

DATABASE STUDY OF KANCHANARA (*Bauhinia Variegata* Linn) WITH SPECIAL REFERENCE TO CONTROVERSIAL ASPECT

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ABSTRACT

Kanchanara is known for its glory of scented and aesthetic flowers and also used as a food ingredient in Indian cuisine. Though different species of Bauhinia are known and used as Kanchanara but in specific Kanchanara is botanically identified as Bauhinia variegata. It is a moderate sized deciduous tree with greyish coloured stem found in sub Himalayan tract from the Indus eastwards and throughout the forests of India and Burma. The Flower and Bark of Kanchanara are used as medicine. The drug has been described as Grahi, Krimighna, Kushtaghna, Gandamalanashaka, Vranaropaka, Mehaghna and Raktapittashamak.. Though the drug is mainly used in the name of Kanchanara, there is no usage of this term in the Samhitas, instead terms like Kovidara and Karbudara are used, in later periods of Nighantus the word Kanchanara was thrown light upon. Hence it is considered as a controversial drug. This review paper gives details about the medicinal plant Kanchanaraits Ayurvedic literature review, Pharmacognosy and Controversy.

KEYWORDS: Kanchanara, Bauhinia variegata, Kovidara, Controversy

INTRODUCTION

Kanchanara commonly called as “orchid tree” or “mountain ebony”¹, frequently cultivated in gardens throughout the country. It has important chemical constituents like Lupeol, Hentriacontane, Stigmasterol, Octacosanol, b-sitasterol, Amino acids.² The reported pharmacological activities of Bauhinia variegata Linn. are anti-diabetic, anti-ulcer, anti-oxidant, nephroprotective, anti-cancer, hepatoprotective, anti-inflammatory, immunomodulatory, anti-microbial, anti-bacterial³. Kanchanara is one of the major ingredient of many important formulations used in Ayurveda system of

medicine such as Kanchanara Guggulu, Kanchan gutika, Gandamala kundan rasa, Kanchanaradi Kwatha, Ushirasava, Chandanasava, Vidangarishta, Kanchnara Varuna Kwatha It is having multifold uses in Medicinal, Ethnomedicinal, Culinary, Fibre and Dye Industry etc. Kanchanara has some controversies based on usage of synonyms given by different Teekakaras and Nighantukaras. The terms involved with controversy of Kanchanara are Kovidara, Karbudara, Uddalaka, Ashmantaka, Sleshmataka and different species of

Bauhinia are known and used as Kanchanara in ayurvedic medicine.

Literary Review

Onomatology:

The word Kanchanara means **Kanchanamtadvarnamruchyatipushpaihi**⁴ (its flowers are golden yellow in colour).

The word Bauhinia was named in honour of Jean and Caspar Bauhin, who were 16th century Swiss botanists. The two lobes of the leaf exemplify the two brothers. The specific name Variegata refers to the variegation of the flowers⁵.

Chronological Classification According to Various Authors

Classical Text	Gana/Varga
Charaka Samhita	Shaka varga, Kashaya skandha, Vamanopaga
Nighantu shesha	Vriksha khanda
Shodala Nighantu	Guduchyadi varga, Lakshmanadi varga
Madhava dravya guna Nighantu	Oshadhi varga
Madanapala Nighantu	Abhayadidhi varga
Kaiyyadeva Nighantu	Oushadi varga
Bhavaprakasha Nighantu	Guduchyadi varga
Priya Nighantu	Haritakyadi varga

Bhedha:^{12,15}

According to Kaideva Nighantu and Nighantu ratnakara:

3 types of kanchanara based on flowers:

- Raktapushpa
- Pita pushpa
- Shweta pushpa

Rasapanchaka¹

Rasa – Kashaya

Guna – Laghu, ruksha

Veerya – Sheeta

Vipaka- katu

Karma –Sangrahi, vranaropana.

Doshagnata-Kaphapittashamaka

Synonyms of Kanchanara⁶

Based on morphology:

Bhramareshta, Kanakaprabha ,Kanchana ,Kanchanaha, Kanchanaka ,Kanchanala ,Kantara, Karbudaraha ,Manohara ,Raktapushpa, Shonapushpaka ,Shwetha, Varalaghva, Yugmapatra.

Based on guna karma:

Gandari ,sitaha ,Paakaari

Yugmapatra (Leaves are emarginated).

Gandari (It's effectively cures lymph node disorders / swelling).

Gana/Varga:^{4,7-13}

Rogagnata- Gandamala, Gudabramsha, raktapitta, pradara, vrana.

Vernacular Names:¹⁶

English	Mountain ebony, Camel's foot tree, Orchid tree.
Hindi	Kachnar, Kachanal
Kannada	Kanchavala, Keyumandara, Ulipe
Marathi	Koral
Tamil	Segapumanchori, Segapumunthari
Malayalam	Chuvannamandaram
Telugu	Devakanchanamu

Properties of Different Parts of Kanchanara^{4,17}

Kanchanara twak- Kashaya rasa, sheetaveerya, malavarodaka, kapha pitta hara, krimi, kusta, Gandamala hara ,gudabramsha, vrana hara.

Kanchanara pushpa- Laghu, ruksha, sangrahi, pitta-raktapradara, kshaya, Kasahara.

Kanchanara mula- Gandamalahara

Kingdom	Plantae
Phylum	Tracheophyta
Class	EquisetopsidaC.Agardh
Order	Fabales
Family	Fabaceae
Subfamily	Caesalpiniacea
Genus	Bauhinia
Species	Variegata L.
Scientific Name	<i>BauhiniaVariegata L.</i>

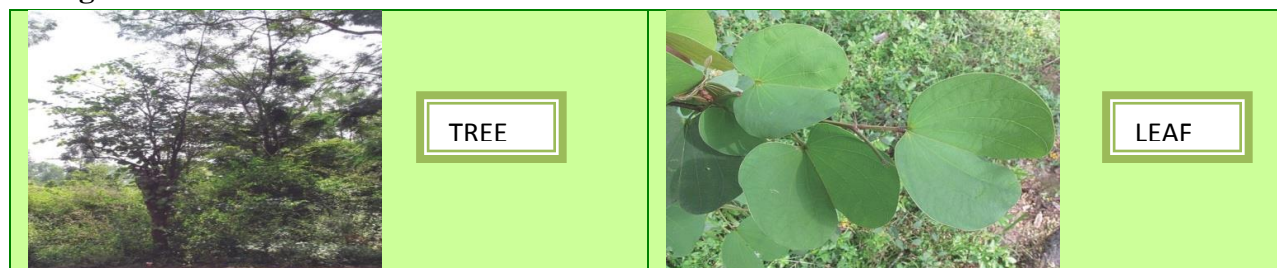
Taxonomy¹⁹:

Botanical Description of Bauhinia Variegata Linn²⁰

Habit-A medium sized deciduous tree.

Bark-Bark, dark brown, sometimes with silvery patches, rough, compact, exfoliating in woody strips and scales, outer surface

Images:²¹



with small transverse and longitudinal cracks, internal surface white, taste, astringent.

Leaves- 10-15 cm. long, as broad as or rather broader than long, cleft ¼ to 1/3 of the way down into 2 obtuse lobes, pubescent beneath when young, the pubescence persisting along and in the axils of the nerves, subcoriaceous, base usually deeply cordate, 11-15 nerved; petiole 2.5- 3.8 cm. long.

Flowers- large, fragrant, white or purplish, appearing when the tree is leafless, in short axillary or terminal, few flowered, grey-pubescent racemes, pedicels short or 0; bracts and bracteoles minute, tomentose, deltoid

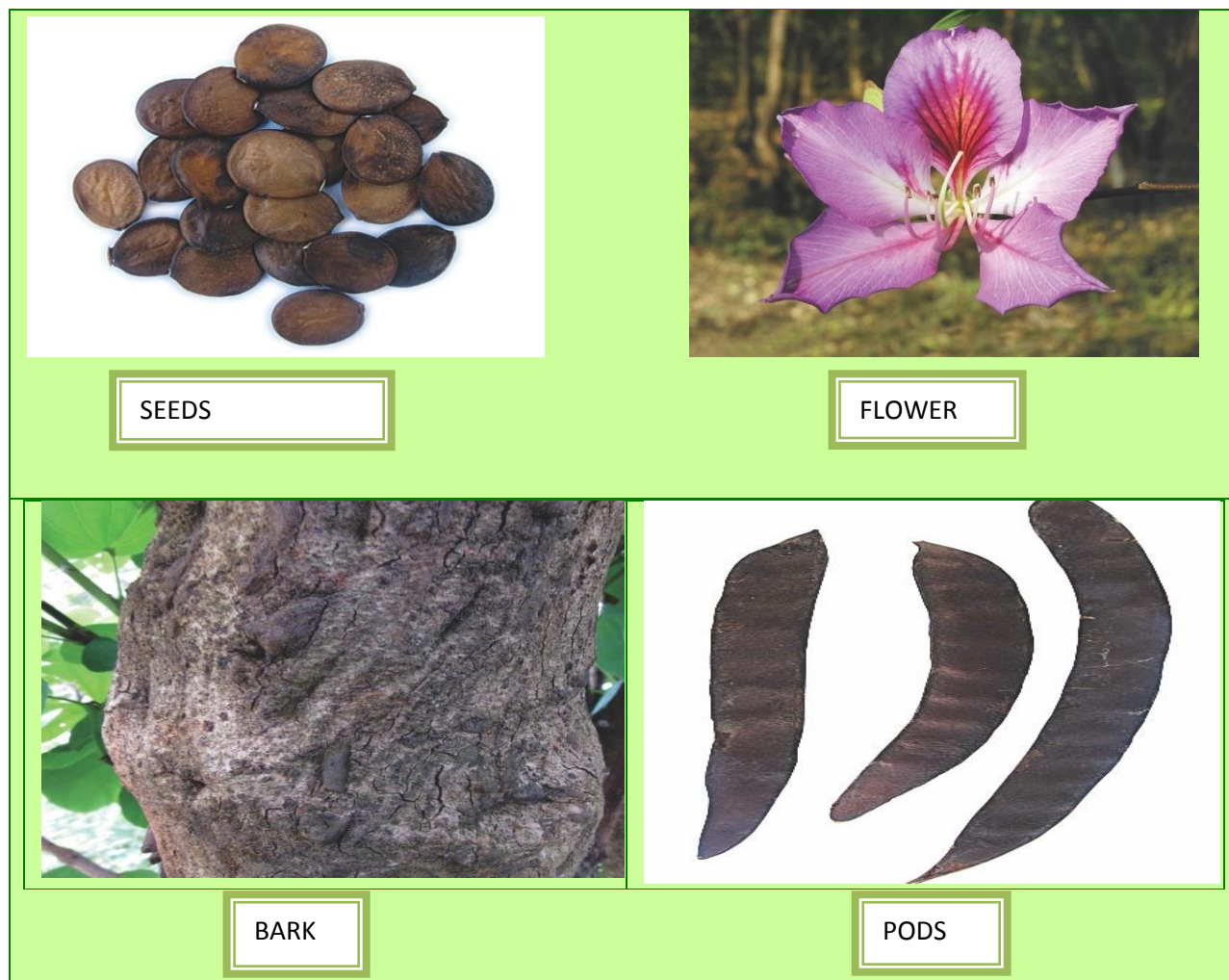
Calyx-grey- tomentose, tube slender, 1.3-2.5 cm. long, limb spathaceous, as long as the tube, 5- toothed at the apex

Corolla-Petals 5-6.3 cm long, obovate with long rather broad claws, all white or 4 petals pale purple and the 5th darker with purple veins

Androecium-Stamens 5, fertile, no staminodes

Gynoecium-Ovary pubescent along the sutures, long- stalked, style long; stigma capitate.

Fruit-Pod 15-30 by 1.8-2.5 cm hard, flat, dehiscent, on a glabrous stipe 2.5 cm long.



SEEDS

FLOWER

BARK

PODS

Pharmacognosy¹:

Macroscopic characters:

Bark, dark brown, sometimes with silvery patches, rough, compact, exfoliating in woody strips and scales, outer surface with small transverse and longitudinal cracks, internal surface white, taste, astringent.

Microscopic:

Transverse section of mature stem bark shows a wide stratified cork, outer cork composed of thin-walled, slightly compressed, yellow brown cells followed by a number of layers of brown coloured cells, inner cork composed of transversely elongated orange brown cells, cork interrupted at certain places due to formation

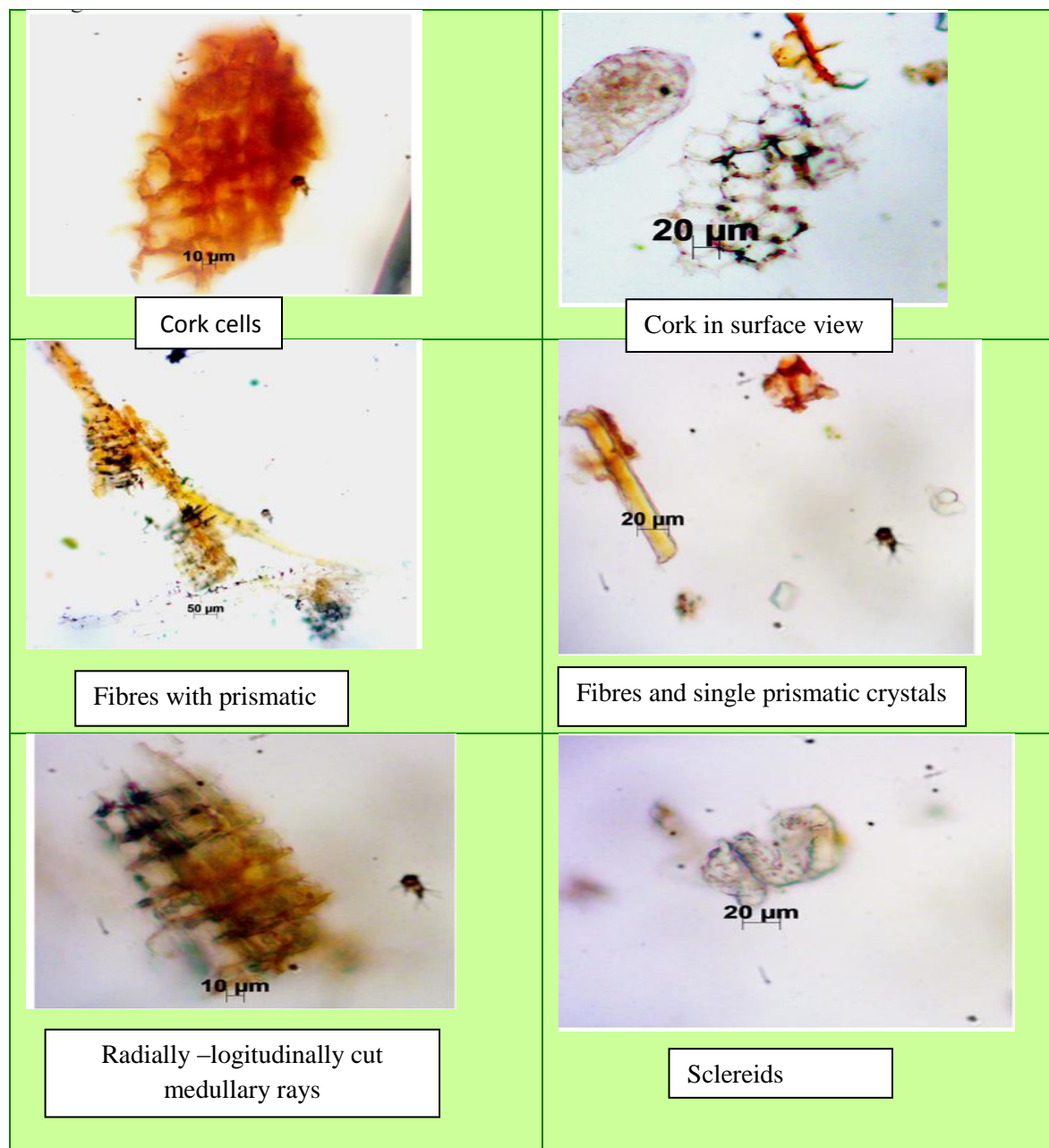
of rhytidoma, some secondary cortex composed of 15 or more rows or transversely elongated to circular, thin-walled, parenchymatous cells groups of stone cells found scattered in this region occasionally arranged in 1-7 or more tangential rows, pericyclic fibres, thick-walled with narrow lumen, scattered in secondary cortex in singles or in groups, secondary phloem consists of sieve tubes, companion cells, phloem parenchyma and fibres traversed by funnel shaped medullary rays, phloem fibres arranged in radial rows throughout phloem region, prismatic and rhomboidal crystals or calciumoxalate abundantly found in phloem and secondary

cortex regions, very rarely found in cork cells, cluster crystals also present in secondary cortex and secondary phloem.

Powder Microscopy:

Pinkish, under microscope showing abundant crystals of calcium oxalate,

sclereids in singles or in groups with wide lumen, bits of fibres, cork and secondary cortex cells, containing coloured content, and numerous crystal fibres.



Kanchanara Controversy²³

1)Kovidara and Kanchanara

i)Samhita Kala

Charaka¹: Mentioned kovidara as totally a different drug other than kanchanara.

Sushruta²²: Mentioned the drug as kovidara.

ii)Sangraha Kala

Chakrapani²³: Kovidara an well identified drug, comments it as 'swanamaprasiddha'

Dalhana²²: comments kovidara as kanchanara in some contexts of sutra sthana where reference of Kovidara pushpa, one among urdhva bhaga dosha hara dravya, kashaya varga drugs, shaka varga, pushpa varga are mentioned.

Shashilekha (InduKrita)²⁴: Kovidara as Kanchanara.

iii)Nighantu Kala

As Synonyms: According to Dhanvantari Nighantu²⁵, Raja Nighantu²⁶, and Shabdha Chandrika²⁷.

As Bheda: According to Madanapalanighantu¹¹, Bhavaprakasha Nighantu⁴

As Separate Drugs: According to Shodala Nighantu⁹ and Kaiyyadeva Nighantu¹¹.

2)Kovidara and Uddalaka

i)Samhita Kala

Charaka⁷: Uddalaka As ShashtikaVisheshha.

Sushruta²²: Uddalaka In Dhanya Varga

Ashtanga Hrudaya³⁵:Uddalaka as shalivishesha

ii)Sangraha Kala

Chakrapani²³ And Dalhana²² Both Opine Uddalaka As AaranyaKodrava.

Dalhana²² As MaakshikaVisheshha.

Shashilekha²⁴ (InduKrit): Uddalaka As Kovidara.

Uddalaka Is Said To Have Ushna Virya

C)Nighantu Kala

As Synonym: According to Soushrutha Nighantu²⁸ andKaiyyadeva Nighantu¹².

As Dhanya: Shodala Nighantu⁹: Trina dhanya

Abhidhanamanjari²⁹:Shimbhidhanya

Uddalaka As Shleshmataka Synonym

Sangraha Kala:

Chakrapani²³:comments it as bahuvara meaning shleshmataka.

Nighantu Kala:

By Shabdha Chandrika²⁷, Soushrutha Nighantu²⁸, Nighantu shesha⁸, Bhavaprakasha⁴

1)Kovidara And Ashmantaka

i)Sangraha Kala

Dalhana²²: Ashmantaka is refered to as kovidara (kovidara sadrushapatra) inmaasanumaasikagarbhavidhi, Ashmari chikitsa.

Shashilekha²⁴:Ashmantaka as indraka,bhalukaparna,Malukaparna

ii)Nighantu Kala

As Synonym: According to Bhavaprakasha Nighantu⁴.

As Separate Drug: According to Shodala⁹, Madanapala¹¹, Dhanvantari²⁵, Kaiyyadeva¹², and Raja Nighantu²⁶.

2)Karbudara And Shleshmataka

i)Sangraha Kala

Dalhana²²: In some contexts comments karbudara as sheshmataka, shleshmatakabhedha.

Shashilekha²⁴: Kachudara as shleshmataka

ii)Nighantu Kala

As Synonym: In Kaiyyadeva Nighantu¹², Dhanvantari²⁵, Madanapala¹¹, Shodala⁹, and Raja Nighantu²⁶.

Quantitative Standards of *Bauhinia Variegata Linn*³⁰

Physicochemical components-Standard values

Foreign matter -NIL

Total Ash - Not more than 14.5 per cent,

Acid-insoluble ash -Not more than 0.8 per cent, Alcohol-soluble extractive-Not less than 11%, Water soluble extractives - Not less than 15 %.

Ethnobotanical Uses:³¹

FOLK	PART USED	DOSAGE	CONDITION
LODHAS	Root bark decoction	15 ml	obesity
	Stem bark paste		leucoderma
	Fresh flower with sugar	(2:1)	As laxative
MUNDAS	Flower decoction	20 ml	To women as galactagogue
	Dried flower bud with water	(1:3)	Vermifuge
SANTHALS	Flower bud powder with paste of black peppers	(5:3)	Regulate vaginal discharge
ANDH AND BHIL	Leaf		Laxative
CHAKMA	Flower		Disorders of women
BHOXAS OF UP	Flower		Diarrhoea and dysentery
	Bark		Malaria and bleeding piles, tumors.
KONKAN	Bark juice		As expectorant
INDO CHINA and PHILIPPINE ISLANDS	Flower kwatha		Dysentery

Research Profile^{20, 32-34}

Research Title	Part Used	Activity
Immunomodulatory effect	Stem bark	The ethanolic extract of the stem bark of <i>B. variegata</i> showed immunomodulatory activity on the primary and secondary antibody responses.

Isolation of Phytochemicals from <i>Bauhinia variegata</i> L. Bark and Their in Vitro Antioxidant and Cytotoxic Potential	Stem bark	The compounds were found to have significant antioxidant and cytotoxic activity due to presence of (kaempferol, stigmaterol, protocatechuic acid methyl ester and protocatechuic acid) in the bark
Raj Kapoor B; Jayakar B; Murugesan N (2003a); Anti tumour activity of <i>Bauhinia variegata</i> on Dalton's Ascitic Lymphoma, J Ethnopharmacol. 89(1): 107-109	Stem bark Flavanoids	Anti-tumour activity: Ethanolic extract of the stem bark of <i>Bauhinia variegata</i> has been evaluated against the Dalton's Ascitic Lymphoma (DAL) on Swiss Albino mice. This ethanolic treatment enhance the peritoneal cell counts
Singh KL, Singh DK, and Singh VK: Characterization of the molluscicidal activity of <i>Bauhinia variegata</i> and <i>Mimusopselengi</i> plant extracts against the <i>Fasciola</i> vector <i>Lymnaeaacuminata</i> . Rev. Inst. Med. Trop. Sao Paulo, 2012; 54(3): 135-40 Kernel	Leaves	The methanolic extract of <i>Bauhinia variegata</i> leaves at dose of 300, 600 and 900 mg/kg in cyclophosphamide-induced mutagenesis in bone marrow cells of mice showed antimutagenic action by preventing the formation of micronucleus and chromosomal aberrations.

DISCUSSION AND CONCLUSION

Kanchanara a fast growing tree, with high importance in terms of its therapeutic utility, culinary use and its aesthetic look has to be well explored regarding the research potential among its varieties in different aspects. Kanchanara is not mentioned in Samhita kala, Karbudara is the early name given to it. Kovidara is considered to be the bheda of Kanchanara. Karbudara/ Kanchanara- *Bauhinia variegatalinn*. Kovidara- *Bauhinia purpurea linn*. Ashmantaka- *Ficus rumphii*. Sleshmataka- *Cordia dichotoma*. Uddalaka- *Bauhinia variegata (A Variety)*. As concerned to Dhanyaprakarana uddalaka is (*Paspalum scrobiculatum* var. *commersoniistapf.*)²³. *Bauhinia purpurea*, *Bauhinia tomentosa*, *Bauhinia racemosa* are considered as substitutes and adulterants due to similarities in morphology and pharmacological activities. *Bauhinablakeana* is the hybrid variety of *Bauhinia variegata* and *Bauhinia purpurea*.

REFERENCES

1. Shah S, editor-in-chief, API Textbook of Medicine. 7th ed. The Association of Physicians of India; 2003. Tpg:1511
2. Chandra K, Chaudhari BG, Dhar BP et al, Database on medicinal plants used in Ayurveda. Vol 8. CCRAS, New Delhi, 2007, Tpg:560
3. <https://ijapr.in/index.php/ijapr/article/view/112> (accessed Dec 17 2019)
4. Bhavamishra, Bhavaprakasha Nighantu, commentary by Prof. K.C. Chunekar, edited by Late Dr. G.S. Pandey, Chaukhambha Bharati Academy, Varanasi; 194.
5. <https://www.cabi.org/ISC/datasheet/8656> (accessed Dec 17 2019)
6. Raja Radhakanta dev, Shabdakalpa druma, 4th vol 1st edition: Naga Publishers, 3rd reprint 2006 Tpg:565
7. Agnivesha. Charaka samhita- Agnivesha treatise refined and annotated by Charaka, redacted by Dridhabala Ayurveda Deepika commentary by Chakrapanidatta, edited by Yadavji Trikamji Acharya. Varanasi:

- Chaukhamba Prakashana; reprint 2011, Tpg:738
- 8.Hemacandra suri, Nighantuśēṣa, <http://localhost:4001/enighantu/nighantushesha/?mod=read>.(accessed Dec 20 2019)
- 9.Shodala. Shodala Nighantu, Commentary by Pandey G, 1st ed, Dwivedi RR editor, Varanasi: Chowkambha Sanskrit series office; 2009, P.91
- 10.Mādhava, Mādhava Dravyagūṇa, <http://localhost:4001/e-nighantu/madhavadravyaguna/?mod=about>(accessed Dec 20 2019)
- 11.Madanapala Nrupa. Madanapala Nighantu, Published by Ganga Vishnu Sri Krishnadas, Bombay, 1867, Tpg:296.
- 12.Kaiyadeva Acharya. Kaiyadeva Nighantu, Pathyapathyavibodhaka, Sampadde Acharya Priyavrit Sharma and Guruprasad Sharma: Varanasi, Chowkambha Orientalia, 1979, Tpg:696.
- 13.Sharma P.V., Priya Nighantu, along with Hindi commentary entitled Padma, 2nd edition, Varanasi: Chaukhamba Surabharathi Prakashan, 1995, Tpg:275.
- 14.Kaiyadeva Acharya. Kaiyadeva Nighantu, Pathyapattyavibodhaka, Sampadde Acharya Priyavrit Sharma and Guruprasad Sharma: Varanasi, Chowkambha Orientalia, 1979, Tpg: 696.
- 15.Vishnu Vasudeva Godabole, Nighantu Ratnakara by sri Ravidutta, Publisher Nawal Kishore press, Luknow,Reprint-1892.
- 16.Chandra K, Chaudhari BG, Dhar BP et al, Database on medicinal plants used in Ayurveda. Vol 8. CCRAS, New Delhi, 2007, Tpg: 560
- 17.Yogaratanakara, with Vidyotini Hindi Commentary by Vaidya Lakshmiapati Shastry, edited by Bhishagratna, Shastri B. Chaukhamba Prakashan, Varanasi; 2013
- 18.Bhavamishra, Bhavaprakasha Samhita, Vidyotini Hindi Vyakya, Shri Bhramashankar Shastri, Uttarakhanda, 4th ed., Sirija, Chaukhamba Sanskrit, Varanasi;1961
- 19.<https://indiabiodiversity.org/species/show/264732> (accessed Dec 20 2019)
- 20.Kirthikar, Basu; “Indian Medicinal Plants with Illustrations”; Oriental Enterprises; Volume 4; 2nd Edition – 2001; PN-1235; TP-1358
- 21.https://indiabiodiversity.org/biodiv/img/Bauhinia%20variegata/Bauhinia_variegata_tree.jpg(accessed Dec 20 2019)
- 22.Sushruta, Sushruta Samhita with the Nibandha Sangraha commentary of Sri Dalhanacharya and the Nyaya Candrika of Sri Gayadasacharya edited by Vaidya Yadavji Trikamji. 8th edn. Varanasi, Chaukamba Orientalia, Tpg-824.
- 23.Sharma P.V., Davyagunavijyana Vol 5, 2nd edition, Varanasi: Chaukhamba Surabharathi Prakashan, 1995, Tpg:438.
- 24.Acharya Vagbhata, Astanga Sangraha, Volume II, Translated by Prof. K. Srikanthamurthy, Second edition 1999, Varanasi, Chaukhamba Orientalia, Tpg627.
- 25.Bhogika Mahendra, Dhanwantari Nighantu, Commentary by Sharma Guruprasad, edited by Sharma Priyavrat: Varanasi, Chowkambha Orientalia Publication, 2nd edition, 1998,Tpg:360
- 26.Narahari Pandit, Raja nighantu Vyakhyakara- Dr. Indradev Tripati,3rd edition, Varanasi: Chaukhamba Krishnadas Academy, 2003,Tpg:703
- 27.Cakrapāṇidatta, Śabdacandrikā, <http://localhost:4001/enighantu/shabdacandrika/?mod=read> (accessed Dec 20 2019)
- 28.Soushrutanighantu, edited by Dr. Sharma. Kashiraja Suvedi, Dr. Tiwari Narendranath, Nepal, Mahendra samskruthi Vishvavidyalaya, Tpg:166

29. Sri Vaidya Bapalal, Nighantu Adarsha, Varanasi, Chaukhabha Bharati Academy, Reprint-2007 vol 2 Tpg-847
30. Quality standards of Indian medicinal plants. Vol 13, ICMR, New Delhi, 2015, pg: 110-118
31. https://www.ijlpr.com/admin/php/uploads/139_pdf.pdf (accessed Dec 25 2019)
32. <https://ijapr.in/index.php/ijapr/article/download/112/98>(accessed Dec 25 2019)
33. http://shodhganga.inflibnet.ac.in/bitstream/10603/27127/13/13_chapter%204.pdf (accessed Dec 25 2019)
34. <https://www.ncbi.nlm.nih.gov/pubmed/22634884> (accessed Dec 25 2019)
35. Vagbhata, Astanga Hridaya with the commentaries of Arunadatta and Hemadri Collated by Dr. Anna Moreswara Kunte and Krishnaramachandra Sastri Navare, Edited by Bhashagacharya Harisastri Paradakara Vaidya, 9th ed. 2002, Tpg 956.
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