Varuna and also for the improvement of ojas has been given.

### II. Samhita Period:

In Charaka Samhita (3c.B.C.)<sup>13</sup> the medicinal plants have been classified according to Karma (action) and prabhava (specific action). Charaka mentioned Khadira in the Kushthagana, Kashaya Kskandha gana ( the group of drugs that were used for skin disorders, mainly for Kushtha and as Vrana ropana dravyas in the treatment of Vranas ) Charaka Samhita refers to use of this drug for various conditions such as :

1. For the management kof Raktapitta (Haemothermia) and prameha (Urinary anomalies)<sup>2</sup>.
2. Visahara, Agadayoga and as anti-dote to Nakṣa Danta visha<sup>2</sup>.

Chakrapani (1040 A.D.)<sup>13</sup> described the drug for wide range of uses<sup>16</sup>. Such as

1. In hoarseness (swar bhed), Khadira rubbed with oil (Til Tail) is recommended to be kept in the mouth.
2. In oral diseases, in the form of swalpakhadira vatika.
3. In skin diseases, externally and internally.
4. As Shodhana (wash) for inflamed parts and ulcers in the form of decoction.
5. In the form, of arishtha for internal use in boils, measles and other skin disorders.

Sushruta (6th century B.C.)<sup>13</sup> classified the drugs according to actions, odour and taste. The Khadira has been described in

Salsaradil gana (the group commenced with Salsara, Ajakarna, Khadira etc. These drugs cure Kushtha (obstinate skin diseases including leprosy), Meha (obstinate urinary disorder including Diabetes), pandu (Aneamia). These drugs also cleanse kapha and medas (Fat).

Sushruta mentioned following therapeutic uses of Khadira.

1. as Rasayana for the treatment of prameha (urinary disorders including Diabetes) and Raktapitta (Haemothermia)<sup>7</sup>
2. as Krimihara for the management of Kushtha (obstinate skin disorders including leprosy) and Vranas<sup>8</sup>
3. as Kaphara in the shwasa, kasa, swarbheda<sup>7</sup>.

In Sushruta Samhita the drug khadira was described as Kadar, Kushthghna, Gayathri, Rakthasar etc. According to Dalhana Kadar is like Khadira with yellow wood (Apeethasarah Khadirakarah). But it is usually said to be shweta khadira, which may be other species of Acasia, i.e. *Acassia suma* Buch. (Ham)<sup>7</sup>

### III. Early Christian Era:

Vagbhata - II (4th century A.D.)<sup>13</sup> as per the opinions of Rudolf Hoernle, Sir. P.C. Ray, P.K. Gode and other, Vagbhata is the author of Astanga Hridaya, the popular work of highest authority and an essence of Charaka and Sushruta Samhitas.

Vagbhata described the Khadira as Gayatri, Balapatra, Somvalka and included in the Nyagrodhadivarga<sup>9</sup> and very elaborately

described its therapeutic uses, such as:

1. as Rasayana for the treatment of Rajyakshma (Tuberculosis) Prameha (urinary disorders including Diabetes)<sup>9</sup>.
2. as Krimihara and Rasayana in the management of Kushtha (skin disorders including leprosy)<sup>9</sup>
3. as Graha dosahara<sup>9</sup>
4. as anti-dote to Mushikalarka (Rat and Dog) visha<sup>9</sup>

Sharangadhara Samhita (1226 A.D.)<sup>11</sup> by Sharangadhara is a short but solid text book of medical information in which (Part II) deals with synonyms varieties, qualities, actions and preparations of Medicines. It is credit of the author that to indicate detailed description of formula of Khadirarishta and its administration in specific diseases like Maha Kushta, Hritroga, pandu, arbuda, Gulma, Granthi, Krimi, Shwasa, Pliha<sup>3</sup>.

### IV. Medieval Period:

In this period, the Materia Medica and therapeutics and also a few important medical lexicons containing various synonyms, characteristics to identify the drugs, their actions and indications were established. The elaborate information covering details like classification, physical characteristics actions and indications provided by the authors of Nighantus.

Dhanwantari Nighantu mentioned the drug in the group of Guduchyadi Varga<sup>17</sup> and Naraharipandita (14th Century A.D.)<sup>13</sup>

the author of Raja Nighantu mentioned the drug in the group Shalmalyadvarga. Both the classics have stated all most all uniformly the paryayas (synonyms) and Guna, Karmas (therapeutic uses).

Shodhala (12th century A.D.)<sup>11</sup>, in his Shodhala nighantu has given this drug in Guduchyad Varga<sup>15</sup>

Kayya Deva, (1450 A.D.)<sup>12</sup>, the author of Kayya Deva Nighantu, included the drug in Oushadhi varga and stated the synonyms, qualities, varieties and actions of the drug which are almost similar to that given in Raja Nighantu and Dhanwantari Nighantu.

Bhava Mishra, (1500 - 1600 A.D.)<sup>11</sup>, the author of Bhava Prakasha Nighantu classified the drugs and included the Khadira in Vatadvarga<sup>4</sup> according to morphology and actions of the drugs and included the Khadira in vatadvarga<sup>4</sup>. He stated 150 more drugs than the Dhanwanthari Nighantu and does not have any difference of opinion regarding to the qualities, varieties, actions of the drug.

Lala Shaligrama Vyshya, (1896 A.D.)<sup>13</sup>, the author of Shaligrama Nighantu, stated the drug similar to Kayya Deva<sup>8</sup>.

Govinda Dasa, (19th century A.D.)<sup>13</sup>, the author of Bhaishajya Ratnavali, indicated Khadira in many formulations and diseases such as: Khadiradi quatha in Bhagandara, Khadirarishta in Kushtha and Khadirashtaka in Masusika, Visarpa, Visphota, Kandu.

There is no mention of the syn-

onyms, varieties, qualities, actions of the drug in this work.

## Description of Khadira :

### 1. Identification:

The tree is of moderate size, cylindrical in shape, its bark is about 1/2" thick and dark greyish brown with sharp spines. The tree is widely distributed in India from the Indus eastwards to Assam and through out the peninsula, particularly in the drier regions. It may grow upto 5000 feet height. Leaves and flowers are seen in Spring and Winter seasons.

### 2. Varieties:

As per the Brhattraai and Dhanwantari Nighantu there are two varieties viz., 1. Khadira, 2. Shveta Khadira, where as in addition to these varieties, Rajanighantu mentioned four more varieties 17 viz. 1. Tamra Kantaka 2. Vitu Khadira 3. Ari 4. Khadiraniryasa.

Narahari Pandita has vividly described the pharmacological actions of the drug prescribed as Bahusara and Medhya (Rejunvative therapy), which is similar to the ancestry knowledge of Vedas. As per the modern Botanists there are three varieties viz., 1. Catechu, 2. Catechuoides 3. Sundra.

### Chemical Composition:

Bark pods contains - Tannin

Gum contains - Acid combined with calcium magnesium and potassium.

### Parts Used:

Panchang (whole plant), mainly bark, gum, leaves, seeds and pods.

gum, leaves, seeds and pods.

**Important Preparations / Formulations:**

1. Khadirarishta
2. Khadiradikwatha
3. Khadirashtaka
4. Khadiradivati, etc.

**Therapeutic indications/Uses:**

These ancient Ayurvedic classics have very elaborately described the Rasa, Guna, Virya, Vipaka, Prabhava alongwith its indications in the diseases as shown in the following table:

SI. No.	Therapeutic indications	Classics											
		AH	BP	BR	CS	DN	KN	RN	SDS	SN	SGN	SS	AV
1.	Ama/Aruchi/Apachana	-	+	-	-	-	+	+	-	-	-	-	-
2.	Arbuda/Gulma/Granthi Pliha	-	-	-	-	-	-	-	+	-	-	-	-
3.	Bhagandara	-	-	+	-	-	-	-	-	-	-	-	-
4.	Graha Dosha	-	-	-	-	-	-	-	-	-	-	-	+
5.	Hritroga	-	-	-	-	-	-	-	+	-	-	-	-
6.	Jwara	-	+	-	-	-	+	-	-	-	-	-	-
7.	Kasa	-	+	-	-	+	-	+	-	+	+	-	-
8.	Krimi	+	+	+	-	+	+	+	+	+	+	-	+
9.	Kushtha	+	+	+	-	+	+	+	+	+	+	-	-
10.	Kandu	-	-	+	-	+	+	+	-	-	-	-	-
11.	Masurika	-	-	+	-	-	-	-	-	-	-	-	-
12.	Medoraga	-	-	-	-	-	+	+	+	-	-	-	-
13.	Medhya/Bahusara	+	-	-	-	-	-	+	-	-	-	-	+
14.	Prameha	-	+	-	+	-	+	+	-	-	+	+	-
15.	Pandu	-	+	-	-	-	+	+	+	-	-	-	-
16.	Raktha Vikara	-	+	-	+	-	+	-	-	-	-	+	-
17.	Shotha	-	+	-	-	-	-	+	+	-	-	-	-
18.	Swar Bheda/Galrog	-	-	-	-	-	-	-	+	-	+	+	-
19.	Shwasa	-	-	-	-	-	-	-	-	+	+	-	-
20.	Udarda	-	-	-	+	-	-	-	-	-	-	-	-
21.	Vrana	-	+	-	-	-	+	+	-	-	-	+	-
22.	Visarpa	-	-	+	-	-	-	+	-	+	+	-	-
23.	Visphota	-	-	+	-	-	-	-	-	-	-	-	-

N.B.-A.H.: Ashtanga Hridaya; B.P.= Bhavaprakasha; BR=Bhaishjyarnavali; C.S.=Charaka Samhita; D.N.= Dhanwantari nighantu; K.N.= Kayyadeva Nighantu; R.N. = Raja Nighantu; RV=Rig Veda; S.D.S.=Sharangadhara Samhita; S.N.=Shodhala Nighantu; S.N.= Shaligrama Nighantu; S.S.= Sushruta Samhita. AV= Atharva Veda.

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सारांश

## खदिर - एक आयुर्विज्ञानीय इतिहासात्मक सर्वेक्षण

— ए. नारायण

भारतीय चिकित्सा विज्ञान “आयुर्वेद” अत्यन्त पुरातन है। वेदों में न केवल चिकित्सा विज्ञान संबन्धित संदर्भ मिलते हैं अपितु विभिन्न औषध द्रव्यों का भी उल्लेख मिलता है। इस लेख में खदिर नामक एक वानस्पतिक औषध द्रव्य पर संहिताओं, निघण्टुओं, टीकाओं एवं अन्य संग्रह ग्रन्थों पर आधारित वैदिक काल से आधुनिक काल पर्यन्त एक आयुर्विज्ञानीय इतिहासात्मक सर्वेक्षण प्रस्तुत किया गया है।