



IDENTIFICATION OF *PUM KUTAJA* AND *STRI KUTAJA* MENTIONED IN THE AYURVEDIC LITERATURE

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ABSTRACT

Kutaja is one among the frequently used medicinal plants in Ayurveda. *Kutaja* is the drug of choice for bleeding piles. *Acharya Charak* quoted *Kutaja tvak* as the best *Sangrahika dravya*. It possess properties like *Deepana* and *Pachana* and is useful in the management of diarrhoea. *Charak* enumerated eighteen *yogas* of *Kutaja* with the name *Vatsaka* in *Kalpasthanana*. In this context he described male and female varieties of *Kutaja*. Modern experts have also described two varieties of *Kutaja* i.e., *Sveta* and *Krishna* variety. The bark and seeds of *Kutaja* are used for different medicinal purposes. The seeds of *Sveta Kutaja* and the seeds which are *Tikta*, possess better medicinal property. The market sample comprises of seeds of both *Tikta* and *Madhur* variety mixed together. Market sample of *Kutaja* mostly comprises of *Madhur* seeds. There are three species taken under the name of *Kutaja* i.e., *Holarrhena antidysentrica*, *Wrightia tomentosa* and *Wrightia tinctoria*. It is a matter of confusion that which one is to be taken as *Pum Kutaja* and which one as *Stri Kutaja*. This article is to throw some light on different species taken as *Kutaja* and decide which species should be taken as *Pum Kutaja* and which one is to be taken as *Stri kutaja*.

KEYWORDS: *Pum kutaja*, *Stri kutaja*, *Holarrhena antidysentrica*, *Wrightia tomentosa* and *Wrightia tinctoria*.

INTRODUCTION

Kutaja is a large shrub or a small deciduous tree with exfoliating bark. *Kutaja* occurs almost throughout India up to or altitude of 1250 m often gregariously in deciduous forest and open wastelands and especially abundant in the sub Himalayan tracts¹. It is a good appetizer, cold in potency and retains undigested food. It cures diseases like haemorrhoids, diarrhoea, haemorrhages, and skin diseases². *Acharya Charak* kept it in *Arshoghna*, *Kandughna*, *Stanya Shodhana*, and *Asthanopanoga mahakasaya*. *Acharya Sushruta* kept it in *Aragwadhadi*, *Pippalyadi*, *Haridradi* and *Lakshadi gana*. *Acharya Vagbhatta* kept it in *Aragwadhadi* and *Pippalyadi gana*³. In *Kalpa Sthana*, *Charak* has mentioned two varieties of *Kutaja* i.e., *Pum Kutaja* and *Stri Kutaja*⁴. According to *Acharya Dalhana* bark of *Pum Kutaja* is better than *Stri Kutaja* when used in *Atisara*⁵. The plant with white flowers, smooth or glabrous leaves and big fruits will be Male *Kutaja* while the plant with reddish flowers, smaller fruit and greyish black bark is Female *Kutaja*⁶.

Indrayava: The seeds of *Kutaja* are said to be *Indrayava*. *Indrayava* is said to be *tridoshnasak* and *Samgrahi*. It is used in the diseases like *Jwar*, *Atisar*, *Visarpa* and *Kushta*. *Indrayava* is of two type i.e., Bitter *Indrayava* and Sweet *Indrayava*. The seeds of *Holarrhena antidysentrica* are said to be Bitter *Indrayava*, while the seeds of *Wrightia tinctoria* are said to be Sweet *Indrayava*, rather to say less bitter *Indrayava*⁷. The fruit of *Wrightia tomentosa* are attached from top to bottom and therefore may be its fruit is termed as *Indrayava* instead of seeds. *Vaidya Bapalal* is of the opinion that the fruit is known as *Indrayava* and the seed is known as *Bhadrayava*⁸.

The difference in the Ayurvedic properties of *Kutaja* and *Indrayava* in the different *Nighantus* are mentioned in the table bellow⁹⁻¹²

<i>Nighantu</i>	<i>Kutaja</i>	<i>Indrayava</i>
<i>Dhanvantri Nighantu</i>	<i>Ras- Katu, Tikta, Kasaya Veerya- Sheeta</i>	<i>Ras- Katu, Tikta Veerya- Ushna</i>
<i>Kaideva Nighantu</i>	<i>Ras- Katu, Kasaya Veerya- Sheeta</i>	<i>Ras- Katu, Tikta Veerya- Ishat Ushna</i>
<i>Raj Nighantu</i>	<i>Ras- Katu, Tikta, Kasaya Veerya- Ushna</i>	<i>Ras- Katu, Tikta Veerya- Sheeta</i>
<i>Bhavprakash Nighantu</i>	<i>Ras- Katu, Kasaya Veerya- Sheeta</i>	<i>Ras- Katu Veerya- Sheeta</i>

Synonyms of *Kutaja* in different *Nighantus*⁹⁻¹²

Kutaja, *Kaut*, *Vatsaka*, *Girimallika*, *Kalinga*, *Indravriksha*, *Vrikshaka*, *Kohi*, *Utsaka*, *Vartiktaka*, *Sakra*, *Mallikapuspa*, *Pravrishya*, *Sakrapadapa*, *Yavaphala*, *Samgrahi*, *Pandurdram*, *Mahagandha*, *Neelyashti*, *Kuti* etc.

Elaboration of some of the Synonyms of *Kutaja*^{13,14}

- **Vriksaka:** It is a small tree.
- **Kalinga:** It grows wildly in hilly regions of *Kalinga*.
- **Pandurdram:** The bark is pale in colour.
- **Mahagandha:** The flowers are fragrant.
- **Mallikapuspa:** The flowers are similar to jasmine.
- **Yavaphala:** Fruits have barley shaped seeds.
- **Indrayava:** The shape of the seed is similar to *Yava*.
- **Varatikta:** It has bitter taste.
- **Sangrahi:** Efficacious in diarrhoea and dysentery.

Therapeutic Uses of Kutaja¹⁵

- **Fever-** Decoction of *Indrayava* and *Katuka* taken with rice water alleviates fever caused by *Pitta*.
- **Diarrhea-** To check blood coming with stool one should take ghee cooked with *Indrayava* with barley scum followed by intake of liquid gruel.
- **Bleeding Piles-** Decoction of *Kutaja* bark with *Sunthi* checks mucus and blood.
- **Calculus and gravels-** *Kutaja* bark taken with curd along with wholesome diet expels gravels through urethra.
- **Wound-** Decoction of *Karavira*, *Arka* and *Kutaja* promotes healing of wounds.
- **Skin Diseases-** Decoction of *Kutaja* destroys all skin diseases.
- **Prameha-** Paste of flowers of *Kutaja*, *Rohitaka*, *Bibhitaka* and *Saptaparna* is useful in *Prameha*.

Adulteration¹⁶

The market samples of bark of *Holarrhena antidysentrica* are adulterated with bark of *Wrightia*

tomentosa and *Wrightia tinctoria*. Very often the bark of *Wrightia tinctoria* is adulterated, but it possess much less medicinal properties than *Holarrhena antidysentrica*.

Macroscopy

***Holarrhena antidysentrica*:** The dried bark of *Holarrhena antidysentrica* appear in small recurved pieces, outer surface dark brown, longitudinally wrinkled and bearing horizontal lenticels, inner surface is brownish and rough¹⁷.

***Wrightia tinctoria*:** The outer surface of dried stem bark of *Wrightia tinctoria* faintly longitudinally and transversally striated and intermittently displays small circular lenticels, inner surface rough, having fibres and is buff in colour¹⁷.

***Wrightia tomentosa*:** The pieces of stem bark of *Wrightia tomentosa* appear recurved, the outer surface is yellow to greenish brown, where as inner is brownish white and strong fibrous. Fracture is tough and fibrous and there is no characteristic taste of bark¹⁸.

The macroscopic difference of the three species taken as *Kutaja* is shown in the table below¹⁹.

Plant Part	<i>Holarrhena antidysentrica</i>	<i>Wrightia tinctoria</i>	<i>Wrightia tomentosa</i>
1. Bark	Greyish-brown, scaly, not very rough, with prominent lenticels. Bark usually peeling off in irregular scales.	Pale grey, not particularly rough, with some thin scabby patches and prominent lenticels.	Greyish-brown with thin peeling scales; closely mottled with lenticels and exuding a milky latex when the trunk is wounded or incised.
2. Leaves	Leaves up to 30 cm long, arranged in opposite pairs; narrowed at both ends, with about 12 pairs of parallel, arching secondary nerves; smooth or sparsely hairy, especially below; leaf stalks short.	Leaves in opposite pairs, up to 18 cm long with virtually no stalks; pale below, somewhat blue-green on top especially when young; blade softly downy or less commonly completely smooth; secondary veins pale, prominent, arching; apex shortly pointy, base usually rounded.	Leaves about 10 cm long in opposite pairs or nearly so, narrowed at both ends, softly velvety especially below; leaf-stalk short; margins often wavy.
3. Flowers	25-35 mm wide, fragrant, in dense clusters at the ends of branchlets; tube about 15mm long, lobes white, always overlapping to the right, with a hint of yellow in the narrow throat; stamens and stigma deep inside tube.	White, deliciously fragrant, in extravagant clusters at the ends of twigs; about 3 cm wide with 5 slender, twisty petals; the stamens form a prominent cone in the centre, hiding the pistil; delicate, lacy threads radiating from the cone form a corona on top of the petals.	Slender, branched, clusters at ends of twigs; 5 spreading white petals up to 30 mm wide, tinged pale yellow or greenish; stamens form a cone at the centre, surrounded by a fleshy, orange corona; flower stalks are softly hairy.
4. Fruit	Slender, smooth, consisting of 2 diverging prongs, each 30 cm or more long, joined at their apex.	Fruit slim, pendant, cylindrical follicles, up to 45 cm long, dark green, joined at the tips of both ends when they are young, afterwards hanging free at the apex; the seeds are encased in tufts of silvery silk.	Fruit of 2 slender, cylindrical follicles up to 35 cm long, joined all along their length, grooved where they meet; dark green and intensely speckled with pale dots; seeds inside wear a tuft of silky white hairs.
5. Colour of Latex	Milky	Milky	Yellow

The flowers of *Holarrhena antidysentrica*, *Wrightia tinctoria* and *Wrightia tomentosa* are shown in the figure 1, figure 2 and figure 3 respectively, while the fruits of *Holarrhena antidysentrica*, *Wrightia tinctoria* and *Wrightia tomentosa* are shown in the figure 4, figure 5 and figure 6 respectively.



Figure 1. *Holarrhena antidysentrica*



Figure 2. *Wrightia tinctoria*



Figure 3. *Wrightia tomentosa*



Figure 4. Fruit of *Holarrhena*



Figure 4. Fruit of *Wrightia tinctoria*



Figure 6. Fruit of *Wrightia tomentosa*

Microscopy^{20,21}. The microscopic characteristics of the three species taken as *Kutaja* are shown in the table below.

	<i>Holarrhena antidysentrica</i>	<i>Wrightia tinctoria</i>	<i>Wrightia tomentosa</i>
1. Phloem fibres	Absent	Present	Present
2. Calcium oxalate	Present in large number	Comparatively less in number	Present
3. Stone cells	Present throughout the section	Present only in cortical region	Present throughout the section

DISCUSSION

The fruits of *Wrightia tomentosa* are attached from top to bottom and therefore may be its fruit is termed as *Indrayava* instead of seeds. *Vaidya Bapalal* said that the fruit is known as *Indrayava* while the seed is known as *Bhadrayava*. *Wrightia tomentosa* yield yellow latex while the other two *Holarrhena antidysentrica* and *Wrightia tinctoria* produce white (milky) latex. The fruit of the *Holarrhena antidysentrica* and *Wrightia tinctoria* are joined at the apex while the fruit of the *Wrightia tomentosa* is joined all along their length leaving a groove where they meet.

CONCLUSION

Thus due to similarities in fruit and colour of latex, it is concluded that *Holarrhena antidysentrica* and *Wrightia tinctoria* both should be taken as *Pum Kutaja* while *Wrightia tomentosa* should be taken as *Stri Kutaja*. The fruit should be termed as *Indrayava* while the seed should be called as *Bhadrayava*.

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