

A Substantial Review of *Kantaka Panchamoola*: Forbidden Drug

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ABSTRACT

The main objective of *Ayurveda* is to sustain the health of a healthy individual and to cure or treat a diseased or ill person. In *Ayurveda*, *Ahar*, *Vihar*, *Dincharya*, *Ritucharya*, *Ratricharya*, etc., are mentioned in detail. Several Ayurvedic herbs are briefly detailed to accomplish the aims or purposes of *Ayurveda*. Based on their origin, Ayurvedic medicines are mainly described as Medicines prepared from plants and designed from metal and minerals. Medicines prepared from plants are made using plant parts, i.e., Root, Stem, Flower, Fruit, Bark, Seed, Leaf, etc. In *Ayurveda*, five types of *Panchamoola* are mentioned in *Samhita*. When the root of five plants is taken together to prepare a formulation in *Ayurveda*, it is called *panchamoola*. *Kantaka Panchamoola* is one such *panchamoola* to be described in this article, Identification, Morphology, and medicinal properties of Contents of *Kantaka Panchamoola*.

Key Words *Kantaka*, *Panchamoola*, *Ayurveda*, *Shukra*, *Dushti*, *Shukra Dosha*

Received 27th April 23 Accepted 25th June 23 Published 10th July 2023

INTRODUCTION

In *Charak Samhita*, *Rasayan adhyaya* of *chikitsa sthana*, five types of *Panchamoola* are mentioned¹. Acharya *Charak* described the word *Panchamoola* for the first time. Later on, In chapter 38th of *Sutra Sthana*, *Kantaka Panchamoola* is also defined by Acharya *Charak*². The contents of *Kantaka Panchamoola* are *Karmarda*, *Gokshura*, *Saireyaka*, *Shatavari*

and *Himsra*. Acharya *Charak* also described the medicinal properties and uses of all the contents of *Kantaka Panchamoola*. *Kantaka* means thorns and *moola* is root. All five plants of *Kantaka Panchamoola* have thorns; therefore roots of these five plants are collectively called as *Kantaka Panchamoola*. List of all the drugs in *Kantaka Panchamoola* are as mentioned in table no 1.

Table 1 List of drugs in *kantaka panchmoola*^{3,4}

Name	Botanical Name	Family	Varga (<i>Bhavaprakash</i>)	Karma
<i>Karmarda</i>	<i>Carissa carandas</i> Linn.	Apocynaceae	<i>Amradi Phala varga</i>	<i>Raktapitta shamak</i> , <i>Hridya</i> , <i>Vamak</i> , <i>Mutrajanana</i>
<i>Gokshura</i>	<i>Tribulus terrestris</i> Linn.	Zygophyllaceae	<i>Guduchyadi varga</i>	<i>Mutravirechaniya</i> , <i>Shothahar</i> , <i>Vatahar</i> ,

REVIEW ARTICLE

				Balya, Vrishya
<i>Saireyaka</i>	<i>Barleria prionitis</i> Linn.	Acanthaceae	<i>Pushpa varga</i>	<i>Kesharanjaka,</i> <i>Kustha, Vatarakta,</i> <i>Vishanashak</i>
<i>Shatavari</i>	<i>Asparagus racemosus</i> Willd.	Liliaceae	<i>Guduchyadi varga</i>	<i>Shukravardhak,</i> <i>Rasayan, Netrya</i>
<i>Himsra</i>	<i>Capparis spinosa</i> Linn.	Capparidaceae		<i>Shophaghna,</i> <i>Kaphavatanashak</i>

Properties (*rasa, guna, virya, vipaka*) of all the drugs of *Kantaka Panchamoola* are mentioned in table no. 2

Table 2 Properties of drugs in *kantaka panchamoola*⁽⁵⁻⁸⁾

Drug	Rasa (Taste)	Guna (Property)	Virya (Potency)	Vipaka (Biotransformation)
<i>Karmarda</i>	<i>Amla</i>	<i>Guru</i> <i>Sara</i>	<i>Ushna</i>	<i>Katu</i>
<i>Gokshura</i>	<i>Madhura</i>	<i>Guru</i> <i>Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>
<i>Saireyaka</i>	<i>Tikta</i> <i>Madhura</i>	<i>Laghu</i>	<i>Ushna</i>	<i>Katu</i>
<i>Shatavari</i>	<i>Madhura</i> <i>Tikta</i>	<i>Guru</i> <i>Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>
<i>Himsra</i>	<i>Tikta</i> <i>Katu</i>	<i>Laghu</i> <i>Ruksha</i>	<i>Ushna</i>	<i>Katu</i>
<i>Kantaka Panchamoola</i>	<i>Madhura</i> <i>Tikta</i> <i>Katu</i> <i>Amla</i>	<i>Guru</i> <i>Snigdha</i> <i>Laghu</i> <i>Ruksha</i>	<i>Sheetoshna</i>	<i>Madhura</i>

DESCRIPTION OF SINGLE DRUGS

1. KARMARDA ROOT

- Synonyms - *Karonda*
- Macroscopic - Root considerably lengthy and frequently erratic. Woody, cylindrical rusty, or yellowish brown in color; 1-1.5 cm thick; surface smooth; fracture, hard; odor and taste not distinct^{9,10}.
- Pharmacological activities – Anti-inflammatory, antipyretic activity, Anti-oxidant activity, and Adaptogenic activity¹¹.



Fig. 1(a) *Carissa carandas* plant



Fig. 1(b) *Carissa carandas* root

2. GOKSHURA ROOT

- Synonyms - *Trikantaka, Chanadruma, Shvadanashtra, Ikshugandhika, Swadukantaka.*
- Macroscopic – The drug consists of the root, 7 to 18 cm long and thin, cylindrical, fibrous, stiff, woody, and 0.3 to 0.7 cm in diameter. Its color ranges from yellow to light brown. The surface is rough due to presence of small nodules; fracture fibrous; aromatic odor; sweet taste, and astringent¹².

REVIEW ARTICLE

- Pharmacological activities - Aphrodisiac activity, Anti-inflammatory activity, Antidiabetic activity, Diuretic activity¹³.



Fig. 2(a) *Tribulus terrestris* plant



Fig. 2(b) *Tribulus terrestris* root

1. SHATAVARI ROOT

- Synonyms - *Satmuli*, *Bahusuta*, *Atirasa*, *Satvirya*
- Macroscopic - Root tuberous, cm long and 0.2 - 0.5 cm hefty, sloping at both ends and longitudinal wrinkles; cream color; sweet taste¹⁴.
- Pharmacological activities - Anti-abortion, Antidiabetic activity, Diuretic activity, Immunostimulant¹⁵.



Fig. 3(a) *Asparagus racemosus* plant



Fig. 3(b) *Asparagus racemosus* root

1. SAIREYAKA ROOT

- Synonyms - *Sahchar*, *Kurantak*, *piyabansa*, *katsaraiyya*
- Macroscopic - Well developed, has lateral branches and many rootlets, cylindrical and tapering, and up to 1 cm thick at the top; surface rough due to many lenticels that resemble dots and root scars left by roots that have fallen; greyish brown exterior with thin bark with the smooth internal surface; cream-colored wood; stiff, layered fracture; odor and taste not characteristic¹⁶.
- Pharmacological activities - Antidiabetic activity, Anti-inflammatory activity, Antioxidant activity, Diuretic activity¹⁷.



Fig. 4(a) *Barleria prionitis* plant



Fig. 4(b) *Barleria prionitis* root

REVIEW ARTICLE

HIMSRA ROOT

- Synonyms - *Gridhnakhi, Duhpragharshaa, Kanthari, Kaakdaani.*
- Macroscopic - Root pieces are up to 5.5 cm thick; the bark is rough to tough, thick, and shows longitudinal lenticels; the freshly shattered surface is light yellowish; the wood is firm and compact; and the remnants of strong and thin rootlets are visible on the surface; color varies from pale yellow to reddish brown; no particular odor or taste¹⁸.
- Pharmacological activities - Anti-inflammatory, Diuretic, Anthelmintic activity¹⁹.



Fig. 5(a) *Capparis spinosa* plant



Fig. 5(b) *Capparis spinosa* root

List of all the pharmacological actions with evidences of all the drugs of *Kantaka Panchamoola* are mentioned in Table no 3.

Table 3 Evidence based pharmacological action

SR. NO.	NAME OF PLANTS	PHARMACOLOGICAL ACTION	EVIDENCE
1.	<i>Carissa carandas</i> Linn.	Anti-inflammatory activity	Merai AH, Jadhav AG. Antiulcer activity of <i>Carissa carandas</i> using root extract in albino rats. <i>World J Pharm Pharm Sci.</i> 2014;3:1314-26.
		Hepatotoxicity	Sumbul S, Ahmed SI. Anti-hyperlipidemic activity of <i>Carissa carandas</i> (Auct.) leaves extract in egg yolk induced hyperlipidemic rats. <i>J Basic Appl Sci.</i> 2012;8(1):124-34. doi: 10.6000/1927-5129.2012.08.01.07.
		Antioxidant activity	Khatun M, Habib MR, Rabbi MA, Amin R, Islam MF, Nurujjaman M et al. Antioxidant, cytotoxic and antineoplastic effects of <i>Carissa carandas</i> Linn. leaves. <i>Exp Toxicol Pathol.</i> 2017;69(7):469-76. doi: 10.1016/j.etp.2017.03.008, PMID 28478952.
		Antidiarrhoeal activity	Mishra CK, Sasmal D. In-vivo evaluation of antidiarrhoeal activity of ethanolic fruit and root extracts of <i>Carissa carandas</i> . Linn. (Apocynaceae). <i>Int J Drug Dev Res.</i> 2015;7:216-21.
		Antibacterial	Ck Mishra et al. Antifungal and antibacterial activity of <i>Carissa carandas</i> Linn. <i>Int J Plant Sci.</i> 2009;4:564-8.
		Antidiabetic, anti-inflammatory and antipyretic	Anupama N, Madhumitha G, Rajesh KS. Role of dried fruits of <i>Carissa carandas</i> as anti-inflammatory agents and the analysis of phytochemical constituents by GC-MS. <i>BioMed Res Int.</i> 2014;2014:512369. doi: 10.1155/2014/512369, PMID 24877106.
2.	<i>Tribulus terrestris</i> Linn.	Aphrodisiac activity	Singh S, Nair V, Gupta YK. Evaluation of the aphrodisiac activity of <i>Tribulus terrestris</i> Linn. in sexually sluggish male albino rats. <i>J Pharmacol Pharmacother.</i> 2012;3(1):43-7. doi: 10.4103/0976-500X.92512, PMID 22368416.

REVIEW ARTICLE

	Antibacterial activity	Al-Bayati FA, Al-Mola HF. Antibacterial and antifungal activities of different parts of <i>Tribulus terrestris</i> L. growing in Iraq. <i>J Zhejiang Univ Sci B</i> . 2008;9(2):154-9. doi: 10.1631/jzus.B0720251, PMID 18257138.
	Anticancer activity	Kim HJ, Kim JC, Min JS, Kim MJ, Kim JA, Kor MH, et al. Aqueous extract of <i>Tribulus terrestris</i> Linn induces cell growth arrest and apoptosis by down-regulating NF- κ B signaling in liver cancer cells. <i>J Ethnopharmacol</i> . 2011;136(1):197-203. doi: 10.1016/j.jep.2011.04.060, PMID 21549825.
	Central nervous system (CNS) activity	Deole YS, Chavan SS, Ashok BK, Ravishankar B, Thakar AB, Chandola HM. Evaluation of antidepressant and anxiolytic activity of Rasayana Ghana tablet (a Compound Ayurvedic formulation) in albino mice. <i>Ayu</i> . 2011;32(3):375-9. doi: 10.4103/0974-8520.93918, PMID 22529654.
3.	<i>Barleria prionitis</i> Linn.	Antifertility
		Verma PK, Sharma A, Joshi SC, Gupta RS, Dixit VP. Effect of isolated fractions of <i>Barleria prionitis</i> root methanolic extract on reproductive function of male rats: preliminary study [preliminary study]. <i>Fitoterapia</i> . 2005;76(5):428-32. 55. doi: 10.1016/j.fitote.2005.03.007, PMID 15964711. D'Cruz SC, Vaithinathan S, Jubendradass R, Mathur PP. Effects of plants and plant products on the testis. <i>Asian J Androl</i> . 2010;12(4):468-79. doi: 10.1038/aja.2010.43, PMID 20562897. Gupta RS, Kumar P, Dixit VP, Dobhal MP. Antifertility studies of the root extract of the <i>Barleria prionitis</i> Linn in male albino rats with special reference to testicular cell population dynamics. <i>J Ethnopharmacol</i> . 2000;70(2):111-7. doi: 10.1016/S0378-8741(99)00150-6, PMID 10771200.
		Anticancer
		Premjet D, Premjet S, Arthur R, Lelono A, Tachibana S. Callus induction and determination of iridoid glycosides from <i>Barleria prionitis</i> Linn leaf explants 1. <i>Australian Journal of Basic and Applied Sciences</i> . 2010;4(9):4461-7.
		Antidiabetic
		Geetha M, Wahi A. Antidiabetic activity of <i>Barleria prionitis</i> Linn. <i>Journal of Natural Remedies</i> . 2001;1(1):64-6.
		Anti inflammatory
		Khadse C, Kakde R. Anti-inflammatory activity of aqueous extract fractions of <i>Barleria prionitis</i> L. roots. <i>Asian J Plant Sci Res</i> . 2011;1(2):63-8.
4.	<i>Asparagus racemosus</i> Willd.	Galactagogue
		Sharma S, Ramji S, Kumari S, Bapna JS. Randomized controlled trial of <i>Asparagus racemosus</i> (Shatavari) as a lactagogue in lactational inadequacy. <i>Indian Pediatr</i> . 1996;33(8):675-7. PMID 8979551.
		Anticarcinogenic
		Agrawal A, Ghosh NN, Tiwari M, Chandra R. New Delhi, India: chemistry biology interface, synergistic new frontiers; 2004. Identification and characterization of the active principles of <i>A. racemosus</i> and an evaluation of their anticarcinogenic activity in an animal model.
		Antioxidant
		Wiboonpun N, Phuwapraisirisan P, Tip-pyang S. Identification of antioxidant compound from <i>Asparagus racemosus</i> . <i>Phytother Res</i> . 2004;18(9):771-3. doi: 10.1002/ptr.1526, PMID 15478181.
		Gastroduodenal ulcer protecting activity
		Sairam K, Priyambada S, Aryya NC, Goel RK. Gastroduodenal ulcer protective activity of <i>Asparagus racemosus</i> : an experimental, biochemical and histological study. <i>J Ethnopharmacol</i> . 2003;86(1):1-10. doi: 10.1016/S0378-8741(02)00342-2.
		Immunostimulant Antihepatotoxic
		Muruganandan S, Garg H, Lal J, Suresh C, Dinesh K. Studies on the immunostimulant and antihepatotoxic activities of

REVIEW ARTICLE

			Asparagus racemosus root extract. J Med Aromat Plant Sci. 2001;22:49-52.
	Antitussive		Mandal SC, Kumar C K A, Mohana Lakshmi S, Sinha S, Murugesan T, Saha BP, et al. Antitussive effect of Asparagus racemosus root against sulfur dioxide-induced cough in mice. Fitoterapia. 2000;71(6):686-9. doi: 10.1016/s0367-326x(00)00151-9, PMID 11077176.
	Antidiarrhoeal Antiulcerogenic		Nwafor PA, Okwuasaba FK, Binda LG. Antidiarrhoeal and antiulcerogenic effects of methanolic extract of Asparagus pubescens root in rats. J Ethnopharmacol. 2000;72(3):421-7. doi: 10.1016/S0378-8741(00)00261-0.
	Diabetic retinopathy		Sharma S, Shrikant Sahu M. Effect of shatavari on diabetic retinopathy. In: Proceedings of the international congress on Ayurveda-2000. Proceedings of the international congress on Ayurveda-2000. Chennai, India; 2000. p. 85-6.
	Antimicrobial		Mandal SC, Nandy A, Pal M, Saha BP. Evaluation of antimicrobial activity of Asparagus racemosus Willd.: root. Phytother Res. 2000;14(2):118-9. doi: 10.1002/(sici)1099-1573(200003)14:2<118::aid-pt493>3.0.co;2-p, PMID 10685109.
	Immunomodulatory		Gautam M, Saha S, Bani S, Kaul A, Mishra S, Patil D, et al. Immunomodulatory activity of Asparagus racemosus on systemic Th1/Th2 immunity: implications for immunoadjuvant potential. J Ethnopharmacol. 2009;121(2):241-7. doi: 10.1016/j.jep.2008.10.028, PMID 19038322.
	Enhances memory and protect against amnesia		Ojha R, Sahu AN, Muruganandam AV, Singh GK, Krishnamurthy S. Asparagus racemosus enhances memory and protects against amnesia in rodent models. Brain Cogn. 2010;74(1):1-9. doi: 10.1016/j.bandc.2010.05.009, PMID 20594636.
5.	<i>Capparis spinosa</i> Linn.⁽³⁰⁾	Antimicrobial	Mahboubi M, Mahboubi A. Antimicrobial activity of Capparis spinosa as its usages in traditional medicine. Herba Pol. 2014;60(1):39-48. doi: 10.2478/hepo-2014-0004.
		Antiinflammatory	Maresca M, Micheli L, Di Cesare Mannelli L, Tenci B, Innocenti M, Khatib M et al. Acute effect of Capparis spinosa root extracts on rat articular pain. J Ethnopharmacol. 2016;193:456-65. doi: 10.1016/j.jep.2016.09.032, PMID 27647009.
		Antibacterial	Boga C, Forlani L, Calienni R, Hindley T, Hochkoeppler A, Tozzi S et al. On the antibacterial activity of roots of Capparis spinosa L. Nat Prod Res. 2011;25(4):417-21. doi: 10.1080/14786419.2010.487189, PMID 21328135.
		Antioxidant	Al-Snafi A. The chemical constituents and pharmacological effects of capparis spinosa -an overview. Indian J Pharm Sci Res. 2015;5:93-100.
		Anticancer Activity	Yu L, Xie L, Ji Y. Preliminary study on apoptotic effect induced by N-butanol extract in Capparis spinosa L. on SGC-7901. In: 4th International Conference on Bioinformatics and Biomedical Engineering. Vol. 2010. IEEE Publications; 2010. p. 1-4. doi: 10.1109/ICBBE.2010.5516478.

List of chemical constituents present in roots of single drugs of *Kantaka Panchamoola* are mentioned in Table no 4.

Table 4 Chemical constituents present in roots of single drugs of *kantaka panchamoola*

SR. NO.	NAME OF PLANT	CHEMICAL CONSTITUENTS IN ROOT
1.	<i>Carissa carandas</i> Linn.	Lupeol, 16b-Hydroxybetulinic acid, Lupa-12,20(29)-dien-3b,28-diol, Ursolic acid,

REVIEW ARTICLE

(19-26)			Urs-12-ene-3b,22b-diol, Me ursolate, α -Amyrin, Oleanolic acid, Carindone, (+)-Carissone, 1,2,4-Butanetriol, 2,3-bis[[4-dimethoxyphenyl)methyl]-,1,4-diacetate, Carinol, 4,40-Dimethylcarinol, 1,2,4-Butanetriol, 2,3-bis[[4-(acetyloxy)-3-methoxyphenyl] methyl]-,1,4-diacetate, β -Sitosterol Root, Sitosterol glucoside, Cholest-5-en-3b-ol, Scopoletin, 4-Amino-1-(4-amino-2-oxo-1(2H)-pyrimidinyl)-1,4-dideoxy-b-d-glucopyranuronic acid
2.	Tribulus terrestris Linn. ⁽²⁷⁾		Saponin (diosgenin, tigogenin, neotigogenin, gitogenin, neogitogenin, Tribulosin; β -sitosterol-D-glucoside), Flavonoids (Flavonols; kaempferol; quercetin; isorhamnetin; 3-gentiobiosides, Quercetin flavonoids), Sterols (sitosterol, stigmasterol, and campesterol)
3.	Barleria prionitis Linn. ⁽²⁸⁾		Terpenoid (Pipataline, Lupeol), Phytosterols (13,14-seco-stigmasta-5,14-diene-3- β -ol, β -sitosterol), balarenone, pipataline, lupeol, prioniside A, prioniside B, prioniside C, luteolin-7-O- β -D-glucoside, β -sitosterol, scutellarein 7-neohesperidoside, apigenin 7-O-glucoside, 13, 14-seco-stigmasta-5, 14-diene-3-a-ol
4.	Asparagus racemosus Willd. ⁽²⁹⁾		Rutin, asparagan, Asparagamine A, 9,10- dihydro 1, 5 methoxy- Quercetin3 glucouronides, 8-methyl-2, 7- phenenthrenediol, Racemofuron, ncoumertans, Shatavarin V. Shatavarin I-(steroid glycosides), Immunoside, Sitosterol, Shatavari, Secoisolariciresinol, diosgenin, Racemosol, 4 trihydro isoflavine, Sterols, alkaloids, tannins, carbohydrates, flavonoids, isoflavones, cumestans, and prenylated compounds are all components of 7-0 beta-D-glucopyranoside. Lactones, rutin and amino acids 4,6-Dihydroxy-2-(hydroxyl isobutyl)benzaldehyde Undecanyl Cellanoate
5.	Capparis spinosa Linn. ⁽³⁰⁾		Glucosinolates containing methyl, isopropyl, and set-butyl isothiocyanates, spermidine alkaloids (i.e., capparispine, cadabicine 26-O- β -d-glucoside and capparispine 26-O- β -d-glucoside), Stachydrine [32] and 3-hydroxy-7-methoxy-2-methyl-4H-1,4-benzoxazine-4-carbaldehyde

List of all the ethnomedicinal uses of roots of all single drugs of *Kantaka Panchamoola* are mentioned in Table no 5.

Table 5 Ethnomedicinal uses of roots of all single drugs of *kantaka panchamoola*

SR. NO.	PLANT NAME	PART USED	INGREDIENTS ADDED	USE
1.	Carissa Carandas Linn. ^(31, 32)	Root	Pulverized with lime juice, camphor, and horse urine	Used in curing itching
			Root plaster	By using it, Konkan folklorists may repel flies
			----	Used to treat stomach conditions such gas and acidity, intestinal worm infestation, diabetic ulcer, and scabies; also used as a stomachic, anthelmintic, and antiscorbutic biliousness; serves as an insect repellent; relieves pruritus; pyrexia; urinary problems; chronic ulcer; and biliousness
2.	Tribulus terrestris Linn. ⁽³³⁾	Root	----	Tonic and aperient (French)
			Boiled with rice	Urinary Troubles
			Paste mixed with water	tonic and cooling medicine (Omara)
			----	Gonorrhoea (Las Bela)
			----	Rheumatism (South Africa)
----	On wounds (Andhra Pradesh)			
3.	Barleria prionitis Linn. ⁽²⁸⁾	Root	Paste	Externally applied to disperse boils and glandular swellings
			----	Diuretic and tonic, used in urinary infection, jaundice, hepatic obstruction and dropsy
			----	Stiffness of limbs, enlargement of scrotum and sciatica

REVIEW ARTICLE

			Ash with honey	Bronchial asthma
			Crude extract	Greying of hair, arthritis and gout
			----	Neurological disorders like paraplegia, sciatica, also in leprosy and other skin diseases (South India)
4.	<i>Asparagus racemosus</i> Willd. ⁽²⁹⁾	Root	Administered as tuber infusion	To the ladies after parturition
			----	To kids for a fit life and during the seizure,
			Dry tubers grounded with milk	To kids for a fit life
			Tuber extract, along with ginger	As expectorant
			----	For tonsils
			Root decoction	To cure intestinal worm infections
5.	<i>Capparis spinosa</i> Linn. ^(34,35)	Root	Decoction	To Cure dropsy, anemia, and rheumatism
			----	Diuretic and a general body tonic.
			----	Cosmetic purpose to treat rose-colored rashes on the skin
			Paste	Treat swollen joints, skin rashes, and dry skin
			Herbal tea	For the treatment of rheumatism and stomach and intestinal complaints

DISCUSSION

According to Acharya Sushruta, five medicinal plants are under *Kantaka Panchmoola*. These five plants bear thorns (*Kantaka*), known as *Kantaka Panchmoola*. *Moola* (Root) of these *Dravya* is used in medicinal preparations. Most of the *Dravya* of *Kantaka Panchmoola* possess *Madhura Rasa* except *Karmarda*, which keeps *Amla Rasa*, and *Himsra*, which has *Tikta Rasa*. Thus, *Rasa* of *Kantak Panchmoola* is collectively decided as *Amla*, *Madhura*, *Tikta*, and *Katu*. Some *Dravya* of *Kantak Panchmoola* possess *Ushna Virya*, and some have *Sheeta Virya*. According to *Rasapanchaka*, the pharmacological actions of *Kantak Panchmoola* are *Shothahar*, *Raktapitta Nashak*, *Shukra Vardhaka*, *Vrishya*, and *Rasayana*. Acharya *Susruta* describes these actions above. Also, Acharya *Sushruta* described *Kantaka Panchamoola* as *Shukradoshanashak*. It means *Kantaka Panchamoola* will cure all the *shukra*

dhatu dosha or improve all the semen parameters. Additionally, it is clarified that *Kantaka Panchmoola* fixes all types of *Shotha* and *Prameha*. Pharmacological activities exhibited by *Kantaka Panchmoola* are Anti-inflammatory, Anti-oxidant, Apoptogenic activity, Aphrodisiac Antidiabetic, etc.

REVIEW ARTICLE

REFERENCES

1. Agnivesh, Charak Samhita part II, Chikitsa sthana, Rasayana 1-3/30-31, edited by Shatri SN, Chaukhambha Bharti Academy, Varanasi.
2. Ambikadatta Sastri, Susruta samhita, Uttartantra, Medhaayushkamiya Adhayay – 28th chapter, Chaukhambha Sanskrit Sansthan, Varnasi, Edition 2010.
3. Sharma P. V., Dravya guna Vugyana, Chaukhambha Bharati Academy, Varanasi, reprint 2013.
4. Bhav mishra, Bhavprakash Nighatu, Amradi Phala Varga, Edited by Chunekar KC, Chaukambha Bharati Academy, Varanasi, Reprint 2010.
5. Bhav mishra, Bhavprakash Nighatu, Guduchyadi Varga, Edited by Chunekar KC, Chaukambha Bharati Academy, Varanasi, Reprint 2010.
6. Bhav mishra, Bhavprakash Nighatu, Pushpa Varga, Edited by Chunekar KC, Chaukambha Bharati Academy, Varanasi, Reprint 2010.
7. Bhav mishra, Bhavprakash Nighantu, Guduchyadi Varga, Edited by Chunekar KC, Chaukambha Bharati Academy, Varanasi, Reprint 2010.
8. Ayurvedic Pharmacopeia of India, Part I, Volume III, Government of India.
9. Neha Soni. Kantaka Panchamoola : A Brief Review . J Ayurveda Integr Med Sci 2021;4:133-136.
10. Muhammad Arif et al, An exotic minor plant fruit with immense value in nutraceutical and pharmaceutical industries.
11. Ayurvedic Pharmacopeia of India, Part I, Volume I, Government of India.
12. Saurabh chhatre et al. Phytopharmacological overview of Tribulus terrestris : A review article, .
13. Ayurvedic Pharmacopeia of India, Part I, Volume IV, Government of India.
14. Ramit Singh and Vikas Jaitak, Shatavari : Aa review on its cultivation, morphology, phytochemistry and pharmacological importance, International journal of pharmaceutical science and research.
15. Ayurvedic Pharmacopeia of India, Part I, Volume III, Government of India.
16. Sattya narayana thakur et al. A review on barleria prionitis: its Pharmacognosy, Phytochemicals and Traditional use, journal of advance in medical and pharmaceutical science.
17. Ayurvedic Pharmacopeia of India, Part I, Volume V, Government of India.
18. <https://entranceindia.com/medicinal-plants-herbs-flowers/himsra-root-in-ayurveda-botanical-name-capparis-spinosa-linn/>
19. Galipalli S et al. Activity-guided investigation of Carissacarandas (L.) roots for anti-inflammatory constituents. Nat Prod Res 2015; 29: 1670– 1672.
20. Hegde K, Joshi AB. Phytochemical investigation of root extract of the plant Carissa carandas Linn. Res J Pharm Technol 2010; 3: 217– 220.

REVIEW ARTICLE

21. Singh A, Uppal GK. Review on *Carissa carandas* phytochemistry, ethnopharmacology, and micropropagation as conservation strategy. *Asian J Pharm Clin Res* 2015; 8: 26– 30.
22. Hegde K et al. Isolation and characterization of chemical constituents from the roots of *Carissa carandas*. *Asian J Chem* 2009; 21: 5399– 5402.
23. Naim Z et al. Isolation of a new isomer of ursolic acid from fruits and leaves of *Carissa carandas*. *Pak J Sci Indus Res* 1988; 31: 753– 755.
24. Kaunda JS, Zhang Y-J. The genus *Carissa*: an ethnopharmacological, phytochemical and pharmacological review. *Nat Products Bioprospect* 2017; 7: 181– 199.
25. Patil RP et al. Chemical characterization, mineral analysis, and antioxidant potential of two underutilized berries (*Carissa carandus* and *Eleagnus conferta*) from the Western Ghats of India. *Crit Rev Food Sci Nutr* 2012; 52: 312– 320.
26. Pal R et al. A new lignan from *Carissa carandas*. *Phytochemistry* 1975; 14: 2302– 2303.
27. Semerdjieva IB, Zheljazkov VD. Chemical Constituents, Biological Properties, and Uses of *Tribulus terrestris*: A Review. *Natural Product Communications*. 2019;14(8)
28. D. Banerjee, A.K. Maji, S. Mahapatra and P. Banerji, 2012. *Barleria prionitis* Linn.: A Review of its Traditional Uses, Phytochemistry, Pharmacology and Toxicity. *Research Journal of Phytochemistry*, 6: 31-41.
29. Lalita Dahiya, Rajesh Sharma and Sakshi Sharma (2022); A BROAD REVIEW ON SHATAVARI (*ASPARAGUS RACEMOSUS*) : QUEEN OF ALL HERBS *Int. J. of Adv. Res.* 10 (Jun). 247-254] (ISSN 2320-5407).
30. Zhang H, Ma ZF. Phytochemical and Pharmacological Properties of *Capparis spinosa* as a Medicinal Plant. *Nutrients*. 2018 Jan 24;10(2):116. doi: 10.3390/nu10020116. PMID: 29364841; PMCID: PMC5852692.
31. Khare CP. *Indian medicinal plants*. New York, NY: Springer, 2007.
32. Kumar S et al. A critical review on *Karamarda* (.Linn.). *Int J Pharm Biol* 2013; 4: 637– 642.
33. Ritu Gupta. Ethnobotanical studies on medicinal plant: *Gokhru* (*Tribulus terrestris*). *IJHM* 2017; 5(6): 73-74
34. Sher, Hassan & Alyemeni, Mohammed. (2010). Ethnobotanical and pharmaceutical evaluation of *Capparis spinosa* L, validity of local folk and Unani system of medicine. *Journal of Medicinal Plants Research*. 4.
35. Hassan Sher* and Mohammad N. Alyemeni. Ethnobotanical and pharmaceutical evaluation of *Capparis spinosa* L, validity of local folk and Unani system of medicine. *Journal of Medicinal Plants Research* Vol. 4(17), pp. 1751-1756,