



REVIEW ARTICLE

# CRITICAL REVIEW OF KUBERAKSHA AND ITS FORMULATIONS IN AYURVEDA

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## Abstract

*Kuberaksha* and its use are found from the Samhitha period itself. The synonyms *Latakaranja*, *Kantaki karanja*, and *karanja* are found in different books. Synonyms of *Kuberaksha* were mixed up in many nighantus which led to confusion for identification. Phytosterenin, bonducin, saponin, phytosterol, fixed oil, starch and sucrose are the chemical constituents of *kuberaksha*. Nuts and root bark are antispasmodic, bitter tonic, anthelmintic, and febrifuge. Fixed oil expressed from seed is emollient. *Kuberaksha* has antipyretic, aphrodisiac, depurative, tonic, and hepatic protective properties. It is also used to treat infertility caused by polycystic ovarian syndrome. While analyzing the drug and formulations of *kuberaksha*, it is observed less frequently in the Samhitha period but more in medieval period books. Many references to *kuberaksha* are there in books from regional languages of south India. The majority of formulations come in the chapters of *shoola*, *gulma* and *vidhi*. As per A.P.I *Caesalpinia bonduc* is the source plant for *Kuberaksha*. The plant has immense therapeutic capabilities as shown by research which should be explored in future.

## Introduction

*Kuberaksha* is a drug in Ayurveda which has been in use since the Samhitha period. The seeds are ash grey coloured like the eyeball of Kubera, so-called *kuberakshi*. It is a perennial climbing shrub found near seacoasts, especially over Bengal and the whole of south India. The drug has synonyms *Latakaranja*, *karanja*, *kantaki karanja*.

Instead of basonym *Kuberaksha*, synonyms like *Latakaranja*, and *karanja*, are often used in literature. In this review, classical texts, books and articles with recent updates will be analyzed to collect references to *Kuberaksha*, its synonyms, formulations, therapeutic properties, and chemical constituents. *Kuberaksha* has got lot of medicinal values which need to be explored in the coming era, So this article will help to give clarity in identification, and therapeutic indications for wide usage of the drug.

## Materials and Methods

Relevant books available in Ayurveda, peer-reviewed journals are referred for synonyms, nomenclature therapeutic uses, chemical constituents and formulations. The texts referred includes *Charaksamhita*, *Sushrutasamhita*, *Ashtanghridaya*, *Ashtangasangraha*, *Vaidyikasabdasindhu*, *Shaligramanighantu*, *Sodallanighantu*, *Bruhatnighanturatnakara*, *Nighantuadarsh*, *Priyanighantu*, *Kaiyadevanighantu*, *Bhavaparkashnighantu*, *DravyagunaVigyan*, Indian Medicinal Plants, *Saharsayoga*, IndianMateriaMedica, *Vaidyamanorama*, *Vaidyachintamani*, *Chikitsakouthukam*, Ayurvedic pharmacopoeia of India, Glossary of vegetable drugs, Medicinal Herbs with their formulations.

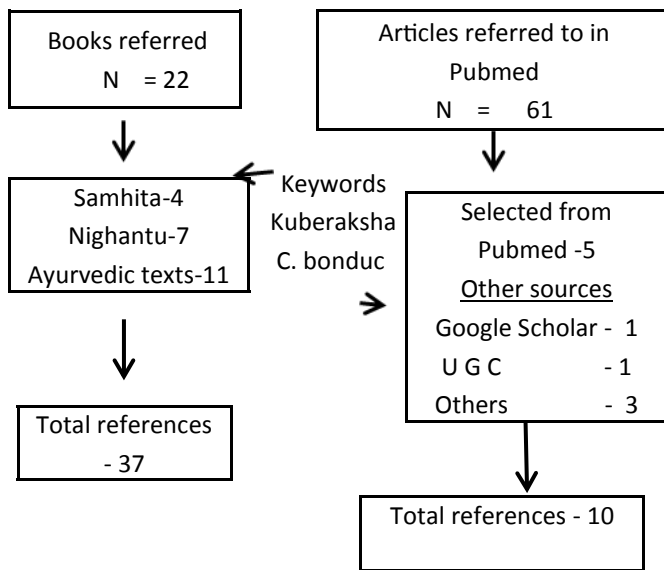


Figure 1 - Flow chart showing the review method

## Results

Susrutha included *Kuberakshi* in the *VataSamsamana*<sup>1</sup> group. Susrutha suggested *kuberakshi* for preparing water for bathing the child<sup>2</sup> in treatment of *mukhamandikagraha*. Susrutha mentions about *Pootikaranja kshara* in *plihodara*<sup>3</sup> treatment and *pootikaranjapatra swarasa* in *sleepada*<sup>4</sup>. Instead of *Kuberaksha*, *Latakaranja* is found in the majority of Ayurveda texts. *Charaka Samhita* used the names *Pootika* and *Pootikaranj* for *Latakaranj*. *Charaka Samhita* used "Udkeerya" and "Prakeerya" for *Brihad Karanj* and *Pootika*, *Pootikaranj* for *Latakaranj*". *Charaka* says about 2 types of *Karanja* which are used for *Duralabhaya kshara*<sup>5</sup> in strengthening *grahani*. *Charaka* advices to take *karanjapallava* fried with ghee before food for *vataanulomana*.

Table 1: Pharmacological properties of *Kuberaksha*<sup>21</sup>:

Drug	Rasa	Guna	Virya	Vipaka	Dosha ghnta	karma
Lata Karanj	Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu	Kaphahara, Pittahara, Vatahara	Dipana, Artavajanana Vedanasthapaka, Vranaropaka

In *Ashtangahrdyam* while mentioning *Argwadhadhigana*, *Karanjayugma*<sup>6</sup> comes as an ingredient, and is told to cure *vishamajwara*, *kapharoga*, *chardi kushta*. In *AshtangaSangraha kuberaksha* is mentioned in *Balagrahapratisheda* for protective bath<sup>7</sup> and fumigation<sup>8</sup> which helps the child's well-being.

*Bhavapraksha* includes *kuberaksha* in *guduchyadi varga* and two types of *Karanja* are *Kantakararanja* and *Grtha karanja*. *Bhavapraksha* equates the drug with *putikaranja*<sup>9</sup> which is a synonym of *Grthakaranja*. Its fruit has *kapha vataghna* property and the leaf is told to have *bhedana* property, again one variety of *karanji* is told separately.

In *Dhanwanthari nighantu* *Karanja* is told in *Aamradi varga* and synonyms like *naktamala*, *pootika*, *chirubilva*<sup>10</sup> are seen. *Udakirya* is a variety of *Karanja*, and it specifically alleviates *yoniroga*.

In *Rajanighantu* specific name of *kuberaksha*<sup>11</sup> is mentioned along with *latakaranja*. *Raja nighantu* explains it as *kaphavatasamaka*, *deepana*, *pathya*. *Kuberaksha* relieves *shoola*, *gulma* and includes it under *Shalmalyadivarga*. *Karanja* and its varieties are included in *Prabhadradi* and *latakaranja* is given a separate identity with a *kuberaksha* synonym.

*Shaligrama Nighnatu* has an opinion that *kuberaksha* is *kantakararanja*<sup>12</sup> which is best for alleviating *kusta*, *arsa*, *prameha* and *vata*.

*Nighantu Adarsh* included *Kantakararanja* in *putikaranjadi Varga*, The specific term *kuberaksha* is told which means the plant has a terrifying appearance which is satisfied by its thorny appearance, and shape-like eye. It is said that seeds destroy diseases of *yakrit* and *pleeha*<sup>13</sup>

In *Kaiyadevanighantu* *Kantakararanja* is included under *oushadhivarga*<sup>14</sup> and is told to alleviate *shoola*, *adhmana*, *vrna* and *krimi*. Its synonyms are *tiragandhi*, *tiragandhika*. It is having *kashaya katu tikta rasa* and *kaphapittasamaka* property.

*Vaidyasabdasindhu* clearly states that *Kuberaksha* is *Latakaranja*<sup>15</sup>. In *Sabdasagaram* *Kuberaksha* is mentioned as *Kazhang*<sup>16</sup> in Malayalam language.

*Singh & Chunekar* has the opinion that *Kuberakshi* cannot be *Pootikaranja*<sup>17</sup>, for them *kuberaksh* is a synonym of *Swetamokshaka* (*Schrebera swietenionides* Roxb) or *Latakaranja* (*Caesalpinia crista* Linn). *Vaidyamanorama* indicated to use *pootikaranja* root bark with *tushabu* for *apara patana*<sup>18</sup>. In *Sodallhanighantu* for alleviating foul smell in the body use of *pootikaranjabeeja* seed is indicated. *karanja* and *putikaranja* are included under *Amradi varga*<sup>19</sup>. Whereas

Priyanighantu mentions *kantakikaranjabeeja* as *kuberaksha* and it is indicated in *vishmajwara,yakrtroga,shoola*<sup>20</sup>, included under *haritakyadivarga* and named as *Caesalpinia Crista.Linn.*

Seeds contain Phytosteren, bonducin<sup>22</sup>, saponin, phytosterol, fixed oil, starch and sucrose. Seeds also contain  $\alpha$ , and  $\beta$  caesalpins, whereas the bark of the root contains natin. Nuts and root bark are antiperiodic, antispasmodic<sup>23</sup>, antiinflammatory<sup>24</sup>, bitter tonic, antihelminthic, and febrifuge. Fixed oil expressed from seed is emollient. *Latakaranj* has antipyretic, aphrodisiac, anti-diabetic, depurative, tonic, and hepatic protective<sup>25</sup> properties. It is also used to treat infertility caused by polycystic ovarian syndrome<sup>26</sup>. Case studies of *kuberaksha vati* were conducted on PCOS at Govt. Ayurveda College, Nanded<sup>27</sup>, CSMSS Ayurveda College Kanchanwadi Aurangabad<sup>28</sup> Maharashtra both with good results. The Central Council for Research in Ayurvedic Sciences, an apex body for research and development in Ayurveda under the Ministry of AYUSH in the 1980s has developed a poly-herbal drug AYUSH 64, 500mg tablet. Its main ingredient is 200 mg of *kuberaksha*. The experimental studies of AYUSH 64 have shown that it was safe and non-toxic<sup>29</sup> in a dose of 500 mg/kg of body weight. The pharmacological screening of the

plant extracts reveals antioxidant, antimalarial, anti-inflammatory, analgesic anti-estrogenic and hepatoprotective activities<sup>30</sup>. Research on *C. bonduc* seed extracts has shown potential sources for managing BPH<sup>31</sup> and as a promising immunostimulatory<sup>32</sup> agent. Adaptogenic activity was proved for seed extracts<sup>33</sup> whereas Jabbar A, et al. reported antihelminthic activity<sup>34</sup>. *Caesalpinia bonducella* seed kernel extract showed microfilaricidal<sup>35</sup> activity, and 50% inhibitory activity against carrageenan-induced oedema<sup>36</sup>. Khan HU, et al., have reported antibacterial, antifungal, antispasmodic and Ca++ antagonist effects of *Caesalpinia bonducella*<sup>37</sup>. Calcium antagonist affects diseases like hypertension, angina, abnormal heart rhythms, and uterine contractions.

## Discussion

Plant identification and naming are done in Ayurveda according to various parameters like source, habitat, colour, properties etc. There are chances that controversies happen in the source plant. *Kuberaksha* and its synonyms were mixed up in different nighantus eventually creating confusion for identification, but it is essential to have a genuine drug for treatment.

**Table 1:** Pharmacological properties of *Kuberaksha*<sup>21</sup>:

	Use/Name of formulation	Reference	Indication
1	<i>Parishechana</i> of Bala <sup>1</sup> (bathing of child)	<i>Susrutha Uttarasthana</i>	<i>Mukhamandika graha pratisheda</i>
2	<i>Vatasamsamana</i> <sup>2</sup> -(Paliatives of Vata)	<i>Susrutha Sutra sthana</i>	Mitigates vata
3	Seed kernel of <i>Kuberaksha</i> , <i>Ativisha</i> root, <i>Maricha</i> fruits, with <i>Tulsi</i> leaves	<i>Sidhabheshajamanimala</i>	Jwarasamana, Atisara
4	Seed kernel of <i>Kuberaksha</i> with sour gruel	<i>Vaidyamanorama</i> <sup>34</sup>	<i>Grahani</i>
5	Seed powder with <i>Hingu</i> , <i>Lasuna</i> and <i>Saindhava</i>	<i>Vaidyachintamani</i> <sup>35</sup>	<i>Shoola</i>
6	<i>Kuberakshavati</i> ( <i>Kuberaksh, sunti, souvarchala, hingu</i> ) <i>Kuberakshpaka</i> ( <i>kuberaksha</i> cooked with <i>dhanyamla</i> )	<i>Brihatnighanturatnakara</i> <sup>36</sup>	<i>Shoola</i>
		<i>Brihatnighanturatnakara</i> <sup>37</sup>	<i>Shoola</i>
	<i>Hingvadi churna</i> ( <i>Hingu, kuberaksha, aksha, sunti</i> )	<i>Brihatnighanturatnakara</i> <sup>38</sup>	<i>Shoola</i>
	<i>Kuberapak</i>	<i>Brihatnighanturatnakara</i> <sup>39</sup>	<i>Vatavyadhi</i>
7	<i>Ullivettatukadikashayam/LasunaKuberanayanadi kashaya</i>	<i>Sahasrayogam</i> <sup>40</sup>	<i>vrddhi</i>
8	<i>Lasunaerandadi kashayam</i>	<i>Sahasrayogam</i> <sup>41</sup>	<i>Gulma</i>
9	<i>Anthrakudaram gulika</i>	<i>Sahasrayogam</i> <sup>42</sup>	<i>Udavartha, Vrdhi, Shoola</i>
10	<i>Dhanadanayanadi kashayam</i>	<i>Sahasrayoga</i> <sup>43</sup>	<i>Arditha, Akshepaka</i>
11	Root of <i>kuberaksha</i> root paste with milk	<i>Chikitsa kouthukam</i> <sup>44</sup>	<i>Vridhi of bala</i>
12	<i>Kuberaksha seed fried in eranda thaila</i>	<i>Chikitsa kouthukam</i> <sup>45</sup>	<i>Vrdhi</i>
13	<i>Leaf of kuberaksha, Chiruvilva, Apamarga fried in ghee</i>	<i>Chikitsamanjari</i> <sup>46</sup>	<i>Shoola, gulma, arsas</i>
14	<i>Ayush 64</i>	Product from CCRAS	<i>Vishma jwara, Covid-19, Malaria</i>
15	<i>Karanjadi choorna</i>	<i>Vaidya rahasyam</i> <sup>47</sup>	<i>Shoola chikitsa</i>

*Kuberaksha* fruits are thorny so called *kantakini* and *kantaphala* and hence it is difficult to handle which gives the name *Dusparsa*. The seeds are very hard so called by the name *vajrabijaka*. These synonyms have good similarities to *Caesalpinia bonduc* (Linn) Roxb of *Caesalpiniace*. When we go through the literature, it is noted that many synonyms of *Karanj* (*Pongamia Pinnata*) have been interpreted as *Latakaranj* (*Caesalpinia crista*) and vice versa.

In *Dravyagunavijnana* of *Nishteswar*, the plant equated to *Caesalpinia bonduc* (Linn) Roxb with Sanskrit synonyms *Latakaranja*, *Kuberakshi* and *Kantakaranja* in Hindi. Indian medicinal plants are considered *Kuberakshi* as *Caesalpinia bonduc* (Linn) along with *C.cristata* Linn. Whereas in *API Kuberaksha*, *Kantakikaranja* is equated with *Caesalpinia bonduc* (Linn)<sup>21</sup> which is ideal considering all the drug identification parameters and also therapeutic, pharmaceutical and pharmacological properties.

*Kuberaksha* and its formulations it observed less frequently in the *Samhitha* period but used widely in the medieval period. Many references are there in books from the regional language of south India, this may be due to easy availability and due to the prevalent usage of the plant in *Siddha* medicine.

## Conclusion

Synonyms of *Kuberaksha* were mixed up in many books leading to difficulty in drug identification. Presently *Caesalpinia bonduc* can be considered as the source plant of *Kuberaksha* as described in *API*. Research done on *Caesalpinia bonduc* has shown properties as described in *Ayurveda*. The plant has immense therapeutic capabilities in *jawara*, *shoola*, *gulma*, and *vridhi* which should be explored in future.

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