

**THE VELVET BEAN (*MUCUNA SPS.*): IN AYURVEDIC ERA****Sangeeta Sangvikar\*, Archana Mhase, Suresh Kumar, G.B. Rao and S.N. Murthy**Department of Phytochemistry, National Research Institute of Basic Ayurvedic Sciences  
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India.**ABSTRACT**

Velvet Bean, is an important ‘*Vajikarana*’ drug mentioned in Ayurveda, an integral part of Indian System of Medicine. It is used mainly for its *Balya*, *Vrishya* and *Tridosahara* properties. It is the best natural source of L-DOPA, which is precursor to the neurotransmitter dopamine, widely used in Parkinsonism, muscular disorders and also in spermatogenesis. This review has highlighted the importance of *Kapikacchu* in various *Samhitas* and *Nighantus*. The review summarized the classical names, classification, properties, uses of drug and its *Yogas* (formulations). The literature survey showed that in India *Kapikacchu* species are widely used to treat the patients of various disorders since ancient times. This review evaluates the rich heritage of traditional drug, “*Kapikacchu*”.

**KEYWORDS:** *Kapikacchu*, *Nighantu*, *Samhita*, *Rasapanchaka*, *Vajikarana*.**INTRODUCTION**

Ayurveda is a comprehensive scientific system of medicine evolved in India. Initially, it was developed through ancient wisdom, clinical experiences and experimentation in scientific, technological and medical parameters. Ayurveda means “The Knowledge of Life”. In Sanskrit, Ayurveda word consists of ‘*Ayur*’ for life and ‘*Veda*’ for science or knowledge. Ayurveda, ancient science of life believes in the philosophy of not only treating the diseases but also to help in maintaining the healthy state of every individual.

The Hindu philosophy of medical science is mainly based on four *Vedas viz.* the *Rig Veda* (3000 – 2500 BC), *YajurVeda* (1200 to 1000 BC), *SamVeda* (1200 to 1000 BC) and *Atharva Veda* (1200 – 1000 BC). Ayurveda is based on the vedic philosophy of healthy living of the

person which is prescribed in the *Atharva veda*. So it is considered to be the *Upaveda* (supplementary subject) of the *Atharva Veda*. The *Atharva Veda* has more descriptive details of large number of medicinal plants used in many diseases as compared to other *Vedas* due to addition of the knowledge by advance of time.

Current knowledge about Ayurveda is primarily based on *Brihatrayi* and *Laghutrayi*. *Brihatrayi* includes *Caraka Samhita* by Caraka; *Sushruta samhita* by Sushruta; *Ashtanga Hridaya* and *Ashtanga Sangraha* by Vagbhata. *Laghutrayi* includes *Sharangadhar Samhita* by Sharangadhara; *Bhavprakash Nighantu* by Bhavmishra; *Madhavnidan* by Madhavakara.

The word *Nighantu* is derived from the term “NIGAMA” means which brings out the extremely concealed or secrete meaning of words in systemic way. *Nigama*, *Nirukta*, and *Nighantu* are used as synonyms. *Rajanighantu* declares a physician without the knowledge of *Nighnatu* is like scholar without the knowledge of vyakarana (grammar) and a soldier without weapons. This explains the knowledge of *Nighantus* is indispensable for a physician.

*Kapikachu*, is a one of the well known *Vrishya* (Spermatogenic activity) drug mentioned in Ayurvedic texts right from *Caraka* and *Sushruta samhita* period. It is also used as a drug for *balya* (promotes muscle mass and body weight) and advocated to use for *vajikarana chikitsa* (Aphrodisiac). Every part of the plant have medicinal value. Seeds and roots are mentioned as most important parts, which are good source of giving vital energies. According to the traditional and scientific data available, legumes have promising potential source in terms of nutrition, medicine and agricultural development in developing countries.

The roots are bitter, sweet, thermogenic, emollient, stimulant, purgative, aphrodisiac, diuretic, emmenagogue, anthelmintic, febrifuge and tonic. They are useful in vitiated conditions of *vata* and *pitta*, constipation, nephropathy, strangury, dysmenorrhoea, amenorrhoea, elephantiasis, dropsy, neuropathy, ulcers, helminthiasis, fever, cholera and delirium. The leaves are aphrodisiac, anthelmintic, tonic and are useful in ulcers, inflammation, helminthiasis, cephalgia and general debility. Seeds are astringent, laxative, anthelmintic, aphrodisiac, alexipharmic and tonic. They are useful in gonorrhoea, consumption, sterility and general debility. The pods are used as anthelmintic. The hairs of legume and flowers are vermifuge to expel ascarids.<sup>[1-4]</sup> The roots are useful in hemiparesis and facial palsy. Seed powder is useful in parkinson disease.<sup>[5]</sup> Seeds are useful in *Apabahuka* (Frozen shoulder) to increase the strength of arm and also as aphrodisiac. An ointment prepared with pod hair acts

externally as a local stimulant and mild vesical.<sup>[6]</sup> Pod hairs are useful in *krimi*.<sup>[7,8]</sup> In addition, *Mucuna* is also traditionally used in various other applications like, dye.<sup>[9]</sup> Treatment of pain and numbness of joints and irregular menstruation.<sup>[10]</sup>

Seeds are excellent source of L-DOPA which is precursor of dopamine a neurotransmitter used in the treatment of Parkinson's disease.<sup>[11,12]</sup> Almost all the species are reported to contain L-3,4-dihydroxy phenylalanine (L-DOPA), a non-protein amino acid which acts as a neurotransmitter.<sup>[13]</sup>

Tan *et al.* (2009); Fung *et al.*, (2012) revealed the antivenom activity of seeds.<sup>[14,15]</sup> Vadivel and Janardhan (2000) investigation suggested that the antidiabetic activity may be due to its dietary fiber content.<sup>[16]</sup> Bhaskar *et al.*, (2008) study showed that *Mucuna pruriens* could be a source of hypoglycemic compounds.<sup>[17]</sup> *M. pruriens* not only reactivates the antioxidant defence system of infertile men but also helps in the management of stress and improves semen quality.<sup>[18]</sup> Clinical study of “*Kapikacchu Churna*” was effective to increase the sperm count.<sup>[19,20]</sup> Sperm count and motility were significantly recovered in infertile men.<sup>[21]</sup> The extract of whole plant had antimicrobial properties against both Gram positive and Gram negative organisms and also showed antitumor and antioxidant effects.<sup>[22]</sup> Hussian and Manyam, (1997) revealed that *M. pruriens* showed twice the anti-Parkinsonian activity than synthetic L-DOPA.<sup>[23]</sup> Similarly, seed powder preparation was effective in Parkinson disease patient than standard drug *viz.* Levodopa or Carbidopa.<sup>[24]</sup> Nicotine adenine dinucleotide (NADH) and coenzyme Q-10 were present in the *M. pruriens* cotyledon powder which shows the effect in Parkinson's disease.<sup>[25]</sup> Patil *et al.*, 2010 study revealed the anti depressant activity.<sup>[26]</sup> Seed also showed the anti-inflammatory activity.<sup>[27,28]</sup>

In Vedic literature, Kapikachu is not mentioned. Even in *Brihatrayi* the term *Kapikachu* is not widely used. All 3 *Samhitas* (Caraka, Sushruta, Vagbhata) described this plant majorly with the terms like *Atma gupta*, *Svayam gupta* and also *Markati* (C.S.Ci. 9/52; S.S.Ut. 29/7 & 33/7; A.H. Ut. 6/34).

### Classification of Kapikachu

*Samhitas* and *Nighantus* classified a Kapikachu in different *Ganas* or *Varga* as follows (Table 1).

**Table 1: Classification of Kapikachu**

S.No.	Texts	Gana / Varga	References
1.	Caraka Samhita <sup>[29]</sup>	Balya, Madhura Skanda, Purisa Viranjaniya	Ca.Su-4/7, Ca.Vi-8/139, Ca.Su-4/32
2.	Sushruta Samhita <sup>[30]</sup>	Vidarigandhadi, Mudgadivarga, Kakolyadi, Vata samsamana	Su.Su- 38/4, Su.Su- 46/36, Su.Su- 37/26
3.	Ashtanga Sangraha <sup>[31]</sup>	Vidaryadi, Durvadi,	A.S. Su-16/2
4.	Ashtanga Hridaya <sup>[32]</sup>	Vidaryadi	A.H. Su-15/9
5.	Ashtanga Nighantu <sup>[33]</sup>	Vidaryadi	A.N. 13
6.	Dhanvantari Nighantu <sup>[34]</sup>	Guducyadi	D.Ni.46/159
7.	Kaiyadeva Nighantu <sup>[35]</sup>	Ausadhi	K.Ni.154/11
8.	Bhavaprakasa Nighantu <sup>[36]</sup>	Guducyadi	B.P.Ni. 57/131
9.	Raja Nighantu <sup>[37]</sup>	Guducyadi	R.Ni.50/52
10.	Sodhal Nighantu <sup>[38]</sup>	Guducyadi, Laxmanadi	S.Ni. 171-172 / ; 199-200 S.Ni. 648
11.	Madanpal Nighantu <sup>[39]</sup>	Abhayadi	M.Ni.271-
12.	Priya Nighantu <sup>[40]</sup>	Pipalyadi	P.Ni.21/48-50
13.	Nighantu Adarsh <sup>[41]</sup>	Palashadi	Pg 453

**Classical names of Kapikachu and their meaning**

The authors of different Ayurvedic texts have mentioned several classical names to the medicinal plants and minerals, while explaining their morphology and properties. In the same way for *Kapikachu* also different classical names were given by scholars (Table 2).<sup>[41]</sup>

**Table 2: Classical names of Kapikachu and their meaning**

Classical Names	Its meaning
Atma gupta	Protects self with the help of its hair.
Ajada	Potent Aphrodisiac
Durabhigraha	The fruits are difficult to handle
Dusparsha	Produces irritable sensation on touching the fruit
Markati	Hairy like monkeys tail
Kacchura	Causes itching
Kandura	The hairs produce intense itching
Kapikachu	Causes itching to monkeys also
Kapiromphala	Pod hair like that of monkey's hair
Languli	Legume shape is like that of monkey's tail
Pravrishayana	Climber growing in rainy season
Suka simbhi	Pods with hairs
Svayamgupta	The plant is protected by the hairs on fruits
Vanshukari	Climber grows wildly
Vrishya	Acts as an aphrodisiac

Vrushabhi	A potent aphrodisiac
Vrushabeeja	The seeds are potent aphrodisiac
Vyanga	Fruits are curved

### Rasa Panchaka of Kapikachu

According to Ayurveda the knowledge of *Rasa panchaka*, that is *Rasa*, *Guna*, *Virya*, *Vipaka*, *Prabhava* are very essential to understand the activity and potency of any drug. *Guna* and *Karma* are Ayurvedic pharmacodynamics of the plant. *Rasapanchaka* and *dosha karma* of *kapikachu* mentioned by different *Nighantus* are given below in Table 3.

**Table 3– Rasa Panchaka of Kapikachu**

Rasa Pancaka		References							
		D.N.	M.N.	K.N.	B.N	R.N	S.N	P.N.	API
RASA	Madhura	+	+	+	+	+		+	+
	Tikta	+		+	+		+	+	+
GUNA	Guru		+	+	+	+	+	+	+
	Snigdha				+		+		+
VIRYA	Sita	+		+		+			+
VIPAKA	Madhura						+		+
DOSHA KARMA	Vatahara	+	+	+	+	+	+	+	+
	Kaphahara				+				+
	Pittahara	+	+	+	+	+	+		+

+ present

(D.N. – *Dhanvantari Nighantu*<sup>[34]</sup>; M.N. – *Madanapala Nighantu*<sup>[39]</sup>; K.N. – *Kaideva Nighantu*<sup>[35]</sup>; B.N. – *Bhavaprakash Nighantu*<sup>[36]</sup>; R.N. – *Rajanighantu*<sup>[37]</sup>; S.N. – *Sodala Nighantu*<sup>[38]</sup>; P.N. – *Priya Nighantu*<sup>[40]</sup>; API – *Ayurvedic Pharmacopoeia of India*<sup>[42]</sup>)

### Prayojyanga of Kapikachu (Useful part)

Seed, Root, Pod Hairs, Leaves, Flower.<sup>[2,3,8]</sup>

### KAPIKACHU IN SAMHITAS

#### Caraka samhita ( 1000 BC – 4 AD)<sup>[29,43]</sup>

Among the existing old medical texts of India, *Caraka samhita* is considered as the oldest one. This *samhita* was composed by Agnivesa (1000 BC), redacted by Caraka (2<sup>nd</sup> BC) and reconstructed by Dridhabala (4<sup>th</sup> AD). *Caraka samhita* is mainly focused on the medical management of diseases that is *Kayachikitsa*, branch of Ayurveda. Acharya Caraka has mentioned *Kapikachu* with the name of *Rishabhi* in *balya dasaimani varga*; as *Kachura* in *PurisaViranjaniya dasaimani varga* and as *Rishyaprokta* in *madhura skanda dasaimani varga kashayas*. He also used the term *Adhyanda* (C.S.Chi.3/266) for *Kapikachu*. Caraka

mentioned different *yogas* (formulations) of Kapikachhu to treat the diseases such as Bramha rasayana in *Medho vridhi* (Obesity) (C.S.Chi.1/1-58); Vrisya pupalika for *Vrishya* (spermatogenetic activity) (C.S.Chi.2/2; 2/3-15); Maha paisachika Ghrita indicated in Fever, Insanity, Seizures (C.S.Chi.9/45-48); Swadamstradi Ghrita in Vata Pitta hara diseases (C.S.Chi.11/44-47); Tryusanadya Ghrita used in *Kasa* (cough), *Jwara*, *Gulmahara* (C.S.Chi.18/39-42); Medicated Ghrita for *Svasa*, *Kasa*, *Grahani* (C.S.Chi.26/80-82); Jivantyadi Anuvasana Yamakam indicated in *Brimhana*, *Vata pitta nasaka*, *Balya*, *Sukra Agnivardhaka* (C.S.Si.4/9-11).

### **Sushruta Samhita (1000 BC – 4<sup>th</sup> AD)<sup>[30,44]</sup>**

This Samhita is composed by Vridha Sushruta which is chiefly dealt with different aspects of *Shalya chikitsa* (surgical and parasurgical mode of treatment) in Ayurveda. It again redacted by Sushruta in 2<sup>nd</sup> AD. Later, probably revised by Acharya Nagarjuna, the greatest scientist in 5<sup>th</sup> AD. In the existing form, it appears to be much later than Caraka samhita, because its paatha sudhi was done by Chakradata in 10<sup>th</sup> century. *Kapikachu* is mentioned in *Vidarigandhadi* and *Vata samsamana ganas*. Susruta has used *Kisimbivalli* (S.S.Su 46/46) and *Languli* (S.S.Su 19/29) as synonyms for *Kapikachu*. Properties of *Kapikachu* beeja were mentioned separately for the first time in this Samhita (S.S.Su 46/36). Preparations and indications in which *Kapikachu* are mentioned such as *Vrishya yoga* for *Vrishya* action (S.S.Chi26/30-35); *Jeevantyadi Anuvaasana Yamakam* indicated in *Vrishya*, *Deepana* (S.S.Chi37/23-26); *Kapikachu churna* used in *Pitta*, *kapha vidaghda drishti* diseases (S.S.U17/7); *Kapikachu Madhuyashti yoga* for *Vamana hara* (S.S.U49/29); *Kapikachu Ikshurasa Pippali Ghrita yoga* in *Mutraghata* (urinary obstruction), *Vandhyatwa* (infertility) (S.S.U58/53-57).

### **Ashtanga Sangraha<sup>[31]</sup>**

This Samhita is composed by Vridha Vagbhata in 6<sup>th</sup> AD. *Kapikachu* is mentioned in *Durvadi* and *Vidaryadi ganas* (A.S.Su-16/2). Vagbhata mentioned different *yogas* of *Kapikachhu* in various diseases such as *Kapikachu sidda Ghrita* used for Nasal drops to *Garbhini* (pregnant) (A.S.Su.29/11 and A.S.Su.7/31); *Kapikachu mardana* for *Sannyasa* (total loss of consciousness) and *Madatyaya* (condition caused by the excessive use of alcohol) (A.S.Chi9/125); *Nagabala ghrita* in *Kshata kshaya*, *Pitta rakta* diseases (A.S.Chi5/69; A.S.Chi 5/53); *Amrita taila* for *Vata vyadhi chikitsa*, *Agnideepana* (A.S.Chi.23/72; A.S.Chi23/86); *Kashaya* preparation in *Pittaja Chardi* (vomiting) (A.S.Chi.8/19); *Raja Yapan* *Basti* and

Yapana Basti for Vrishya (Aphrodisiac) activity (A.S.Ka.5/23; A.S.Ka5/34); Medicated Oil for Abhyanga, *Paalitya Chikitsa* (premature greying of hair) and Vata Pitta diseases related to Shukra and Rajas (A.S.U.1/80, A.S.U.28/46; A.S.Ka.5/49); Maha kalyana Ghrita for Sannipaata vyadhis, Sthoulya (Obesity) (A.S.U.9/30); Maha paishachaka ghrita in Unmada, Apasmara, Sannipata Jwara (A.S.U.9/32); Maha mayura Ghrita cures different Indriya vyadhis, Sirorogas (A.S.U.28/73); Saradi Ghrita and Medicated Ghrita in Vrishya Chikitsa (A.S.U.50/26,30; A.S.U.50/62); *Ksheera* (milk) preparation with Beeja churna used in Vrishya, Visha (A.S.U.48/57; A.S.U.50/39,47); Kapikachu mulasidda Ksheera and Ghee for Vrishya (A.S.U.50/64); Svayamgupta Churna Yoga in Vrishya (A.S.U.50/58,60); Kapikachu sidha Poopalika with Ghrita and Padalepa Yoga indicated in Vrishya (A.S.U.50/65, 68,69; A.S.U.50/106, 108).

### **Ashtanga Hridaya<sup>[32,45]</sup>**

This samhita is written by Laghu Vagbhata during 7<sup>th</sup> AD. Kapikachu is mentioned in *Vidaryadi Gana* (A.H.Su-15/9) both Vagbhatas have also mentioned different *yogas* of Kapikachu keeping its Vrishya activity in mind. These are Vidaryadi Ghrita in Vrishya (A.H.U.2/21, 31, 1/23); Medicated Ghee for Cough (A.H.Chi 3-38); Amrita prasa ghrita in Cough, Hiccup (A.H.Chi 3/94-101); Svadamshtadi Ghrita in Vata pitta Hridya sula, Dysuria (A.H.Chi.3/102-103). Agastya and Vashishta Rasayana (Hareetaki Rasayana) for Rasayana purpose (A.H.Chi 3/127-132,133); Jeevantiyadi Kalpa (Vata pitta hara kalpa) in Asthapana basthi (Retention enema) (A.H.Ka.4/60); Medicated oil Lepana for Karna pali Sandhana (A.H.U.40/17); Beeja churna, masha flour with Ksheera; Kapikachu beeja churna along with svadamshttra, ikshuras, satavari in milk indicated in Vrishya (A.H.U.40/31, 34); Kapikachu used as diet for Vrishya (A.H.Su.6/22).

### **Laghutrayi and Chikitsa grantha**

Like in Samhitas, Kapikachu is also mentioned in Chikitsa granthas as a synonyms viz *Atmagupta*, *Kandura* etc. and in the management of several diseases.

### **Chakra Datta (Chakrapani in 11<sup>th</sup> Cent AD)<sup>[46]</sup>**

Kapikachu is mentioned for different diseases apart from its vajikarana activity along with other drugs. For Vatavyadi Balamuladi Nasya, Chatushtayam Mashadi Kashaya (Maha Baladi kwath) (C.D.22-27, 28) were used. Svaguptadi leha in Mutraghata (C.D.33-17,18); Svayamguptadi churna, Gokshuraadi churna and Godhumadiya ghrita used for Vrishya (C.D.67/6; 66/26-34; 67/26-36).

**Vangasena Samhita<sup>[47]</sup>**

*Kapikachu* is mentioned in Vajikarana activity along with other drugs such as Brihad Aswagandhadhi ghrita (V.S.84/22-27); Medicated Ghrita (V.S.84/65-66); Gokshura Kapikachu beeja sidha ksheera (V.S.84/73); Masha Ghrita (V.S.84/75-79); Godhumaadi Ghrita (V.S.84/80-89) and Jeevanti Yamaka indicated in Anuvasana, Nasya, Panaartha, *Urdhva jatrugata roga* (diseases of head and neck, throat) (V.S.84/93-95).

**Yoga Ratnakar<sup>[48]</sup>**

In this text, *Kapikachu* is described in Uttarakahanda, Vaajikarana adhyaya. Preparations and indications in which *Kapikachu* is mentioned for Vajikarana purpose like Vanari gutika (Y.R.Ut.11/27-31); Kesar paka (Y.R.Ut.11/49-56); Rati modaka (Y.R.Ut.11/57-60); Kameswara modaka (Y.R.Ut.11/68); Kameswar samdi paka modaka (Y.R.Ut.11/77-83). Madana kamadeva rasa (Y.R. Ut. 11/117); Rativallabha Pugapaka (Y.R. Ut. 11/61,67); Satavaryadichurna (Y.R.Ut. 11/146); *Kapikachu* paka (Y.R.Ut. 11/156-160).

**Bhaishajya Ratnavali (Govinda Das In 18<sup>th</sup> cent AD)<sup>[49]</sup>**

*Kapikachu* preparations along with other drugs such as Gokshuradi yoga ( B.R. 70/15); Godhumadya ghritam (B.R.70/18); Brihadaswagandha ghritam (B.R.70/19); Bricchatavari modaka (B.R.70/21-24); Rativallabha modaka (B.R.70/25); Mahakameswara modaka (B.Ra.70/26); Kamagni sandipana modaka (B.R70/27); Manmadhabhra rasa (B.R70/29) were used in vajikarana activity. Preparation of Svayam gupta, Ikshuraka yoga used in *Dhaatukshaya* (depletion of body tissues) (B.R.70/14). Preparation like Yavana krit yoga (Mophara-Mopharava) was consumed by Kings for *vrishya* purpose and also in all diseases (B.R.70/30).

**Gada Nigraha<sup>[50]</sup>**

Gada Nigraha mentioned different yogas (formulations) of *Kapikachhu* for Vaajikaranartha such as Mashadi Ghritam (G.Ni.9-12); Vajikaropayas Yoga (G.Ni.14); Vajikaram Masha parnyadi churnam (G.Ni.16); Vajikaram Svayamguptadi churnam (G.Ni.19; G.Ni.29); Vajikaram Svayamguptadi Modakam (G.Ni.31-35,37); Vajikaram Sharmuladi Yoga (G.Ni.40-42); Vajikari Godhumadi Pupalika (G.Ni.43-44); Vajikaram Ikshurkadi Churnam (G.Ni.49).



**Harita Samhita<sup>[51]</sup>**

Harita Samhita mentioned preparations (formulations) of Kapikachhu like Visadi churna (H.Sa.47/9); Guduchyadi Churna (H.Sa.47/13,14) for Veerya vardhaka and Vajikaran purpose.

**KAPIKACHU IN NIGHANTUS**

Nighantus are just like Ayurvedic pharmacopoeia which explain the characters of medicinal plants in the form of classical name, Ayurvedic properties (Rasa panchaka), uses, actions and formulations.

**Ashtanga Nighantu (8<sup>th</sup> cent AD)<sup>[33]</sup>**

In this Nighantu, Acharya Vahata has described maximum group of drugs on the basis of classification of Ashtang Sangraha and Ashtanga Hridaya. Following synonyms are mentioned i.e. Markati, Atmagupta, Kapikachhura, Vrishyabeeja, Kandukari and Shardula vighraha.

**Dhanvantari Nighantu (10<sup>th</sup> -13<sup>th</sup> cent AD)<sup>[34]</sup>**

Kapikachu is mentioned in *Guduchyadi varga* along with its classical names like Kapikachu, Atma gupta, Svyam gupta, Maharshibhi, Languli, Kandula, Chanda, Markati, Durabhigraha. Kapikachu is having madhura, tikta rasa, sheeta virya, and vata nashaka, vrishya (Aphrodisiac), dushta vrana nasini (indolent ulcers). Atmagupta beeja taila is mentioned with having Madhura, Kashay rasa and Guru Ushna, Snigdha guna.

**Sodhala Nighantu (12<sup>th</sup> cent. AD)<sup>[38]</sup>**

This Nighantu was composed by Sodhala in two parts named as Naamasangraha dealing with synonyms and Guna-Sangraha dealing with properties and actions. Kapikachu is classified in two vargas namely *Guduchyadi* and *Laxamanadi varga*. *Guduchyadi varga* mention the classical names like Atmagupta, Svyamgupta, Ajaharsini, Languli, Kandura, Vyanda, Markati, Durabhigraha, Badari, Kapiroma phala, Dusparsha, Kacchura, Kharju, Romalu, Vanasukari and in *Laxmanadi varga*, classical names like Laghukacchu, Cara, Malu, Lomasha, Alpakacchuka, Vatavidhvansini and Santativardhini. It was useful in *Balya* and *vrishya* activity. Sodhala also mentioned that *atiyoga* (excess use) increases pitta and causes mada and *vibhrama* (inebriant state).

**Abhidhanaratnamala (Sadrasa Nighantu) (13<sup>th</sup> cent. AD)<sup>[33]</sup>**

Kapikacchu, described in *Svadu skandha* along with synonyms like Markati, Atmagupta, Kandura, Kapikacchu, Rhishabhi, Jangali, Kandukari, Shardulavighraha, Rhishyaprokta, Mahagupta and kapiromaphala.

**Madanapala Nighantu (Madana Vinoda) (14<sup>th</sup> Cent AD)<sup>[39]</sup>**

Kapikachu is mentioned in *Abhayadi varga*. Madanapala enumerated Kapikachu with its classical names like Svayamgupta, Kandula, Duravagraha, Canda, Atmagupta, Languli, Markati, Praharshini with properties Madhura rasa, Guru guna and actions like Vrishya and Brimhana. Kapikacchu is said as best for Vajikarana.

**Kaideva Nighantu (Pathya Pathya Vibhodaka) (15<sup>th</sup> Cent AD)<sup>[35]</sup>**

In *Kaideva Nighantu*, Kapikachu is described under classical names such as Rhushyaprokta, Sukasimbhi, Kapiromphala, Rhushabhi, Kapikacchu, Atmagupta, Kandura, Kandukari, Pravrushyani, Ajaha, Gupta, Svayam gupta, Markati, Kapiloma, Vrusya, Adhyanda, Vamani, Durabhigraha and having properties like Madhura, Tikta rasa, Seeta virya, Guru guna, Vata pitta kapha and Rakta dosha nashaka. He has mentioned that, this drug has the properties similar to Masha and possesses *Brimhana* (improves weight), *Vrishya*, Raktapitta hara and Vrana shodhana qualities.

**Bhavaprakasha Nighantu (16<sup>th</sup> Cent AD)<sup>[36,52]</sup>**

The period of Bhavamisra is at the junction of the medieval and modern periods and an important landmark in the history of Indian medicine. He classified the Kapikachu in *Guduchyadi varga*, with the synonyms like Ajada, Atmagupta, Dusparsha, Kandura, Languli, Markati, Pravrushyani, Sukasimbi, Vrishya and Vyanga. It posses Madhura, Tikta rasa, Guru guna, with the actions of tridosha samaka, vrishya. He mentioned the Kapikachu beeja was best drug for Vajikarana (aphrodisiac).

**Rajanighantu of Pandit Narahari (17<sup>th</sup> Cent AD)<sup>[37]</sup>**

Kapikachu is mentioned in *Guduchyadi varga* and described this drug with its synonyms like Vaanari, Languli, Atmagupta, Kandura, Markati, Sukasimbi, Svayam gupta, Kundali, Canda, Durabhigraha, Maharshabhi, Karpi, Romphala, Gupta, Dusparsha, Kacchura, Jaya, Pravarushyani, Badari, Guru, Aarshabhi, Shimbhi, Vaarahika, Tikshna, Romalu, Vanshukari, Kisharoma, Romavalli. It is mentioned that this drug possess Madhura rasa, Virya Vardhaka and useful in Vataroga, Kshaya, Shita pitta, Raktapitta and Vrana nashaka.

**Rajavallabha Nighantu (18<sup>th</sup> Cent AD)<sup>[53]</sup>**

This Nighantu is composed by Rajavallabha Vaidya and redacted by Narayana Dasa. This text deals with dietary articles with their properties and actions. This text is divided into six chapters.

**KAPIKACHU IN MODERN ERA**

Saligrama nighantu, Nighantu Adarsha and Priya nighantu, Ayurvedic Materia Medica, Wealth of India and other books written by recent Acharyas which provide the information about its habit, habitat, morphology, chemical composition etc.

**Saligrama nighantu (19<sup>th</sup> Cent AD)<sup>[54]</sup>**

He has quoted the kapikachhu in *Guduchyadi varga* with classical names Vaanari, Languli, Adhyanda, Atmagupta, Ajada, Kapiprabha Kandura, Jada, Markati, Sukasimbi, Sukapindi, Svayam gupta, Rhushyaprokta, Sadhyashotha, Suka, Sukvati, Gatrabhanga, Kacchumati, Rhushabhi, Ajahba, Vyaghra Canda, Durabhigraha, Maharshabhi, Kundali, Romphala, Gupta, Dussparsha, Kacchura, Jaya, Pravarushyani, Badari, Guru, Aarshabhi, Shimbhi, Vaarahika, Tikshna, Romalu, Vanshukari, Kashiaroma, Romavalli, Vyanga, Vryshya.

**Priya Nighantu (P.V.Sharma)<sup>[40]</sup>**

Priyavrat Sharma mentioned Kapikachu in Pippalyadi varga with the synonyms like Atma gupta, Markati, Shuka simbhi and also mentioned the guna karma of Kapikachu as Madhura, Tikta rasa, Guru guna, with Brunhana, Vata shamaka, Balavardhaka karmas.

**YOGAS (FORMULATIONS) OF KAPIKACHU**

Kapikachu in different yogas mentioned by various samhitas.<sup>[29-33, 46-51, 55,56]</sup>

**Table – 14: Yogas (Formulations) of Kapikachu**

S. No.	Name of the preparation	Indication	Reference
1.	Bramha rasayana	Medho vridhi	C.S.Chi1/1-58
2.	Vrishya yoga pupalika	For Vrishya action	C.S.Chi. 2/2; 2/3-15
3.	Maha paisachika Ghrita	Fever, Insanity, Seizures	C.S.Chi9/45-48
4.	Swadamstradi Ghrita	Vata Pitta hara	C.S.Chi.11/44-47
5.	Tryusanadya Ghrita	Kasa, Jwara, Gulmahara	C.S.Chi.18/39-42
6.	Medicated Ghrita	Svasa, Kasa, Grahani	C.S.Chi.26/80-82
7.	Jivantyadi Anuvasana Yamakam	Brimhana, Vatapitta nasaka, Bala, Sukra Agnivardhaka.	C.S.Si4/9-11
8.	Vrishya yoga	Vrishyata	S.S.Chi26/30-35
9.	Jeevantyadi Anuvaasana	Vrishya, Deepana.	S.S.Chi37/23-26

	Yamakam		
10.	Kapikachu churna	Pitta, kapha vidaghda drishti	S.S.U17/7
11.	Kapikachu Madhuyashti yoga	Vamana hara	S.S.U49/29
12.	Kapikachu, Ikshurasa, Pippali Ghrita yoga	Mutraghata, Vandhyatwa	S.S.U.58/53-57
13.	Kapikachu sidha Ghrita	Nasal drops to Garbhini	A.S.Su.29/11 and A.S.Su.7/31
14.	Kapikachu mardana	Sanyasa/ Madatyaya	A.S.Chi9/125
15.	Nagabala ghrita	Kshata kshaya, Pittarakta	A.S.Chi5/69
16.	Amrita taila	Vata vyadhi chikitsa, Agnideepana	A.S.Chi.23/72
17.	Taila	Vatavyadhi chikitsa	A.S.Chi23/86
18.	Ghrita	Kshta Kshaya	A.Su.Chi 5/53
19.	Kashaya preparation	Pittaja Chardi	A.S.Chi.8/19
20.	Raja Yapana Basti	Aphordisiac / Vrishya	A.S.Ka.5/23
21.	Yapana Bati	Vrishya / Vitality	A.S.Ka5/34
22.	Medicated Oil	Vata Pitta diseases related to sukra, Rajas.	A.S.Ka.5/49
23.	Medicated Oil	Abhyanga	A.S.U.1/80
24.	Maha Kalyana Ghrita	Sannipaata vyadhis, Sthoulya	A.S.U.9/30
25.	Maha paishachaka ghrita	Unmada, Apasmara, Sannipata Jwara	A.S.U.9/32
26.	Medicated Oil	Paalitya Chikitsa	A.S.U.28/46
27.	Maha mayura Ghrita	Cures Different Indriya vyadhis, Sirorogas.	A.S.U.28/73
28.	Ksheera preparation	Vrishya , Visha	A.S.U.48/57
29.	Saradi Ghrita	Vrishya	A.S.U.50/26,30
30.	Beeja Churna with Ksheera	Vrishya	A.S.U.50/39,47.
31.	Svayam Gupta Churna Yoga	Vrishya	A.S.U.50/58,60
32.	Medicated Ghrita	Vrishya	A.S.U.50/62
33.	Kapikachu mulasiddha Ksheera & Ghee	Vrishya	A.S.U.50/64
34.	Kapikachu sidha Poopalika with Ghrita	Vrishya	A.S.U.50/65, 68,69
35.	Padalepa Yoga	Vrishya	A.S.U.50/106, 108
36.	Medicated Ghee	Cough	A.H.Ci 3-38
37.	Amrita prasa ghrita	Cough, Hiccup	A.H.Ci 3/94-101; AFI (I)
38.	Svadamshtradi Ghrita	Vata pitta Hrid sula, Dysuria.	A.H.Ci.3/102-103
39.	Agastya Rasayana ( Hareetaki Rasayana)	Rasayana,	A.H.Ci 3/127-132; AFI (I)
40.	Vashishta (Hareetaki) Rasayana	Rasayana,	A.H.Ci3/133
41.	Jeevantyadi Kalpa( Vaata pitta hara kalpa)	Asthanapa vasthi ( Retention enema)	A.H.Ka.4/60
42.	Medicated oil	Lepana for Karna pali Sandhana	A.H.Ut.40/17
43.	Beeja churna , masha flour with Ksheera	Vrishya	A.H.Ut.40/31
44.	Kapikachu beeja churna , svadamshtra, ikshuras, satavari	Vrishya	A.H.Ut.40/34

	with milk		
45.	Vidaryadi Ghrita	Vrishya	A.H.Ut.2/21,31,1/23
46.	Mahakalyan Ghrta	Kasa, Buddhidaurabalya, Apasmara, Vandhyatva, Jvara, Dourbalya	A.H.Ut. 6/27-28, 32-33
47.	Kapikachu as diet	Vrishya	A.H.Su.6/22
48.	Balamuladi Nasya Chatushtayam	Vatavyadi	C.D.22-27
49.	Mashadi Kashaya (Maha Baladi kwath)	Vatavyadi	C.D.22.28
50.	Svaguptadi leha	Mutraghata	C.D.33/17,18
51.	Svayam guptadi churna	Vrishya	C.D.67/6
52.	Godhumadiya ghrita	Vrishya	C.D.67/26-36
53.	Gokshuraadi churna	Vrishya	C.D.66/26-34
54.	Brihad Aswagandhadhi ghrita	Vajikarana purpose	V.S.84/22-27
55.	Medicated Ghrita	Vajikarana purpose	V.S.84/65-66
56.	Gokshura Kapikachu beeja sidha ksheera	Vajikarana purpose	V.S.84/73
57.	Masha Ghrita	Vajikarana purpose	V.S.84/75-79
58.	Godhumaadi Ghrita	Vajikarana purpose	V.S.84/80-89
59.	Jeevanti Yamaka	Anuvasana, Nasya, Panaartha, urdhva jatrugata roga.	V.S.84/93-95
60.	Vanari gutika	Vajikarana	Y.R.Ut.11/27-31
61.	Kesar paka	Vajikarana	Y.R.Ut.11/49-56
62.	Rati modaka	Vajikarana	Y.R.Ut.11/57-60
63.	Kameswara modaka	Vajikarana	Y.R.Ut.11/68
64.	Kameswaar samdi paka modaka	Vajikarana	Y.R.Ut.11/77-83.
65.	Madana kamadeva rasa	Vajikarana	Y.R.Ut.11/117
66.	Rati vallabha pugapaka	Vajikarana	Y.R.Ut.11/61-67
67.	Satavaryadi churna	Vajikarana	Y.R.Ut.11/146
68.	Kapikachu paka	Vajikarana	Y.R.Ut.11/156-160
69.	Svayam gupta Ikshuraka yoga	Dhaatukshaya	B.R.70/14
70.	Gokshuradi yoga	Vajeekarana purpose	B.R.70/15
71.	Godhumadya ghritam	Vrishya purpose	B.R.70/18
72.	Brihadaswagandha ghritam	Vrishya purpose; Vandhyatva	B.R.70/19; AFI (II)
73.	Bricchatavari modaka	Vrishya purpose	B.R.70/21-24
74.	Rativallabha modaka	Vrishya purpose	B.R.70/25
75.	Mahakameswara modaka	Vrishya purpose	B.R.70/26
76.	Kamagni sandipana modaka	Vrishya purpose	B.R.70/27
77.	Manmadhabhra rasa	Vrishya purpose; Rasayana; Vajikaran	B.R.70/29; AFI (II)
78.	Mophara-Mopharava (Yavana krit yoga)	All diseases, consumed by kings Vrishya purpose.	B.R.70/30
79.	Masabaladi kvatha Churna	Pakshagata, Manyastambha, Karnanada, Arditavata	B.R.62-63 (Vatavyadhikara)
80.	Manikya rasa	Kustha; Vataroga; Jvara	B.R.300-308 (Kusthadhikara)
81.	Mrtasanjivanisura	Jvara; Dourbalya; Karshya	B.R.694-703

			(Javaradhikar)
82.	Brhatmasa Taila	Ardita; Apabahuk; Grdhrsi; Urdhva jatrugata roga	B.R.241-242 (Vatavyadhikara)
83.	Mashadi Ghritam	Vaajikaranartha	G.Ni.9-12
84.	Vajikaro payas Yoga	Vaajikaranartha	G.Ni.14
85.	Vajikaram Masha parnyadi churnam	Vaajikaranartha	G.Ni.16
86.	Vajikaram Swaguptadi churnam	Vaajikaranartha	G.Ni.19
87.	Vajikaram Swayamguptadi churnam	Vaajikaranartha	G.Ni.29
88.	Vajikaram Swayamguptadi Modakam	Vaajikaranartha	G.Ni.31-35,37.
89.	Vajikaram Sharmuladi Yoga	Vaajikaranartha	G.Ni.40-42
90.	Vajikari Godhumadi Pupalika	Vaajikaranartha	G.Ni.43-44
91.	Vajikaram Ikshurkadi Churnam	Vaajikaranartha	G.Ni.49.
92.	Visadi churna	Veerya vardhaka, Vajikara	H.Sa.47/9
93.	Guduchyadi Churna	Vajikara	H.Sa.47/13,14
94.	Kumaryasava	Jvara, Krmi, Daurbalya, Karsya, Ksaya, Mutrakrcchra	AFI (I)
95.	Vastyamayantaka Ghrita	Mutrakrcchra, Prameha, Ashmari	AFI (I)

### Dosage of Kapikachu

Appropriate dosage of any drug is very important in the treatment of any disease. Physician should decide the dosage of any drug based on the patient condition age, strength, time, state of vitiated doshas and lastly disease.

**Seed powder:** 3-6 gms, **Pod hairs-**125mg, **Root decoction:** 50 – 100ml.<sup>[7,8]</sup>

Although, there are no varieties mentioned in respect of Kapikacchu, in Ayurveda. Fifteen species of *Mucuna* have been reported so far from India, out of which 3-4 varieties are in practice. These species are *Mucuna utilis* Wall. ex. Wight.<sup>[57]</sup>, *Mucuna cochinchinensis* (Lour.) A. Chev. (white seed) in the markets of Northern parts of India and *Mucuna cochichinensis* (Lour.) A.Chev (black seed) used as Kapikachu in the Southern parts of the country, especially in Kerala.<sup>[58]</sup>

Recent studies have also shown that L-Dopa is the clinically active principle, which is used to cure Parkinson disease, to increase quality and quantity of sperm. Murthy *et.al.* (2015) study revealed that, a huge difference in the quantity of L-DOPA has been found among the 4 species viz. *Mucuna pruriens* (L.) DC., *Mucuna bracteata* DC., *Mucuna cochinchinensis* (Lour.) A. Chev. (black seed) and *Mucuna cochinchinensis* (Lour.) A. Chev. (white seeds). *M. cochinchinensis* black seed was found to be having maximum quantity of L-Dopa and also

showed the antioxidant activity for reducing the possible and resultant damage of cellular constituents.<sup>[59]</sup> These findings validate the classical uses of Kapikachu, Vagbhata mentioned for its *rasayana* activity (rejuvenating property). Katzenschlager, *et.al*, 2004, clinically has reported, the seed powder formulation, containing *Mucuna* as a main ingredient was more effective than standard L-DOPA preparations, in the long term management of Parkinson disease.<sup>[24]</sup>

## CONCLUSION

This article provides the knowledge of the drug passed on through ancient times till modern era. Different Samhitas and Nighantus highlighted the importance of synonyms, properties, classical uses and yogas (preparations) of Velvet bean. Various Yogas of Kapikacchu are being used to cure the diseases in all over the country. Not only the seed, but the whole plant *viz.* root, leaves, flower, pod hairs were also have certain medicinal properties. Hence, it offers a scope for further research to explore the therapeutic applications of all parts of drug, “Kapikachhu”. Studies have also shown that natural source of L-DOPA, which is a precursor for dopamine, used in neurotransmitter diseases, is more potent than synthetic product. Moreover, it is necessary to exploit the total potential of the drug from different *Mucuna species*.

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