



Review Article

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THERAPEUTIC AND BOTANICAL PROFILES OF KANDA SHAKA (TUBEROUS VEGETABLES/DRUGS): A CRITICAL REVIEW FROM SAMHITA TO NIGHANTU

Thanuja N ^{1*}, Thejaswi I Naik ², Ravikrishna S ³

¹ PG Scholar, Department of PG and PhD Studies in Dravyaguna Vijnana. Sri Dharmasthala Manjunatheshwara College of Ayurveda, Hospital and Research Centre, Kuthpady Udipi, Karnataka, India

² Assistant Professor, Department of PG and PhD Studies in Dravyaguna Vijnana. Sri Dharmasthala Manjunatheshwara College of Ayurveda, Hospital and Research Centre, Kuthpady Udipi, Karnataka, India

³ Associate Professor, Department of PG Studies in Agada Tantra Evam Vidhi Vaidyaka. Sri Dharmasthala Manjunatheshwara College of Ayurveda, Hospital and Research Centre, Kuthpady Udipi, Karnataka, India

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*Corresponding author

E-mail: thanujaningappa@gmail.com

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ABSTRACT

Kanda Varga, a subgroup within the broader classification of Shaka Varga in Ayurvedic literature, encompasses underground plant parts such as tubers, rhizomes, and bulbs that serve as vital dietary and therapeutic resources. Widely mentioned in classical texts like the Charaka Samhita, Sushruta Samhita and the Nighantus, Kanda Dravyas are recognised for their Balya (strength-promoting), Brimhana (nourishing), Rasa-pradhana (taste-enhancing), Rasayana (nourishing) and Viṣṭambhi (obstructing) properties. These underground plant materials play a crucial role in daily nutrition, particularly in promoting strength, improving digestion and enhancing tissue regeneration. Beyond their nutritive value, many Kanda dravyas exhibit specific medicinal actions and are employed in managing various disorders including Arshas (piles), Paṇḍu (anemia) and Kṣhaya (emaciation). Additionally, the regional and seasonal availability of these tubers ensures their relevance in Rutucarya (seasonal regimen) and in local traditional healing practices. This paper aims to collect and compile the Kanda dravya mentioned in existing literature and critically review the pharmacological significance, dietary value and therapeutic versatility of the Kanda varga as described in the Brihatrayi, Bhavaprakasha Nighantu, Raja Nighantu, Kaiyadeva Nighantu, Madanaphala Nighantu, Priya Nighantu highlighting the need for further research and conservation of these traditional resources in the context of changing food habits and agricultural practices.

Keywords: Shaka varga, Kanda dravya, Brihatrayi, Nighantu

INTRODUCTION

In Ayurveda, Ahara is considered one of the Trayopastambha (three pillars of life) essential for sustaining health and vitality¹.

Among the various classifications of Ahara Dravya's described in classical Ayurvedic texts, Kanda Dravya's which include tuberous and underground vegetables, hold a distinct position for their nourishing, strengthening and therapeutic qualities. These Dravyas are primarily included under the Shaka Varga (vegetable group) and are extensively described in classical texts such as the Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya, Bhavaprakasha Nighantu, Raja Nighantu, Kaiyadeva Nighantu, Madanaphala Nighantu, and Priya Nighantu.

Kanda Shakas are uniquely endowed with Madhura (sweet), Shita (cooling), Guru (heavy), Snigdha (unctuous), and Brimhana (bulk-promoting) properties. These attributes make them superior in building strength (Balya), promoting fertility (Vrishya), enhancing vitality (Ojo vardhaka) and nourishing the Dhatu's (body tissues)².

Thus, a holistic evaluation of Shaka Varga positions Kanda Shaka as the premier category for nourishment and Balya (strength-promoting), exemplifying Ayurveda's core principle of bridging Ahara (food) and Oushadha (medicine).

Classical Ayurvedic references

This systematic review was conducted through an extensive literature search of classical Ayurvedic texts, including Samhitas (e.g., Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya) and Nighantus (e.g., Bhavaprakasha Nighantu, Raja Nighantu, etc). Relevant data on Kanda Shaka—encompassing morphological identifications, pharmacological properties and therapeutic indications—were systematically extracted and analysed.

Additionally, contemporary evidence was gathered from published research articles, online databases (Google Scholar, AYUSH Research Portal) and academic websites.

Information from existing literature sources has been collected, compiled and critically reviewed as presented in Tables 1- 7.

Nishidda/Varjya Shaka (Prohibited / Unfit for Consumption)

The assessment and selection of tuberous foods/Drug play a very crucial role, as certain categories must be unequivocally excluded because they pose health risks or lack nutritive value. Tubers that are Bala (raw or immature) should be avoided, as their underdeveloped starches and enzymes can impair digestion and may contain anti-nutritional factors. Anarttava tubers—those harvested or supplied out of season—often exhibit altered biochemical profiles and moisture content that predispose them to spoilage or digestive disturbance. Jeerna (aged) tubers lose structural and nutritive integrity over time; the gradual process of ageing increases fibre, reduces palatability and increases the risk

of microbial contamination. Vyadita or diseased, tubers present visible and biochemical signs of pathology and may harbour pathogens or phytotoxins, rendering them unsuitable for consumption. Krimibhakshita tubers, affected by insect or worm infestation, contain tunnels, frass and secondary microbial degradation and thus cannot be made safe by culinary processing alone. Finally, Agniyadi vidhosshita tubers—those damaged or

contaminated by fire, smoke or other injurious agents—may acquire toxic alterations in chemical composition and sensory properties. Collectively, these categories (raw/immature, out-of-season, old, diseased, pest-infested and contaminated) constitute clear grounds for rejection and disposal in nutritional and food-safety contexts to prevent adverse health outcomes.¹⁴

Table 1: Number of Kanda Shaka Dravya

Samhita/Nighantu	Varga	Kanda shaka
Charaka Samhita ³	Shaka varga	15
Sushruta Samhita ⁴	Shaka varga	23
Ashtanga Hridaya ⁵	Shaka varga	22
Bhavaprakasha Nighantu ⁶	Shaka varga	12
Madanaphala Nighantu ⁷	Shaka varga	18
Raja Nighantu ⁸	Moolakadi varga	36
Kaiyadeva Nighantu ⁹	Aushadhi varga	36
Shodala Nighantu ¹⁰	Guduchyadi, Karaveeradi	14
Priya Nighantu ¹¹	Shaka varga	10
Madhava Dravyaguna ¹²	Shaka varga	17
Dravyaguna Sangraha ¹³	Shaka varga	16

Table 2: Kanda Shaka of Brihatrayi

Name	Charaka Samhita (Ch.Su.27)	Sushruta Samhita (Su.Su.46)	Ashtanga Hridaya (Ah.Su.6)
Alooka	+	-	+
Amlikakanda	+	-	-
Ankalodya	+	-	-
Bisa	-	+	-
Grinjanaka	-	-	+
Hasthyaluka	-	+	-
Indivara	-	+	-
Kasheruka	+	+	+
Kashtaluka	-	+	-
Katuki	+	-	+
Kebhuka	-	-	+
Keluta	+	+	+
Krounchadana	+	-	+
Kumuda	-	+	+
Kutinjara	-	-	+
Lakshmana	+	-	-
Lashuna	-	-	+
Madhvaluka	-	+	+
Manaka	-	+	-
Mrinala	-	+	-
Mulaka	-	-	+
Munjathaka	+	+	+
Padma	-	+	-
Palandu	-	-	+
Pindalu	+	+	+
Raktaluka	-	+	+
Shaluka	+	-	+
Shankhaluka	-	+	-
Shatavari	-	+	-
Shati	+	-	+
Shringhataka	+	+	+
Soorana	-	+	+
Sthulakanda	-	+	-
Surendrakanda	-	+	-
Taruta	+	-	-
Utphala	-	+	+
Varahakanda	-	+	-
Vidarikanda	+	+	+

Table 3: Kanda Shaka of Bhavaprakasha Nighantu

Kanda	Rasa	Guna	Virya	Vipaka	Karma	Indications
Soorana (<i>Amorphophallus paeoniifolius</i> (Dennst.) Nicolson. Araceae)	Kashaya, Katu	Laghu, Ruksha, Vishada	Ushna	Katu	Kaphahara, Deepana, Kandukrit, Vishtambi, Ruchya,	Arshas, Gulma, Pliharoga
Aluka (<i>Dioscorea</i> species, Dioscoreaceae)	Madhura	Guru, Ruksha	Shita	-	Kaphavatakaraka Pittashamaka, Vishtambi, Durjara, Balya, Vrishya, Agnivardhana	Raktapitta
Aluki (<i>Colocasia antiquorum</i> Schott., Araceae)	-	Guru, Snigdha	-	-	Balya, Hritkaphanashini, Vishtamba, Ruchiprada	Kshata, Yakrit vridhi, Arshas
Mulakadvaya Laghumulaka (<i>Raphanus sativus</i> Linn. Cruciferae)	Katu	Laghu	Ushna	-	Tridoshashamaka, Ruchya, Pachana, Swarya	Jwara, Shwasa, Nasaroga, Kantaroga, Netraroga, Vibanda,
Mahamulaka	-	Guru, Ruksha	Ushna	-	Tridoshakaraka	
Grinjara (<i>Daucus carota</i> var. sativa DC. Umbelliferae)	Madhura, Tikta	Tikshna, Laghu	Ushna	-	Kaphavatahara, Deepana, Sangrahi	Raktapitta, Arshas, Grahani, Kamala, Shotha, Dagdavrana,
Kadalikanda (<i>Musa sapientum</i> Linn. Musaceae)	Madhura	-	Shita	-	Balya, Keshya, Vanhikrit, Ruchikaraka	Aruchi, Amlapitta, Daha.
Manakanda (<i>Alocasia indica</i> (Roxb.) Schott., Araceae)	-	Laghu	Shita	-	-	Shotha, Raktapitta, Jalodara, Vibanda, Arsha
Varahikanda (<i>Dioscorea bulbifera</i> Linn., Dioscoreaceae)	Madhura, Tikta	-	-	Katu	Pittala, Kaphavatahara, Balya, Rasayani, Ayuvardhaka, Shukravardhaka, Agnikrit	Prameha, Kusta, Krimi.
Hastikarna (<i>Leea macrophylla</i> Horn., Vitaceae)	Tikta	-	Ushna	Madhura	Vata kaphashamaka	Shitajwara, Pandu, Shota, Krimi, Pliha, Gulma, Udararoga, Grahani
Kemuka (<i>Costus speciosus</i> (J. Koenig) Sm., Costaceae)	Madhura, Tikta, Katu	Laghu	Shita	Katu	Vatala, Kapha pittahara, Grahi, Deepana, Pachana, Hridya	Jwara, Kusta, Prameha, Raktavikara
Kaseru (<i>Scirpus kysoor</i> Roxb., Cyperaceae)	Madhura Kashaya	Guru	Shita	-	Vata kapha vardhaka, Pittashamaka, Grahi, Shukravardhaka, Dughdvardhaka, Aruchikara	Nayanamaya, Raktavikara, Trishna, Daha, Atisara, Chardi.
Shaluka (<i>Nelumbium speciosum</i> Willd., Nymphaeaceae)	Madhura	Guru, Ruksha	Shita	Madhura	Pittahara, Vata kapha vardhaka, Vrishya, Durjara, Sthanyaprada, Sangrahi	Trishna, Daha, Raktavikara

Table 4: Other Kanda Shaka Mentioned in Raja Nighantu

Kanda	Rasa	Guna	Virya	Vipaka	Karma	Indications
Palandu (<i>Allium cepa</i> Linn., Liliaceae)	Katu	Tikshna, Guru, Snigdha	Ushna	Katu	Kapha pittashamaka, Deepana, Rochana, Balya, Vrishya,	Krimi, Chardi
Sholi (Vanaharidra) (<i>Curcuma aromatica</i> Salisb., Zingiberaceae)	Katu, Madhura, Tikta	-	-	-	Deepana, Ruchya	-
Shrangataka (<i>Trapa bispinosa</i> Roxb., Trapaceae)	-	Laghu, Sara	-	-	Tridosahara, Vrishya, Ruchya,	Raktapitta, Jwara, Shopha, Shrama.
Pehu (Vanardhraka) (<i>Zingiber cassumunar</i> Roxb., Zingiberaceae)	Katu, Amla	-	-	-	Ruchikrit, Balya, Deepana	-
Kolakanda (<i>Urginea indica</i> Kunth., Liliaceae)	Katu,	-	Ushna	-	Vanthihrit	Krimi, Chardi
Malakanda (<i>Eulophia nuda</i> Lindl., Orchidaceae)	-	Tikshna	-	-	Vata kaphahara, Deepana	Gandamala, Guima
Vidari (<i>Pueraria tuberosa</i> DC., Papilionaceae)	Madhura	Guru, Snigdha	Shita	-	Kaphavardhaka, Balya, Viryavardhini	Raktapitta.
Kshiravidari (<i>Ipomoea digitata</i> Linn.,)	Madhura, Amla, Kashaya, Tikta	-	-	-	Pittahara, Shulahara	Mutraroga, Prameha

Convolvulaceae)						
Rasona (<i>Allium sativum</i> Linn., Liliaceae)	Amla varjita Pancha rasa	Guru	Ushna		Kapha vatahara, Rasayana	Aruchi, Krimi, Hridroga, Shopha,

Table 5: Other Kanda Shaka Mentioned in Kaiyadeva Nighantu

Kanda	Rasa	Guna	Virya	Vipaka	Karma	Indications
Sudarshana (<i>Crinum latifolium</i> Linn., Amaryllidaceae)	Madhura, Tikta	-	Ushna	-	Kapha vatahara	Shotha, Raktavikara
Morata (<i>Maerua arenaria</i> Hook. f. & Th., Capparidaceae)	Madhura, Lavana	Guru, Ruksha	Shita	Madhura	Kapha pittahara, Vatakaraka, Vishtambi,	Daha, Jwara, Trishna
Shatavari (<i>Asparagus racemosus</i> Willd., Liliaceae)	Tikta, Madhura	Guru, Snigdha	Shita	-	Vata pittahara, Rasayana, Shukrala, Balya, Stanya- Medha- Agnivardhaka, Chakshusya	Raktavikara, Gulma, Atisara, Shotha
Mahashatavari (<i>Asparagus sarmentosus</i> Linn., Liliaceae)	Tikta	-	Shita	-	Hridya, Medha- Agni- Bala- Shukra vardhaka, Rasayani,	Grahani, Arshas, Akshi roga.
Haridra (<i>Curcuma longa</i> Linn., Zingiberaceae)	Tikta, Katu	Ruksha	Ushna	-	Varnya, Kapha pittahara, Vishahara	Pandu, Vrana, Apachi, Prameha, Twak vikara, Shotha
Amragandhi haridra (<i>Curcuma amada</i> Roxb., Zingiberaceae)	Madhura, Tikta	-	Shita	-	Vatala, Pittahara, Vrishya, Sannipatajit	-
Ardhraka (<i>Zingiber officinale</i> Roscoe., Zingiberaceae)	Katu	Tikshna, Guru	Ushna	Madhura	Kapha vatahara, Bhedana, Pachana, Rochana, Vrishya, Deepana, Swarya, Hridya	Vibanda, Anaha, Shula, Hridroga, Shotha, Arsha, Shwasa, Kasa
Vacha (<i>Acorus calamus</i> Linn., Araceae)	Tikta, Katu,	-	Ushna	Katu	Kapha vatashamaka, Amapachaka, Agnideepaka, Jeevaniya, Vamaka, Medhya, Swarya, Shakrin-mutravishodhini	Unmada, Apasmara, Krimi, Shula, Vibanda, Adhmana,
Eraka/Gundra (<i>Typha elephantina</i> Roxb., Typhaceae)	-	-	Shita	-	Vrishya, Chakshusya, Vatakaraka,	Mutrakrichra, Ashmari, Daha, Raktapitta,
Vetraka (<i>Calamus tenuis</i> Roxb., Palmaceae)	Tikta	Laghu	Shita	Katu	Kapha pittahara, Vatakaraka, Grahi,	Krimi, Prameha
Karchura (<i>Curcuma zedoaria</i> (Christm.) Roscoe., Zingiberaceae)	Katu, Tikta	Laghu, Tikshna	-	Katu	Kapha vatashamaka, Deepana, Rochana, Rakta pittavardhaka	-
Kumudini (<i>Nymphaea alba</i> Linn., Nymphaeaceae)	Madhura, Lavana	Guru, Ruksha	Shita	-	Kaphashamaka Vatavardhaka, Vishtambi	Raktapitta
Musali (<i>Curculigo orchoides</i> Gaertn. Hypoxidaceae)	Madhura, Tikta	Guru	Ushna	-	Vatashamaka, Shukravardhaka, Rasayana, Brimhana	Arsha
Shweta Musali (<i>Asparagus adscendens</i> Roxb., Liliaceae)	-	Laghu, Snigdha	Shita	-	Balya	-

Table 6: Other Kanda Shaka Mentioned in Madanaphala Nighantu

Kanda	Rasa	Guna	Virya	Vipaka	Karma	Indications
Keyura (<i>Maranta arundinacea</i> L., Marantaceae)	-	-	Shita	-	Pittavardhaka, Kapha vatahara, Grahi	-
Pindaluka (<i>Colocasia esculenta</i> (L.) Schott., Araceae)	Tikta	Guru	Ushna	-	Abhishyandikara, Doshala	-
Madhvalu (<i>Ipomoea batatas</i> (L) Lam., Convolvulaceae)	-	-	-	Katu	Pittakara, Kaphahara	-

Table 7: Other Kanda Shaka Mentioned in Priya Nighantu

Kanda	Rasa	Guna	Virya	Vipaka	Karma	Indications
Shalaya (<i>Brassica rapa</i> Linn., Brassicaceae)	Madhura	Laghu, Sara, Mridu	Kinchit Ushna	-	Tridosha shamaka, Rochana, Deepana	Jwara, Udararoga

DISCUSSION

The present study provides a comprehensive review of Kanda Shaka (Kanda Varga) across Ayurvedic lexicons, highlighting its pivotal position within the Shaka Varga as a repository of nutritive and therapeutic plant materials. The constant mention of Kanda dravyas in the Brihatrayi—Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya—alongside later Nighantu literature such as Bhavaprakasha Nighantu, Kaiyadeva Nighantu, and Raja Nighantu, etc., underscores their enduring importance in Ayurvedic dietetics and pharmacology. This cross-textual continuity suggests that Kanda dravyas were not merely occasional ingredients but systematically recognised resources for strength, nourishment and disease management. A total of 38 varieties of Kanda Shaka are found to be described in the Brihatrayi, whereas 66 varieties are found in the Nighantus.

Taxonomic and textual diversity

Across the classical and Nighantu sources, Kanda Varga includes a range of underground plant parts such as tubers, corms and rhizomes, though exact numbers and species vary slightly between texts due to regional nomenclature, synonyms and evolving taxonomic understanding. In the Nighantus, it is found that the highest number of Kanda shaka comes from the Zingiberaceae (7), Liliaceae (6), and families like Araceae (4), Dioscoreaceae (2), and Convolvulaceae (2).

Nutritional and digestive role

Kanda dravyas are repeatedly described as Balya, Brimhana, Rasa-pradana and Vishtambhi, pointing to their ability to increase bodily strength, promote tissue growth, enhance taste/appetite and provide a satiating, grounding effect. Many of these underground parts are rich in complex carbohydrates, dietary fiber and minerals, which aligns with their role in daily nutrition and energy sustenance, especially in seasonal regimens (Rutucarya) and seasonal food-as-medicine practices.

Typical nutritional profile of edible/medicinal rhizomes

Rhizomatous food/medicine plants belonging to the Zingiberaceae family (e.g., *Curcuma longa*, *Curcuma zedoaria*, *Zingiber officinale*, *Zingiber cassumunar* and *Curcuma amada*) offer carbohydrates (mostly starch), moderate protein, fibre, and nutrients including potassium, magnesium, and trace elements. They also contain phenolic compounds, flavonoids, and organic acids—key bioactive compounds that boost nutrition, antioxidant power, and deliver anti-inflammatory, antimicrobial, anticancer, and neuroprotective benefits.¹⁵

Nutritionally, *Lilium* spp. (*Allium cepa*, *Allium sativum*, *Asparagus racemosus*, *Asparagus adscendens*) are rich in polysaccharides, saponins, dietary fibres, vitamins, amino acids, starch, pectin, phospholipids and essential minerals such as calcium and iron. Also, saponins, flavonoids, phenylpropanoids and polysaccharides recognized as the principal bioactive metabolites. Pharmacological studies have demonstrated a wide range of biological activities-anti-inflammatory, antioxidant, antitumor, antidepressant, sedative, hepatoprotective, hypoglycaemic and immunomodulatory.¹⁶

Dioscorea tubers (*Dioscorea bulbifera*) are high in carbohydrates (73–80%), starch, dietary fiber, proteins (6–12%), vitamins (C, B1, B6), minerals (potassium, manganese, magnesium) and bioactive compounds like mucilage, polyphenols, flavonoids and diosgenin. Their high energy value, fiber content, and antioxidant properties support their role as staple foods. Exhibit antidiabetic, anti-inflammatory, antioxidant, anticancer, antimicrobial, hypocholesterolemic and immunomodulatory effects.¹⁷

Pharmacological and therapeutic versatility

Beyond their nutritive function, Many Kanda dravyas show specific pharmacological actions in the texts.

With respect to Rasa (taste)¹⁸

Most of the kanda dravyas mentioned are predominantly Madhura (15), Katu (8), Tikta (7) in Rasa.

Madhura Rasa (sweet taste) possesses properties such as Rasadi Sapta Dhatu Vardhaka, Ojovardhaka, Ayuskara (Increases life span), Śaindriya Prasadaka (Nourishing sense organs and also pleases the mind), Balakara (increases strength), Varnakara (Gives good complexion), Visahara (Reduces potency of poison), Trishnahara (Quenches the thirst), Daha prashamaka (Reduces burning sensation), Twachya (Good for skin), Keshya (Good for hairs), Kantya (Conducive to throat), Preenana (Nourishes all body parts, Jivana (Sustains the life), Brihmana (Gives bulkiness), Ksheenakshta Sandhanakara (Heals up), Sthairyakara (Gives stability), Stanyavardhaka (Improves breastmilk).

Katu Rasa (pungent taste) is Vaktrashodhaka (Cleanses the mouth), Agnidipaka (Appetizer), Bhuktam Soshayati (helps in absorption), Sphutikarotindriyani (Brings proper action from sense organs), Rochayatyanam (Gives good taste), Kandurvinashayati (Alleviates itching), Krmin Hinasti (Alleviates germs), Margan Vivranoti (Clear the channels), Kustaghna (Good for skin disorders).

Tikta Rasa (bitter taste) possess properties like Visaghna (Anti piosonous), Krmighna (Anthelmintic), Murcha, Daha, Kandu, Kusta, Trishna Prashamana (Relieves from fainting, burning sensation, itching, skin diseases & thirst), Twakmamsayo Sthirakarana (Gives firmness to skin & muscles), Dipana (Appetizer), Pachana (Digestive), Stanya shodhana (Purifies breastmilk), Lekhana (Scrapes away unwanted tissue), Kleda, Meda, Vasa, Majja, Lasika, Puya, sweda, Mutra, Mala Shoshaka (Which dries up moisture, fats, muscle fat, bone marrow, lymph tissue, pus, sweat, urine and faeces), Medhya (Promotes intelligence).

With respect to Virya (potency)

The Dravyas mentioned are almost equally distributed in potency with (16) being Shita Virya (cold in potency) and (15) being Ushna Virya (hot in potency).

Shita virya dravyas are Pittahara, Prahladana (Refreshing), Sthirakarana (Steadiness), Prasadana (Calmness), Kledana (Moistening), Jivana (Enlivening), Stambhana (Obstructing), Raktaprasadaka (Good for blood).

Ushna virya drugs do Vatahara, Kapha Vilayana (Kaphahara), Pachana (Digests).¹⁹

With respect to Vipaka (post- digestive effect)

Predominantly they are Katu Vipaka (8) and also Madhura Vipaka (4)

The Dravya undergoes **Katu Vipaka** (pungent) are Vatavardhaka (increases vata), Shukranasha (reduces semen), Baddha Vinmutra (reduces stool/urine volume).

Madhura Vipaka (sweet) exhibits actions like Kaphavardhaka (increases Kapha), Shukrala (enhances semen), Srishta Vinmutra (increases stool/urine volume).²⁰

With respect to Karma (action)

When we consider the Guna of the Kandas mentioned, majority of them were found to be Laghu- Rooksha (9), followed by Guru-

Snigdha (8), Guru- Rooksha (5) and some of them are Tikshna as well. Hence, should be utilized based on the expected therapeutic actions and clinical requirements.

Doshakarman: Predominantly, Kanda dravyas have been observed to possess Kapha-Vata shamaka (10) properties. Some of the dravyas also exhibit Kapha-Pitta shamaka (4) and Tridosha shamaka (4) actions.

The majority of Kanda dravyas have been observed to possess actions such as Deepana, Pachana, Ruchya (appetiser, digestive, improves taste perception), Balya (increases the strength), Shukrala (enhances semen), Rasayana (promoter of longevity, vitality and immunity), Vrishya (Aphrodisiac), Sangrahi (absorbs excess fluid and binds the stool).

Additionally, Kanda dravya also exhibits actions such as Hridya (cardiotonic), Chakshushya (beneficial for the eyes), Vishtambhi (causes constipation), Varnya (enhances complexion), Keshya (Beneficial for hair), Vishahara (Antidotal), and Jeevaniya (Vitalising/life-promoting).

Considering these findings, it can be stated that Kanda dravyas exhibit predominant pharmacological actions, and there is significant scope for further research, particularly regarding their specific therapeutic actions.

Scope for future research and integration

The critical review of Kanda Varga in this paper reveals significant gaps between textual descriptions and contemporary evidence: while the Ayurvedic literature provides detailed indications and properties, modern pharmacological data remain limited for many of the listed species. Systematic phytochemical profiling, in-vitro and in-vivo studies and clinical trials focusing on Kanda-based formulations would help to validate traditional claims. Furthermore, integrating Kanda Shaka into sustainable food-medicine models—such as nutrient-dense traditional diets, functional foods and Ayurvedic nutraceuticals—can enhance both preventive healthcare and agro-biodiversity conservation

CONCLUSION

The review demonstrates that Kanda Varga occupies a central place in classical and Nighantu Ayurvedic literature as a source of nutritive and therapeutic underground plant parts. Cross-textual continuity between the Brihatrayi and later Nighantu underscores their sustained clinical and dietary relevance. Taxonomic diversity—especially species from Zingiberaceae, Liliaceae and other families—reflects regional nomenclature and evolving botanical understanding. Nutritional profiles (starch, fiber, minerals) and bioactive constituents (phenolics, saponins, diosgenin) support their roles in nourishment, antioxidant and anti-inflammatory effects. Textual pharmacology attributes predominant Madhura, Katu and Tikta rasas and a near-even split of Sheeta and Ushna viryas, explaining a broad spectrum of clinical actions. Many Kanda dravyas are cited for Deepana-Pachana (appetiser, digestive), Balya (Strength-promoting), Rasayana (Rejuvenative), Vrishya (Fertility and vitality-promoting) and organ-specific benefits, indicating both nutritional and targeted therapeutic potential. However, contemporary phytochemical, pharmacological, and clinical evidence remains limited or uneven for numerous of the listed species. Priorities include systematic identification, phytochemical standardization, preclinical validation and well-designed clinical trials for key species. Integrating traditional knowledge with rigorous research and agro-biodiversity efforts can translate Kanda Varga into validated, sustainable food-medicine resources.

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