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JATAMANSI (NARDOSTACHYS JATAMANSI DC.): INSIGHT OF ITS MORPHOLOGY AND ITS MEDICINAL USE IN AYURVEDA

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ABSTRACT

Ayurveda is a traditional system of natural health care that originated in India's ancient Vedic times. Its primary emphasis is on disease prevention and maintaining mankind's health. In *Ayurveda*, various medicinal plants have been mentioned to cure diseases. The precious medicinal plants are the backbone of the *Ayurvedic* system of medicine. One such medicinal plant, Jatamansi (Nardostachys jatamansi DC.), has remained an all-time favourite of Vaidya's since ancient *Vedic* times to treat diseases. It is an endangered, primitive, and therapeutic herbal agent belonging to the family Valerianaceae and has been reported to have many therapeutic activities like Antioxidant, Antifungal, hepatoprotective, and cardioprotective. It is a well-known drug in the list of *Medhya* drugs. This review article summarises the potential benefits of this medicinal plant as reported in offline and online literature. The review also highlights the need to use this plant in the *Ayurvedic* system of medicine and prospects for further research.

Keywords: *Jatamansi, Nadostachys*, endangered, primitive, and therapeutic herbal agent, valerianaceae

INTRODUCTION

Nardostachys jatamansi DC. (Family: Valerianaceae) is a tiny endangered perennial rhizomatous herb about 10-60 cm in height commonly known as *Mamsi*. Due to over-exploitation of rhizomes for medicinal and aromatic uses, habit degradation and other biotic interferences, the species has been declared critically endangered, and the survival of the herb is at risk[1]. The decoction of roots is traditionally used in managing insomnia, anxiety, and epilepsy. As a brain tonic, among its cardiovascular effects, it decreases heart rate and is hence used as an antihypertensive[2]. *Jatamansi* is mentioned in the Samhita Sangrah period (1000 BC -1300 AD) and even in the Nighantu period up to the 20th century. A second variety, Gandhmansi, is mentioned in *Dhanwantri Nighantu* in *Chandanadi Varga*. *Acharya* has said its synonyms and properties and described *Mansidavya* as *Kashaya, Varnya, Keshya, Sugndhit* and *Tridoshghan*. *Kayadev Nighantu* also said a second variety of *Jatamansi*, ie. *Akaashmansi* has small leaves used to treat oedema, wounds, and pain.

Latin name : *Nardostachys jatamansi* DC.

Family: Valerianaceae

TAXONOMICAL CLASSIFICATION

Kingdom : Planate
Division : Mangnoliophyta
Class : Mangnoliopsida
Order : Dipsacales
Family : Valerianaceae
Genus : Nardostachys
Species : Jatamansi

VERNACULAR NAMES[3]

- Arab - Sumbululassafr Sumbululhind, Sumbulut-tibehindi
- Assam - Jatamansi, Jatamangshi
- Beng - Jatamasi. Guj Jatamasi, Kalichad, Baalchad
- Eng. - Spikenard, Indian Nard, Musk root, Nardus root
- Hindi - Balchar, Balchir, Baluchar, Jatalasi, Jatamansi,
- Kannad - Jatamamsi, Jatamavsi, Bhootajata, Ganagila maste
- Kashmiri - Bhutijata, Kukil-i-pot, Bhut-Jati
- Malayalam - Jetamanshi, Manchi, Jatamanchi
- Marathi - Jatamashi Jatamansi. Punj Billilotan, Balchhar,
- Oriya - Jatmansi
- Persian - Sumbulat Sunbuluttih
- Tamil - Jatamask Jatamanji
- Telugu - Jatam-imshi, Jatamamsi, Jatamsi
- Urdu - Balachhada, Sambul-ut-teeb

SYNONYMS – *Mamsi, Kiratini, Krishanjata, Krvyadi, Jatila, Bhootjata, Tpasvini, Nalda, Sulomsha, Planksha*

BOTANICAL DESCRIPTION[4]

Habit - Rootstock woody, long, stout, covered with fibres from the petioles of withered.
leaves.

Stem - 10-60 cm, more or less pubescent upwards, often glabrate below, subscapose. **Leaves -** 15-20 by 2.5 cm. longitudinally nerved radical leaves with elongate spatula,
Cauline sessile, glabrous leaves or slightly pubescent narrowed into the petiole.

Flower - Cyme Heads usually 1, 3 or 5; rosy, pale pink or blue with bracts 6 mm.
Oblong, usually pubescent.

Corolla- Tube 6 mm. long, somewhat hairy within, as are the filaments below.

Fruit - 4 mm. long, covered with ascending white hairs, crowned by the ovate, acute, often.
dentate calyx-teeth.

Distribution- These plants are found in the Alpine Himalayas at altitudes of 3000-5000
meters, extending East wards and Kumaon to Sikkim and Bhutan.

FLOWERING AND FRUITING TIME- Rainy season to autumn season.

CHEMICAL CONSTITUENTS- [5]

Phytochemicals present in *Jatamansi* are - Jatumunsin, Jatamansicacid, Nardostachone, Jatamansinol, Valeranone, Valeranal, Nardostachnol, Nardostachone, Alpha-patcho-ulense, Angelicin, B-cudesemo, Atchoulense, B-sitosterol, Volatile oil.

DESCRIPTION OF *JATAMANSI* IN *SAMHITA:*

***Charak Samhita* (1000 BC – 400 AD):** *Charaka* is the oldest and the most authentic compendium on *Ayurveda* among the *Brihatryae* and is the ancient medical science of India. It was completed in three different eras by three authors. *Jatamansi* (*Nardostachys jatamansi* DC.) was widely used in the Acharya Charaka period, and the main form of dosage used was Ghrita, Taila, Lepa, and *Dhooma*. Several times, Jatamansi (Nordostachyas jatamansi DC.) is repeated in Vish chikitsa, followed by Vatarakta chikitsa by then in *Kushtha, Unmaad, Apasmar* and *Visarpa chikitsa*. *Jatamansi* (*Nardostachys jatamansi* DC.) is given internally. In *Shadvirechniye Adhiaye Jatamansi* (*Nardostachys jatamansi* DC.) is mentioned in *Shukarjanan, Kandughan* and *Sangyasthapak Mahakashaya*.

***Sushurat Samhita* -** *Sushruta Samhita* was initially composed and written by *Acharya Sushruta*. In a later period, *Acharya Nagarjuna* redacted it in *Sushuruta Samhita Jatamansi* (*Nardostachyas jatamansi* DC.) is used more frequently in the management of *Vish Chikitsa Jatamansi* is administered mainly in *Choorna* forms.

***Ashtang Hridya* (7th Century)**- *Ashtanga Hridayam* is the most legitimate and extensive summary of *Ayurvedic* principles. It is one of the 3 *Samhitas* of *Laghutraye*. This text needs to be briefer and in an elaborate form. Vagbhata Acharya wrote it around the 7th century. *Jatamansi* has been mentioned in various preparations with different actions. Preparation of *Jatamansi* (*Nardostachys jatamansi* DC.) is given several times in Ashtanga *Hridyam, like Ghrita, Dhooma, Agada, Anjana, and Churana*. *Jatamansi* (*Nardostachys jatamansi* DC.) is also indicated in the management of *Unmaad, Apasmar, Visha and Kushtha etc.*

Sharngadhar Samhita- *Sharangdhar Samhita* is a classical *Ayurveda Samhita*. Preparation of *Jatamansi* (*Nardostachys jatamansi* DC.) is given a number of times in Sharangdhar Samhita, and another dosage form, like Ghrita, Choorna, and Lepa are also mentioned. *Jatamansi* (*Nardostachys jatamansi* DC.) is indicated in the management *Unmaad, Apasmar, Kushtha, Gridhrasi, Vat Rogas* etc.

DESCRIPTION OF *JATAMANSI* IN *NIGHANTUS* (500 AD - 2000 AD)

***Saushruta Nighantu* (5th Century)**

Jatamansi is mentioned in Amar Singh virachit Saushruta Nighantu under Eladi *gana*. In this *Nighantu, a total of 8 Synonyms, Mamsi, were mentioned. Nalda, Jata, Bhootjata, Mata, Janani, Bhootkeshi, Romsha.*

***Ashtang Nighantu* (8th century AD)**

Vahat Acharya has mentioned *Mamsi* under *Anjanadi Gana and Eladi Gana*. Here, a total of 4 synonyms are given, i.e. Pisachi, Nalda, Mamsi, Jatila, and *Bhootkeshini.*

***Paryaratanmala* (9th century AD)**

This book compiled only synonyms of *Aushadha, and a Total of 10 synonyms of Mamsi were mentioned,* which are *Nalda, Nalika, Peshi, Mamsi, Krishanjata, Jati, Kiratini, Jatila, Lomsha, Tapsvani.*

***Siddhasara Nighantu* (10th century AD)**

Acharya Ravigupat wrote Siddhasara Nighantu. Here, Acharya has mentioned the use of Jatamansi in kushtha rogaa, and he has compiled a total of 3 synonyms of Mamsi: Mamsi, Nalda, and *Jata.*

***Madanadi Nighantu* (10th Century)**

Acharya Chandranandan has mentioned *Jatamansi* under *chaturdash gana* with its 11 synonyms, which are *Mamsi, Bhootkeshi, Nalda, Jatila, Pishi, Seeta, Sulomsha, Hinsra, Janani* and *Tapasvani*. Its second variety, Gandhjatamansi, with its synonyms as Keshi, Bhootshikhi, Pisachi, Pootna, Peshi, Krishanjatagrahi, Sugandhi and guna karma, *i.e. Vishanterdahanashini* has been mentioned.

***Dhanwantari Nighantu* (10th- 13th Century AD.)**

Dravyavali Samucchya is the original name of this text, but it contains only synonyms. At the beginning of this, Nighantu was with the salutation to Lord Dhanwantari; afterwards, properties, actions and uses were added. *Jatamansi* is mentioned in this *Nighantu* under *Chandanadi Varga* by the name of *Mamsi* with its 11 Synonyms. A second variety, Gandhmansi, has also been described in this varga under the synonyms Keshi, Bhutjata, pishachi, etc. It is also described in

the *Misharakadi Varga* with its action, properties and uses.

***Shabadchandrika* (11th Century AD)**

Chandranandan is the writer of this *Nighantu*. He has classified *Jatamansi* in *Varikshadi gana* with its 5 synonyms, which are Tapsvani, Jatamansi, Jatila, Lomsha, and *Mishi. Acharya* has also mentioned *Jatamansi* by the name of *Mansi* with other drugs under Triphladi Varga.

***Sodhala Nighantu* (12th Century AD)**

In *Shodhala Nighantu Acharya Shodhala* has described *Jatamansi* under *Anekartha Varga.*

***Siddhamantra* (13th Century AD)**

Acharya Keshav wrote Siddhamantra Nighantu. He was mentioned as Jatamansi under the 7th Varga, Doshaghana varga, as *Tridoshaghana Dravya*. *Acharya* has described the *Dravyas* according to their *Doshaghan* property.

***Madanapala Nighantu* (13th Century AD)**

Madanvinoda and *Madana Nighantu* both names are commonly used for *Madanpala Nighantu. Acharya* has mentioned the name *Swadumansi* for *Kakoli in Abhyadi Varga*. He has also mentioned *jatamansi* under *Karpooradi Varga* with its six synonyms as *Mamsi: Jata, Bhootkeshi Karvyada, Nalda, Shikha* with its properties and uses.

***Haridyadeepak Nighantu* (13th Century AD)**

Vaidya Bopdev is the writer of this text. He has described *Jatamansi* under the *Tripaad Varga* with its 11synonyms as *Mamsi, Jatila, Nalda, Jatapara, Pootna, Keshi, Peshi, Gandhmansi, Gandhak, Lelitak, Gandh. Gandhmansi* is also one of the synonyms of Jatamansi, whereas the earlier Nighantu has told a separate variety, leading to controversy.

***Kaiydev Nighantu* (14th Century AD)**

The name of this *Nighantu* is *Pathyapathyavibodhaka, and it was* written by *Acharya Kaidev*. He has mentioned *Jatamansi* under *Aushodi Varga* with its *Guna karmas and* 24 synonyms that are *Sulom, Mehishi, Hinsra, Karvyadi, Pishini, Shikha, Mamsi, Mata, Bhootkeshi, Nalda, Jatila, Jata, Kiratini, Bhootjata, Janani, Tapasvini, Krishanjata Keshi, Peshi, Bhootshikhagarsi,Pisachi, Pootna, Gandhmansi and Bhootshipha*. He has also mentioned it in *Mishrakadi Varga*.

***Raj Nighantu* (14th to 15th Century AD)**

The author of this *Nighantu Acharya Narhari Pandit* mentioned *Jatamansi* as the name of *Mansi* with *Chandanadi Varaga Dravyas* with its 21 synonyms that are *Mamsi, Jatila, Mamsi, Karvyadi, Pishita, Mishi, Keshini, Jata, Hinsra, Jatamansi, Mansini, Jataala, Nalda, Meshi, Tamsi, Chakkarvartini, Mata, Bhootjata, Janani, Jatavati, Mrigbhaksha,* and its *Guna karmas*. A *Divitya* variety, *Gandhmansi* is also mentioned in *Chandanadi Varga* with its 9 Synonyms as *Keshi, Bhootjata, Pisachi, Pootna, Bhootkeshi, Lomsha, Jataala,Laghumansi*. *Acharya* has also mentioned *Jatamansi* in *Misharakadi Varga* under the name *Mansi*. In *Ekadasharth Varga, Mamsi* is said by the name *Abhermamsi*.

***Rajvallabha Nighantu* (14th-15th Century AD)**

Vaidyasiromani Sri *Rajvallabha* composed this *Nighantu. Acharya* has described *Mamsi* under the *paurvahik parished* with *Shrivasadi Anulepnam Dravyas* known for *Rakshoghana* and *Jawaraghana* properties.

***Bhavprakasha Nighantu* (16th Century AD)**

Acharya Bhavmishra wrote this important text, which is among the L*aghutrayi*. *Acharya* has mentioned *Jatamansi* under the *karpooradi varga* with five synonyms as: *Jatamansi, Bhootjata, Jatila, Tapsvini and Mamsi*. Its properties and its uses have also been mentioned.

***Shivkosha* (16th Century AD)**

Pt. Shiv Dutt writes this Nighantu. In this *Nighantu Jatamamsi* is mentioned under *Davyaksharam khaant, Dravyas* used for *Vriddhi* in *Balaka* and for *Napushankta, Jatamansi* is also *said* with other drugs of *Trayaksharam Daant, Panchaksharam Naant, Trayaksharam Shaant, Davyaksharam saant.*

***Saraswati Nighantu* (16th Century AD)**

Jatamansi is mentioned in this *Nighantu* under *Chandanadi Varga with 11 synonyms named Tapasvini, Jatamansi, Jatila, Lomsha, Mishi, Mamsi, Nalda, Bhootjata, Mata, Jati and Jata.*

***Laghu Nighantu* (18th Century AD)**

Vyas Keshav Rama is the author of this text. He has mentioned its five synonyms as *Mamsi, Bhootjata, Peshi, Karvyadi,* and *Tapasvani* and its *Guna karmas* are also mentioned in this *Nighantu.*

***Abhidhana Manjari* (19th Century AD)**

The author of this text, Bishagarya, has mentioned *jatamansi* in *Anjanadi gana with its 11 Synonyms which are Mamsi, Krishanjata, Jatila, Jalda, Nali, Hinsra, Pishuni, Jata, Peshi, Karvyadi, Tapsvani.* In this, Varga Acharya has mentioned a type of Mamsi as Gandhmansi and its Synonyms, which are *Bhootjata, Pootnakeshi, Keshi, Pisachika* and *Romsha*. In *Eladi Varga Jatamansi* is described as *Varanprasadan* and *Kandu- Kothanashak. Acharya* has also mentioned *Jatamansi* with the name of *Mamsi* in *Ekartha Varga* with its synonyms as *Bhootkeshi, Gandhmansi, Katvi, Dandruha, Tapasvini, Jatamansi, Saurastri, Raktrohini.*

***Nighantu Adarsha* (1928 AD)**

From various classical texts, Acharya Vaidya Bappalal has gathered various information about *Jatamansi*. He mentioned it under the *Jatamansyadi Varga.*

***Priya Nighantu* (1983 AD)**

Acharya Priyavarat Sharma writes this Nighantu. He has mentioned this drug under *Shatpushpadi Varga*, i.e. 3rd *Varga* with its six synonyms as *Jatamansi, Bhootjata, Jatila, Planksha, Himvadgiriprant, Sheetal* and its *Medhya, Varankarak, Nidrajanan* and *Kustha Nashak* properties also mentioned.

SOME OTHER RELATED TEXTS

The Wealth of India

This book is published by the National Institute of Science Communication and Information Resources, Council of Scientific & Industrial Research (CSIR), New Delhi. This encyclopedia covers all drugs of vegetable and mineral origin. In its raw material section, Vol. 7: N – Pe, detail of *Jatamansi* is given.

Indian Medicinal Plants

K.R. Kirtikar and B.D wrote this book. Basu completed five volumes in which the author of the text explained in detail the various aspects of the drug starting from its Genus *Nardostachys* DC. and covers the morphology, distribution and uses of the drug from different systems of medicine in its Vol. 2. The rhizome is a nervine tonic, stimulant, and soothing to spinal cord, tranquiliser and vermifuge.

Indian Materia Medica

This book is written by K.M. Nadkarni. Vegetative and mineral-origin drugs are compiled in this Materia medica. Synonyms, habitat, part used constituents, action and uses, preparations and dose are described. Here, Jatamansi *(Nardostachys jatamansi* DC.) is described in Vol 1. The rhizome is indicated as a diuretic, nerve stimulant, nerve sedative, tridosh hara, and Medhya, which gives strength and complexion.

The Ayurvedic Pharmacopoeia of India

The Ayurvedic Pharmacopoeia is a book of standards narrating the quality of Ayurvedic drugs published by the Ayurvedic Pharmacopoeia Committee under the Ministry of AYUSH, Government of India. It is developed in two parts: part one comprises 645 monographs, and part two contains 202 formulations. Standards of *Jatamansi(Nardostachys jatamansi* DC.) have been mentioned in Part I, Volume 1 of API.

Vanaushadhi Nidarshika

Dr. Ram Sushil Singh of Banaras Hindu University Varanasi writes this text. The text was composed based on *Ayurvedic* Pharmacopoeia. The drugs have been arranged alphabetically. *Jatamansi (Nardostachys jatamansi* DC.) is described in Vol 1 as *Kaphapittashaamak, Sangyasthapak, Medhya, Balya, Vedanasthapak, Pitta Sarak, Daha Prashman, Mutral etc.* The text also mentioned *Jatamansi (Nardostachys jatamansi* DC.) should be stored in a sealed container and kept in darkness.

Vanaushadi Chandrodya

This treatise of Ayurveda written by Shri Chander Raj Bhandari is completed in two volumes; each has five parts in which much important information related to *Dravyaguna* is compiled. In volume 1, part 4 of the drug *Jatamansi* (*Nardostachys jatamansi* DC.) has been described.

Dravyaguna Vijnana

Dr. Gynandra Pandey writes this book. This work deals with indigenous material medicine, pharmacology and therapeutics of Ayurveda, particularly regarding drugs obtained from vegetable origin. The

work is in English and supported by Sanskrit text with proper references. The text has been composed in three parts; plant *Jatamansi (Nardostachys jatamansi* DC.) has been described in detail in Vol 1.

Dravyaguna Vijnana

Prof. P.V. Sharma wrote it as one of the best compendia on *Dravyaguna.* The index of this book is categorised according to the action of a particular drug. It is modernised to the extent that the detailed description of the drug by its synonyms, families, subfamilies, chemical composition, and drug action on various systems and organs is also described. *Jatamansi (Nardostachys jatamansi* DC.) is defined under *Sangya sathapak in vol.2*. with its properties as *Tridoshahara, Balya, Sangysathapak, Medhya, Varnya, Dahaprashaman* and *Rakatbharshamak, Vajjikarana, Artavjanana* etc. Its dose is 2-4 gm, and the part used is root, also mentioned.

Database on Medicinal Plants Used in Ayurveda

This book is published by the Central Council for Research in Ayurveda & Siddha (CCRAS), Department of Ayush, Ministry of Health and Family Welfare (Govt. Of India) New Delhi**.** This book comprises seven volumes, and the research on *Jatamansi (Nardostachys jatamansi* DC.) is described in Volume 7.

***NIRUKTI* (ETYMOLOGY) OF *Jatamansi* (*Nardostachys jatamansi* DC.) [6]**

1. जटामांसी जटा अस्ति अस्थाः|

Its rhizome has hairs.

2. यद्वा जति त्रिदोषगुणसमुदाई गच्छति|

It has collective property to pacify all three *Dosha* hence called *Jata*.

CLASSICAL CATEGORISATION-

Depending upon the *Aushadha* (Drug) Origin, Morphology, Pharmacodynamics and Therapeutic Values, Ancient texts have classified the *Aushadha* (Drugs) into *Ganas*, *Vargas* and *Skandhas* are mentioned in Table No. 1and Table No. 2

Table.No. 1 .Classical Classification of *Jatamansi* (*Nardostachys jatamansi* DC.) in *Samhita.*

Sr. No.	Name of Texts	Time Period	*Gana/Mahakshaya*
1.	*Charaka Samhita*	(1000 BC– 400 AD)	*SangyasthapakMahakshay* ,[7] *Kandughana Mahakshay*, [8] *Shukarjanan Mahakshay*,[9] *Tikat Skanda* [10]
2.	*Sushruta Samhita*	(1000-1500 B.C – 2nd A.D)	*Eladi Gana*[11]
3.	*Ashtanga Hridaya*	(7th Century)	*Eladi Gana*[12],*Anjanadi Gana*[13]

Table. No.2. Classical Classification of *Jatamansi* (*Nardostachys jatamansi* DC.) in *Nighantu.*

Sr.No.	Name of text	Time period	*Varga/Gana*
1.	*Sausruta Nighantu*	5thCentury	*Elaadi Gana*
2.	*Ashtanga Nighantu*	8th Century A.D.	*Elaadi Gana* *Anjanadi Gana*
3.	*Paryayaratnamala*	9th Century A.D.	-
4.	*Sidhasara Nighantu*	9th Century A.D.	-
5.	*Madanaadi Nighantu*	10th Century AD	*Chaturdash Gana*
6.	*Dhanvantari Nighantu*	10-13th Century AD	*Chandanadi varga* *Mishrakadi varga*
7.	*Shabad Chandrika*	11th Century AD	*Vrikshadi Varga* *Saravaushdi Varga*
8.	*Shodhala Nighantu*	12th Century AD	*Anekarth varga*
9.	*Siddhamantra*	13th Century AD	*Doshghana Varga(Tridoshghan)*
10.	*Madanpal Nighantu*	13th Century AD	*Karpooradi Varga*
11.	*Hridaydeepak Nighantu*	13th Century AD	*Tripaad Varga*
12.	*Kaidev Nighantu*	14th Century AD	*Aushadi Varga*

			Mishrak Varga
13.	*Raj Nighantu*	14-15th Century AD	*ChandanadiVarga, Mishrak Varga, Eka-dasharth Varga*
14.	*Rajvalabh Nighantu*	14-15th CenturyAD	*Shrivasadi Anulepnam Dravyas*
15.	*Shivkosh Nighantu*	16th Century AD	*Davyaksharam khant*
16.	*Bhavprakash Nighantu*	16th Century AD	*Karpooradi Varga*
17.	*Saraswati Nighantu*	16th Century AD	*Chandanadi varga*
18.	*Laghu Nighantu*	18th Century AD	-
19.	*Nighantu Adarsha*	1928 AD.	*Jatamansyadi Varga*
20.	*Abhidhana Manjari*	19th Century AD	*Anjanadi Varga,Eladi Varga,VividhaushdiVarga, Ekarth Varga,Vadhyarth Varga, Chaturarth Varga*
21.	*Priya Nighantu*	1983 AD	*Shatpushpadi Varga*

RASAPANCHAKA [14] **-**

The *Rasapanchaka* of *Aushadha* (drug) *Jatamansi (Nardostachys jatamansi* DC.). As per API and almost all *Ayurvedic* text is mentioned below-

Rasa – Tikta, Kashaya, Madhura
Guna- Laghu, Snigdha
Veerya- Sheeta
Vipaka- Katu

KARMA

Karma of *Jatamansi (Nardostachys jatamansi* DC.) have been compiled from various *Ayurvedic* text and tabulated below as shown in Table. NO.3

Table No. 3. *Karma* of *Jatamansi (Nardostachyas jatamansi* DC.) according to different *Ayurvedic* Text.

Sr.No.	*Karma*	SS [15]	Md.N [16]	DN[17]	Sc.N[18]	Mp.N[19]	KN[20]	RN [21]	B.N[22]	DGV[23]	DB[24]	IMM[25]	API[26]	Total
1.	*Nidra janan*	-	-	-	-	-	-	-	-	+	+	-	+	3
2.	*Kush-atghana*	+	-	-	-	+	+	-	+	+	-	+	+	7
3.	*Daha-nashak*	-	+	-	-	+	+	+	+	+	+	+	+	9
4.	*Medhya*	-	-	-	+	-	-	-	+	+	+	+	-	5
5.	*Vishanashak*	-	+	+	-	-	-	-	-	-	-	-	-	2
6.	*Bhoot-nashan*	-	-	+	-	-	-	+	-	+	-	-	-	3
7	*Balya*	-	-	+	-	-	+	-	+	+	-	+	-	5
8.	*Haridya*	-	-	+	-	-	-	+	-	+	-	-	-	3
9.	*Varnya*	-	-	+	-	-	+	+	+	+	-	-	+	6

The above Table refers that maximum *Nighantus* have told *Dahanashak* as *Karma* and *Nidra janana* at least has been told by only three.

ROGA GHANATA

Roga Ghanata of *Jatamansi (Nardostachys jatamansi* DC.*)* have been compiled from various *Ayurvedic* texts and tabulated as shown in Table NO.4

Table No: 4. *Rogaghanata* of *Jatamansi* (Nardostachys *jatamansi* DC.) according to different *Ayurvedic* Texts

Sr.No.	*Roga Ghanata*	Sc. N	Mp. N	K.N	B.N.	L.N.	DGV	IMM	API
1.	*Anidra*	-	-	-	-	-	+	-	+
2.	*Visarpa*	-	+	+	+	-	+	+	+
3.	*Sanayasa*	+	-	-	-	-	-	-	-
4.	*Manoroga*	+	-	-	-	-	+	-	+
5.	*Vrananashaka*	-	-	-	-	+	+	-	-

The above table refers that the maximum *Roga ghantas* of *Jatamansi* is *Visarpa nashak* and *Anidra* is mentioned by two of texts.

FORMULATIONS OF *JATAMANSI* (*Nardostachys jatamansi*** DC.)** [27,28,29,30]

Table no. 5. Formulations *of* (*Nardostachys jatamansi* DC.) according to different *Ayurvedic* texts

Amritadya Tail	*Mahapadam Tail*
Brahami Vati	*Mansyadi Kwath*
Bala Tail	*Mahanarayan Tail*
Changeri Ghrit	*Ksharagad*
Dashang Lepa	*Mahapaishachika Ghrit*
Dushivishari Agad	*Madhuparnyadi Tail*
Gandh Tail	*Prasarani Tail*
Guduchyadi Tail	*Narayana Tail*
Jatamansyarka	*Rishabhagad*
Khadiradi Gutika	*Rakshoghan Ghrit*
Kulathadi Ghrit	*Sarvaushdi Sanan*

DOSE [31,32]

API: Rhizome Powder: 1-3 gm. **PV Sharma:** Mool powder: 2-4 gm.

OTHER DOSAGE FORMS [33]

Bhavprakasha- *Taila* 2-5 drops *Phanta-* 30-60 ouns Powder: 2-4 gm.

PHARMACOLOGICAL ACTIVITY[34]

ANTIDEPRESSANT ACTIVITY

The antidepressant activity of methanolic extract of *Nardostachys Jatamansi* by forced swim test, tail suspension test and locomotors activity in inbred male Swiss was determined. The extract's efficacy at 200 and 400 mg/kg, p. o. was compared with the standard drug imipramine [10 mg/kg, p. o.] in routine and sleep-deprived mice. *N*ardostachys *jatamansi* at the dose of 200 and 400 mg/kg, p.o produced significant [P<0.001] antidepressant-like effects in normal and sleep-deprived mice in both TST and FST and their efficacies were found to be comparable to imipramine at the dose of 10 mg/kg, p.o. It did not show any significant change in the locomotor functions of mice as compared to the standard control. However, it significantly [P < 0.01] improves the locomotor activity in case of sleep deprivation, which is comparable to joint control. This finding suggests that *Nardostachys jatamansi* has dose-dependent antidepressant activity and can also be used in patients suffering from depression due to sleep disturbances.

ANTICONVULSANT ACTIVITY

Ethanolic extract of the roots of *Nardostach jatamansi* was studied for its anticonvulsant activity. The results obtained a significant increase in the seizure threshold by *Nardostachys jatamansi* root extract against the maximal electroshock seizure model, as indicated by a decrease in the extension/flexion ratio. However, the extract was ineffective against pentylenetetrazole-induced seizures. Further, pretreatment of rats with phenytoin at a dose of 12.5, 25, 50 and 75 mg/ kg in combination with 50 mg/kg of *Nardostachys jatamansi* root extract resulted in a significant increase in the protective index of phenytoin from 3.62 to 13.17. The dose-response studies of phenytoin alone and combined with Nardostachys

jatamansi extract in the serum levels of phenytoin demonstrated the synergistic action of both drugs.

ANTIPARKINSON ACTIVITY

Rats were treated with 200, 400 and 600 mg/kg body weight of *Nardostachys jatamansi* roots for three weeks. On day 21, 2 µl of 6-OHDA [12 µg in 0.01% in ascorbic acid-saline] was infused into the right striatum, while the sham-operated group received two µl of vehicle. Three weeks after the 6-OHDA injection, the rats were tested for neurobehavioral activity and sacrificed after six weeks to estimate lipid peroxidation, reducing glutathione content. The activities of glutathione-transferase, glutathione reductase, and catalase, quantification of catecholamine, dopaminergic D2 receptor binding and tyrosine hydroxylase expression. The increase in drug-induced rotations and decrease in locomotor activity and muscular coordination due to 6-OHDA injections were significantly and dose-dependently restored by *Nardostachys jatamansi.*

NOOTROPIC ACTIVITY

The elevated plus maze and the passive avoidance paradigm were employed to evaluate learning and memory parameters. Three doses: 50, 100, and 200 mg/kg. p.o of an ethanolic extract of *Nardostachys jatamansi* was administered to both young and aged mice for seven successive days. The 200 mg/kg dose of *Nardostachys jatamansi* ethanolic extract significantly improved learning and memory in young mice and also reversed the amnesia induced by diazepam at the dose of 1 mg/kg, i.p. and scopolamine 0.4 mg/kg i.p. As scopolamine-induced amnesia was changed, memory improvement may be because of the facilitation of cholinergic transmission in the brain. Hence, *Nadostachys jatamansi* might be a helpful memory therapeutic agent in treating dementia in elderly persons.

NERVOUS SYSTEM APPLICATION

Parkinson's disease model was induced in one study by using 6-OHDA injection in Wistar rats, and it was observed that the drug produced a marked decrease in biogenic amine and an increase in D2 receptors. The *Nardostachys jatamansi* increases the biogenic amines and inhibitory neurotransmitters in the brain. In this study, three doses of 50, 100, and 200 mg/kg were given for 14 days, and antidepressant effects were observed using forced swim tests and tail suspension methods. The antidepressant effects of ethanolic extract of *N. jatamansi* were comparable with imipramine (15 mg/kg) and sertraline (20 mg/ kg). Ethanolic extract of *Nardostachys jatamansi* was used at a dose of 50 mg/kg in combination with phenytoin 12.5 mg/kg, 25 mg/kg, 50 mg/kg and 75 mg/kg doses. However, the extract of Nardostachys jatamansi was found to have no significant activity against pentylenetetrazole (PTZ) seizures; it was influential in the maximum electric shock model (MES) and increased the seizure threshold.

NEUROPROTECTIVE ACTIVITY

The protective effect of *Nardostachys jatamansi* on neurobehavioral activities, thiobarbituric acid reactive substance [TBARS], reduced glutathione 1 [GSH], thiol group, catalase and sodium-potassium- 1 ATPase activities were studied in middle cerebral artery [MCA] occlusion model of acute cerebral ischemia in rats. The activities of Na [+] K [+] ATPase and catalase were declined significantly by MCA occlusion. The neurobehavioral activities [spontaneous motor activity and motor coordination] were also markedly decreased in the MCA occlusion e group. The study shows Nardostachys jatamansi's effectiveness in focal ischemia, probably due to its antioxidant properties. In another study, rats were treated with 200, 400 and 600 mg/kg body weight of *Nardostachys jatamansi* roots for four weeks. Lesioning was followed by increased lipid peroxidation and a significant depletion of reduced glutathione content in the substantia nigra, which was prevented with *N. jatamansi* pre-treatment.

ANTIOXIDANT AND STRESS-RELIEVING ACTIVITY

The anti-stress effect of hydro-ethanolic extract of *Nardostachys jatamansi* was evaluated for its antioxidant properties. Wistar rats were divided into four groups: naïve, stressed, T-200 and T-500, with oral pre-treatment of *Nardostachys jatamansi* extract 200 and 500 mg/kg, respectively. Restraint of rats on metallic chambers for four hat four °C was followed by

sacrifice and assessment of stress-induced alterations in biochemical parameters, incidence and severity of ulcers. The In-vitro antioxidant activity of *Nardostachys jatamansi* was studied by measuring the free radical scavenging activity. *Nardostachys jatamansi* showed potent antioxidant activity and significantly reversed the stress-induced elevation of LPO and NO levels and decreased catalase activity in the brain. The *Nardostachys jatamansi* possesses significant anti-stress activity, possibly due to its antioxidant activity.

SUBSTITUTES AND ADULTERANTS[35]

Rhizome of *Selinum vaginatum Clarke* and *Selinum tenuifolium* Wall. Ex Clarke is used as an adulterant.

CONCLUSION

Jatamansi that is *Nardostachys jatamansi* DC. *The Valerianaceae family is a well-known* medicinal plant mentioned in *Ayurveda* classics for various ailments in different formulations. It is well described in *Samhitas, Nighantus* and modern books. A second variety is mentioned as *Gandhmansi* in *Madanadi, Dhanvantri Nighantu,* and *Akashmansi* in *Raj Nighantu.* In Ayurveda classics, it is used as a *Medhya* drug. In the Ayurvedic Pharmacopoeia of India, it is considered a drug having Nidrajanan properties. Phytochemicals present in the roots of *Nardostachys jatamansi* are highly potent and reported to have many therapeutic properties like Antidepressant activity, Anticonvulsant activity, Antiparkinson activity, Nootropic activity, Nervous system application, Stress relief and anticancer activity. Other indications such as Shukarjanan, Kushtha nashak, Visarp Nashak, Shothnashak, Kasa, and *Shwas* are also mentioned.

FIG. NO. 1 & 2 : Pictures of *Jatamansi* (*Nardostachys jatamansi* DC.)

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