



An Original Study on Indian Medicinal Plant Chakramarda (Cassia Torra Lin.) According to Ayurvedic and Modern View

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ABSTRACT

In *Ayurveda Samhita*, *Chakramarda* is said to be very useful in many diseases like *Kushta*, *krumi*, *Dadru* etc. *Chakramarda* have been used as a remedy for various skin ailments, rheumatic disease and as laxatives. The leaves are used as a laxative in the form of decoction also used for the treating piles and used as a vegetable in rainy season. A *Chakramarda leaf* has been found to possess significant hepatoprotective activity and anti-inflammatory activity. Due to presence of proteins, a small amount of fat, many minerals and natural fibers, it is regarded as a poor man's food. The seeds of *chakramarda* have been used in Chinese medicine as aperients, antiasthma, diuretic agent and also improve the visual activity. In Japanese pharmacopoea, *chakramarda* seeds are used as tonic and stomachic used for ringworm and other skin disease.

Keywords: - *Chakramarda*, Traditional & Ethano-medicinal uses, Pharmacological activities.

INTRODUCTION:

The Drug has a specific role in treatment because, to achieve the objectives of *Chikitsa* among *Trisutra Ayurveda*. *Aushadha* is considered as one of the four-fold constituents of *Chikitsa Chatushpada* and it has been placed next to the physician. The drug is which a physician employs as an instrument in restoring the equilibrium of the body tissues. *Acharya Charaka* has mentioned the following characteristics of *Aushadha* (Drug) Abundance, effectivity, various pharmaceutical forms and normal composition-these are the four qualities of drugs.

बहुता तत्र योग्यत्वमनेकविधकल्पना ।

सम्पच्चेति चतुष्कोऽयं द्रव्याणां गुण उच्यते॥ (Ch.su.9/7)

The W.H.O. definition regarding the drug says that Any substance or product that is used or intended to be used to modify or explore the physiological system or pathological status for the benefit of the recipient.

Vedas, *Samhitas*, *Nighantus* and *Sangraha Granthas* are the source of information of the drugs obtained from natural origin in *Ayurveda* ¹. *Chakramarda* has been used from time immemorial. The botanical source of the plant is *Cassia tora Linn.* of the Fabaceae family i.e, *Shimbi kula*. *Chakramarda* is well known medicinal plant commonly found in India and other tropical countries. Various medicinal properties have been attributed to this plant in traditional system of Indian medicine. *Chakramarda* plant is easily available in all regions of India especially in rainy seasons. It is found as in roadsides wastelands. It has *katu rasa*, with *katu vipak*, and *ushna virya*. This plant is being *laghu*, *ruksha* in *guna* and *doshghanta* is *kaphavatshamak* ².

In *Ayurveda Samhita*, *Chakramarda* is said to be very useful in many diseases like *Kushta*, *krumi*, *Dadru* etc. *Chakramarda* have been used as a remedy for various skin ailments, rheumatic disease and as laxatives. The leaves are used as a laxative in the form of decoction also used for the treating piles ³ and used as a vegetable in rainy season. A *Chakramarda leaf* has been found to possess significant hepatoprotective activity and anti-inflammatory activity. Due to presence of proteins, a small amount of fat, many minerals and natural fibers, it is regarded as a poor man's food ⁴. The seeds of *chakramarda* have been used in Chinese medicine as aperients, antiasthma, diuretic agent and also improve the visual activity ⁵. In Japanese pharmacopoea, *chakramarda* seeds are used as tonic and stomachic used for ringworm and other skin disease ⁶.

NIRUKTI OF CHAKRAMARD

निरुक्ति-

चक्रमर्दः- चक्रं द्रुदरोगं मृद्धानि इति ।

Cures ringworm infestation.

SYNONYMS:

Historically, medicinal plants were described using synonyms based on their physical characteristics, properties, actions, habitat, therapeutic uses, and unique natural characteristics. So, the Knowledge of drug synonyms is very important in *Dravya Guna Vigyana*.

Chakramarda is described in various *Dravyaguna* texts using synonyms. The compiled synonyms are presented in a tabular form. Synonyms attributed to *chakramarda* by different classical texts of *Ayurveda*.

Table - Pharmacognostical characters & Synonyms based on pharmacological actions

Pharmacognostical characters	
<i>Meshlochan</i>	Leaf resembles of eyes of <i>mesha</i>
<i>Uranakhya</i>	The seeds are similar to sambar's eye
<i>Dadrubeej</i>	Seeds are very hard in nature
Synonyms based on pharmacological actions	
<i>Edgaj</i>	Ringworm
<i>Dadrughna</i>	Cures <i>dadru</i>
<i>Chakri</i>	Destroyed Ringworm
<i>Kharjughna</i>	Cures <i>kandu</i> and <i>Dadru kushta</i>
<i>Kushtaghna</i>	Used in treatment of <i>kushta</i>
<i>Pamagati</i>	Used in treatment of <i>pama</i>
<i>Chakramarda</i>	Cures ringworm infestation

ETYMOLOGY OF SYNONYMS OF CHAKRAMARDA:

The term Latin word *Cassia* probably denoting the wild Cinnamon and named to the similar plants. The specific epithet *tora* derives from its *Sinhalese* name *tora*.

Table - Etymology of Synonyms of Chakramarda

<i>Chakramarda</i> <i>Kushthaha</i> <i>Kharjughna</i> <i>Pamaghati</i> <i>Dadrughna</i>	Useful in treatment of skin diseases particularly ringworm and itching
<i>Mesahvaya</i> <i>Edagaja</i>	Herb known by word <i>mesa</i>
<i>Mesalocana</i> <i>Mesaksikusuma</i>	Its Leaves and Flowers resembles Sheep's Eye
<i>Chakri</i>	It grows gregariously
<i>Padmata</i>	Blossoms at sunrise
<i>Vyavartaka</i>	Leaves contract at sunset
<i>Drdha Bija</i>	Seeds are hard
<i>Prapunmata</i>	It has adverse effect on Virility

INTERPRETATION OF SOME SYNOYMS:**1. Synonyms indicating the habitat of the plants**

Chakri: - चक्रे समूहे जायमानः ।

Chakramarda grows gregariously

2. Indicating similarities of morphological characters (*Swarupa Bodhaka*)

Edgaj: - एडो मेषः स एव गजः यस्य भंजकत्वाद् इति ।

The Edo ram is the same as the elephant because it is a breaker.

Meshlochan: - मेषस्य नेत्रमिव पत्रमस्य ।

The leaves of *Chakramarda* are resembling with eyes of sheep.

Dardhbej: - दृढानि बीजान्यस्य ।

Seeds of *Chakramarda* are hard.

Properties and Actions

1. Indicating pharmacological action and therapeutic usage (*Guna- Karma*)

Prapunyata: - प्रकर्षेण पुरुषं नाटयति इति । 'नट् अवस्यन्दने ।'

It is that he plays the man by his appearance. 'Nat in the fall.

Pamagati: -पामां हन्तीति ।

Chakramarda is useful in *Pāmā Kuṣṭha*

Dadrughna: - दद्रं हन्ति इति । 'हन् हिंसायाम् ।'

It kills the *dadra*. 'Han in Hisa.

Chakramarda: - चक्रं द्रुदरोगं मृद्धान्ति इति ।

The wheel is said to soften the disease of the dry.

LITERARY REVIEW

The drug *Chakramarda* is the most commonly available plant which has great therapeutic potential in various application of diseases. Detailed description of the drug review mentioned from *Samhita to Adhunikā Kala*. Mainly it is most popularly known to have good efficacy to treat *Kuṣṭha* and many diseases with internal and external administration in the form of *Churna*, *Taila*, *Lepa*, *Vati* etc.

HISTORICAL REVIEW: -

VEDIC PERIOD

It has got great historical importance and also *Vedic* References in *Padma Purana*, *Skandha Purana*, highlighting about the usage of the twigs of *Cakramarda* while taking *snana* in the context of *Narakacaturdasi* (Dipavali Festival). (P.P.9/122/4-20), (Sk.Pu.V.Kh.K.m 4/9/33-35). In the list of Ayurvedic Drugs of *Garuda Purana* (G.P.27) the synonyms of *Chakramarda* like "Edagaja" term was found whereas in *Agni Purana*. it is described under "Bhumivanausadhi Varga" with the synonyms like *Edagaja* and *Dadrughna* which is known to be *aushadha* from the time immemorial. (A.P.363/64).

SAMHITA PERIOD:

CHARAKA SAMHITA:

The drug is quoted with various synonyms like *Edagaja*, *Vimardaka*, *Prapunyata* which was extensively described in *Kuṣṭha Chikitsa*. It is one of the principal ingredients in various formulations like *Rasanjanadi Lepa*, Various *Churna pradaha*, *Manahsiladi lepa*, *Kanakaksira tailam*, most of them are topical applications. Due to its great dietic value of the plant, it was mentioned under *Saka Varga* and *Sami Dhanya Varga* and had been used in various dietic preparations that are known to possess *Kapha-Vatahara Karma*, *Guru*, *Hridya*, *Vrishya* and *Balya* properties. (C.S. Su 27/101).⁷

SUSHRUTA SAMHITA:

The Drug *Chakramarda* is listed under *Vamana dravyas* (S.S.Su.46/262) and *Urdhvabhagahara dravyas* (S.S. Su 39/3) in *Samshodhana- Samshamaniya Adhyaya*.⁸ *Prapunyata* was noticed in *Tikta Rasa Saka Varga* which are indicated in *Svasa*, *Kasa*, *Kuṣṭha*, *Meha*, *Raktapitta*, *Arucci* and has *Hridya Karma*. *Vajraka Taila*, *Maha Vajraka Taila*, *Mantha kalpana* are useful in treating *Kuṣṭha*, *Vrana*, *Nadivrana*, *Bhagandhara*.

ASTANGA SAMGRAHA AND ASTANGA HRDAYAM:

It was mentioned under *Simbi Dhanya Varga* in *Astanga Samgraham* whereas *Patra Saka Varga* in *Astanga Hridayam*. (A.S.Su.7/129. A.H.Su.6/94).^{9,10} Both of them opined that the drug is attributed to have properties like sweet, dry, cold in potency, slightly salty, aggravates *Vata Kapha dosas*, help in elimination of urine and faeces. It is indicated in *Kushtha, Nadivrana, Vyanga, Nili, Mukha Dushika, Ardhavabhedaka, Darunaka*.

VANGASENA SAMHITA:

In this *Samhita*, *Chakramarda* is discussed as the principal source in certain formulations like: -*Chaturvimsatika Prasarini Tailam, Pancamuladi Taila, Chakramardadi Sindhura Taila, Tṛṇa Taila, Brihatṛṇa Taila- Pana & Nasya, Somaraji taila* which were used in *Vata-Kaphaja* disorders, all types of *Kushtha* and *Vatavyadhi*. *Loharasayana* is also mentioned which has *Rasayana* property. *Eladi gana, Urdhvabhagahara Dravya, Saka Varga* were the groups where the drug was found to be present. (V.S.90/1, V.S.94/13)¹¹

Vernacular names:

Sansk:	<i>Edagaja, Dadrugna</i>
Assam:	Kulb
Beng:	<i>Chavuka, Chakunda, Panevar</i>
Eng:	Ring Worm Plant, Fetid Cassia
Guj:	Kovaraya
Hindi:	Pavand
Kan:	Tagache
Mal:	Tagaraa
Mar:	Tankala
Punj:	<i>Panwal, Chakunda, Chakwad</i>
Tam:	Vshittgarai
Tel:	Tagiris
Urdu:	Panwar

Taxonomical position-

Cassia tora *linn.* has following Taxonomical classification: -

1. Kingdom: - Plantae
2. Sub Division: - Tracheobionta
3. Division: - Spermatophyta
4. Class: - Mangnoliopsida
5. Subclass: - Rosidae
6. Order: - Fabales
7. Family: - Fabaceae/Leguminosae
8. Genus: - Cassia Mill. - senna
9. Species: - *Cassia tora*

HISTORICAL BACKGROUND:

Vedic kala: -

Chakramarda explained in *parakargruhyasutra (Pa. Gru.)* in *Mulvidhi* chapter.

Purana kala: -

In *Garuda Purana*, a separate chapter is available for medicinal plants but no description about *chakramarda* is available

Samhita kala: -

In *Charak Samhita*, *chakramarda* included in *shakavarga*, it is used as a vegetable. In *Sushrut Samhita*, it was included in *urdwabhagahara gana*. In *Ashtanga Hridaya*, the word *chakramarda* is not found, but in many places used its synonyms like *edgaja* and *prapunnada*. It is explained in *shiroroga adhikara* and its *lepa* are advised in *shiroroga*.

Nighantu kala: -

Table -

<i>Nighnatu</i>	<i>Varga</i>
<i>Ashtanga nighnatu</i> ¹²	-
<i>Dhanawantari Nighantu</i> ¹³	<i>Karaviryadi varga</i>
<i>Shodhal Nighantu</i> ¹⁴	<i>Karaviryadi varga</i>
<i>Madanpal nighnatu</i> ¹⁵	
<i>Kaiyadev Nighantu</i> ¹⁶	<i>Aushadhi varga</i>
<i>Bhavaprakash Nighantu</i> ¹⁷	<i>Haritakyadi varga</i>
<i>Raj Nighantu</i> ¹⁸	<i>Shatahvadi varga</i>
<i>Nighnatu Ratnakar</i> ¹⁹	-
<i>Shaligram Nighantu</i> ²⁰	<i>Ashtavarga</i>
<i>Priya Nighantu</i> ²¹	<i>Shatapushpadi varga</i>
<i>Nighnatu Adarsh</i> ²²	<i>Putikaranjadi varga</i>

Table - RASA PANCHAKA OF CHAKRAMARDA (PHALA & BIJA) AS REPORTED IN VARIOUS SAMHITAS AND NIGHANTUS

RASADI PANCHAKA	B.P. Ni	A. K	Ni. R	G. R	Br. A
RASA					
<i>Katu</i>	+	+	+	+	+
GUNA					
<i>Laghu</i>	+	-	-	+	-
<i>Tiksna</i>	-	+	-	-	+
VIRYA					
<i>Usna</i>	+	+	+	+	+
KARMA					
<i>Vata Pittakara</i>	-	+	-	-	-
<i>Pitta-Vatahara</i>	+	-	-	-	-
<i>Kapha-Vatahara</i>	-	+	-	+	-

FORMULATION

Table – formulations in various samhita

S.NO.	Ayurvedic text	Synonyms	Rogadhikara	Dosage form
1.	<i>Charak Samhita</i>	<i>Edagaja</i>	Skin disease, piles, Ringworm ²³	External use
			Skin disease ²⁴	External use
			<i>Mandala kushta, krimi,</i>	<i>Kanaka kshiri tail</i>

			<i>Kandu</i> ²⁵	
			Worms, <i>dadru</i> , <i>shvitra</i> ²⁶	External use
		<i>Prapunnad</i>	Skin disease ²⁷	External use
			<i>Kushta</i> ²⁸	External use
2.	<i>Sushrut Samhita</i>	<i>Prapunnad</i>	<i>Shvitra</i> ²⁹	<i>Lepa</i>
			<i>Mahakushta</i> ³⁰	<i>Kwath</i>
		<i>Chakramarda</i>	<i>Dadru</i> ³¹	<i>Lepa</i>
3.	<i>Bhavprakasha</i>	<i>Chakramarda</i>	<i>Kandu</i> , <i>mandal kushta</i> ³²	<i>Madhyamanjishyadi</i> <i>Kwath</i>
		<i>Prapunnad</i>	<i>Kandu kushta</i> ³³	<i>Mahamarichyadi tail</i>
			<i>Pama</i> , <i>kandu</i> ³⁴	<i>Saindhavadi tail</i>
			<i>Dadru</i> , <i>kushta</i> ³⁵	<i>Durvadi yoga</i>
			<i>Shitapitta</i> ³⁶	<i>Churna</i>
4.	<i>Yog Ratnakar</i>	<i>Chakramarda</i>	<i>Kushta</i> ³⁷	<i>Panchanimba churna</i>
			Severe itching ³⁸	<i>Lepa</i>
			<i>Pama</i> , <i>chamadala</i> , <i>Vicharchika</i> ³⁹	<i>Lepa</i>
			<i>Pama kandu</i> ⁴⁰	<i>Lepa</i>
			<i>Kushta</i> , complexion ⁴¹	<i>Brihatsindura taila</i>
			<i>Pama</i> , <i>chamadala</i> , <i>vicharchika</i> , <i>Kushta</i> ⁴²	<i>Maheshwar ghrut</i>
			<i>Kushta</i> ⁴⁴	<i>Lepa</i>
		<i>Edgaja</i> ⁴³	Spider bite, <i>dadru</i> , <i>kushta</i> , <i>Gajakarna</i> ⁴⁵	<i>Lepa</i>
		<i>Prapunnata</i> ⁴⁶	Sinus, infected wound ⁴⁷	<i>Vajra taila</i>
			<i>Dadru</i> , <i>Pama</i> , <i>Kitibh</i> ⁴⁸	<i>Lepa</i>
			<i>Dadru</i> ⁴⁹	<i>Lepa</i>
5.	<i>Rasaratna</i> <i>Samuchaya</i>	<i>Chakramarda</i> ⁵⁰	<i>Shweta Kushta</i> , <i>Kandu</i> , <i>Krumiroga</i> ⁵¹	<i>Mahamartand Taila</i>
6.	<i>Bharat Bhaishjya</i> <i>Ratnakar</i>	<i>Chakramarda</i> ⁵²	<i>Vatarakta</i> , <i>Kandu</i> , <i>Mandal</i> , all <i>Kushta</i> ⁵³	<i>Mahatrunak Taila</i>
			<i>Vatarakta</i> , <i>Granthivata</i> , <i>Aamvat</i> , <i>Bhagandar</i> , <i>Arsh</i> , all <i>Kushta</i> ⁵⁴	<i>Mahapind Taila</i>
			<i>Kushta</i> ⁵⁵	<i>Trunak Taila</i>
		<i>Prapunnat</i> ⁵⁶	<i>Kandu</i> ⁵⁷	<i>Prapunnatadi Lepa</i>

MORPHOLOGY: -**SPECIES CHARACTERS: -**

Habit: The *Cassia tora* species is a small shrub or erect herb that can grow to be 30–120 cm tall. It is usually annual and often has profuse branching.

Leaves: Obovate, alternate distichous, with cuneate bases, entire margins, and apiculate leaf apices.

Flowers: Yellow, in terminal racemes, and can flower throughout the year.

Fruit: Flat, compressed, brown pods that can contain many oblong, longitudinal seeds and can fruit throughout the year.

Habitat⁵⁸

Cassia tora Linn., also known as *Senna tora*, is a small, annual herb or undershrub that grows wild in tropical regions and is often found as a weed in Southeast Asia and the Southwest Pacific. It's also common in India, where it can be found in low-lying areas along the coast, river banks, fallow fields, and wastelands up to 1400 meters in elevation.

Habit⁵⁹

Cassia tora Linn., also known as *Chakramard* in *Ayurveda*, Panwar in Unani, and Jue Ming Zi in Chinese medicine, is an annual herb that grows in tropical countries and India. It is a small shrub that can grow up to 90 cm tall and has pinnate leaves with leaflets in three pairs. The leaves are obovate, oblong, and can be up to 10 cm long. The plant has pale yellow flowers that grow in pairs in the axils of the leaves and have five petals. The fruit is a flat, compressed pod that is brown when mature and contains many oblong seeds. *Cassia tora* is known for its medicinal value and is used in traditional medicine for a variety of purposes. The different parts of the plant, including the leaves, seeds, and roots, are considered to have medicinal value.

Root⁶⁰ - Adventitious roots that can form prop roots, stilt roots, and climbing roots.

Stem - It has an erect 30-120 cm tall stem and is often profusely branched. The stem has a distinct smell when young.

Leaves - The leaves are usually 3–4.5 centimeters long and grow on an annual, foetid herb or under-shrub that can grow 30–120 centimeters tall. Paripinnate, obovate in shape, and have apiculate leaf apices:

Leaf arrangement: Alternate distichous

Leaf bases: Cuneate

Leaf margins: Entire

Leaflets: Mostly with three opposite pairs

Leaf tips: Rounded

Flowers - Yellow and moderately sized, with one to three flowers appearing on short axillary stems. The flowers have five petals, ovate sepals that can be up to 8 mm long and 4 mm wide, and rounded apices. The flowers grow in pairs in the axils of the leaves, and in India, they tend to flower after the monsoon rains.

Fruit - A flat, compressed, brown pod that contains many oblong, longitudinal seeds. The plant is also known as sickle *Senna* because of the sickle shape of its fruit.

Geographical Distribution: -

It is found as a weed throughout India, ascending up to an altitude of 1550 m in Himalaya, universally distributed in wild state in Himachal Pradesh, Bihar, and Orissa, Bengal, Punjab, Rajasthan, on waste lands and along road side of, Maharashtra, Karnataka and plains of Tamilnadu.

MODERN REVIEW-**1. CLASSICAL USES OF MEDICINAL PLANTS: - (P.V SHARMA)**⁶¹

Author mentioned classical uses of *Chakramarda* bitter and intense. It relieves ulcers, itching, leprosy, pain, dandruff and other evils.

2. DRAVYAGUNA VIJNANA (Dr. J. L. N. Sastry)⁶²

Botanical names, synonyms, classical categorization, controversial studies, different varieties, botanical descriptions, distribution, chemical composition, properties, therapeutic uses, useful parts, important preparations, and research have all been explored. It's been discussed.

3. DRAVYA GUNA VIGYAN (Dr. Mansi Deshapandey)⁶³

This book discusses the Latin name, family, synonyms, morphology, habitat, chemical constitution properties useful parts and doses.

4.DRAVYAGUNA VIGYAN (Prof. P.V. Sharma) ⁶⁴

Latin name, synonyms, family, vernacular name, morphology, habitat, chemical composition, properties, useful parts and doses have been discussed.

5. INDIAN MATERIA MEDICA ⁶⁵

Dr. Nadkarni describes the Sanskrit name, vernacular names, habits, parts used (seed and fruit), and fruit constituents as resin. Components include volatile oil, starch, gum, fatty oil, inorganic matter, and Fruit infusion has stimulant, carminative, and alterative properties. It also has aphrodisiac diuretic vermifuge and emmenagogue properties.

6. MEDICINAL PLANTS CHEMISTRY AND PROPERTIES (M. Daniel) ⁶⁶

Morphology, phytoconstituents, and properties have been discussed.

7. VANOSHADHI CHANDRODAYA ⁶⁷

Acharya Chandraraj Bhandari has mentioned Latin name, family, vernacular name, morphology, properties etc. in this text.

8. MEDICINAL PLANTS ⁶⁸

Dr. S.K. Jain has mentioned Latin name, family, vernacular name, distribution, its properties, other species etc.

9. PHARMACOGNOSY OF INDIGENOUS DRUGS – (Vol. II)⁶⁹

Botanical origin, Sanskrit synonyms, regional names, botanical description, distribution, macroscopical characters, microscopical characters etc. have been described.

10. THE TREATISE ON INDIAN MEDICINAL PLANTS – (Volume 5) ⁷⁰

Vernacular name, occurrence and distribution, description, useful parts, therapeutic uses and chemical constituents.

11. AYURVEDIC FLORA MEDICA (N.S. MOSS) ⁷¹

Latin name, synonyms, distribution, morphology, useful parts, therapeutic uses have been discussed.

12. FRUITS AND VEGETABLES IN ANCIENT INDIA (Prof. P. V. Sharma)-⁷²

Leaf and seeds are used.

13. THE MATERIA MEDICA OF THE HINDUS (U C DUTT) –⁷³

Preparations and therapeutic uses of *chakramarda* have been described.

14. GAVON ME AUSHADH RATNA – (Pratham bhag) ⁷⁴

Here author krishna gopal gives description of *chakramarda* and their types. Author also explains Its therapeutic uses.

15. THE USEFUL PLANTS OF INDIA –⁷⁵

English name, synonyms, morphology, and medicinal uses have been discussed.

16. FLORA SIMLENSIS ⁷⁶

Here author gives description about family characters and description of genus of *Cassia* Mill. – *senna*

17.INDIAN MEDICINAL PLANTS, ALL ILLUSTRATED DICTIONARY (C.P. KHARE) ⁷⁷

This book describes the family, habitat, English, Ayurvedic, Unani, and Siddha names of *Cassia torra*, as well as their synonyms. Fruit has been used for various therapeutic purposes, including respiratory disorders, sedatives, cholagogues, emmenagogues, digestive aids, carminatives, general tonics, and haematinics. It can be applied locally to alleviate muscular pains and inflammations. The chemical constituents and major alkaloid actions are also discussed.

18. AYURVEDIC PHARMACOPOEIA OF INDIA PART1, VOL.4-⁷⁸

This section covers plant description, habitat, synonyms, fruit and powder descriptions, TLC, properties action, formulations, therepeutic uses, and dosage.

19. INDIAN MEDICINAL PLANTS, FORGOTTEN HEALERS (Dr. Prakesh Paranjpe) ⁷⁹

Here habitat, habit, chemical constituent, *Ayurvedic* properties, medicinal uses and *Ayurvedic* preparations of *cassia tora* are mentioned.

20. FLORA OF ORISSA VOL. 3 (H.O. SEXENA & M BRAHMAM) ⁸⁰

Habit, habitat, description of stem, leaves, flowers, and fruit of *Cassia tora* Linn, and distribution of plant are also discussed there.

21. UNANI DRAVYAGUNA VIGYAN (Vaidya Daljit Singh) –⁸¹

Vernacular names, distribution, Chemical composition, uses, useful parts, doses and substitute have been discussed.

22. INDIAN MEDICINAL PLANTS (K. R. Kirtikar, B.D. Basu) –⁸²

Vernacular name, Distribution, properties have been discussed.

23. PHARMACOGNOSY OF AYURVEDIC DRUGS, KERALA (Prof. arayana Aiyer & M. Kolamnal)⁸³

This book discusses the distribution, habitat, habit, and general characteristics of the plant.

The article also covers the external morphology of leaves, inflorescences, flowers, fruits, and their uses. This book also discusses the transverse section of a plant's root.

24. FLORA OF RAJASTHAN –⁸⁴

Morphology, habitat has been mentioned.

25. VANASPTI AUSHADH VIGYAN – (Vaidya Ramesh Kumar Bhutiya)⁸⁵

Synonyms, types, Morphology, useful parts, collection period, doses, properties, therapeutic uses etc. have been discussed.

26. DRAVYA GUNA HASTAMALAK – (Vaidhya Banwarilal Mishra)⁸⁶

Synonyms, morphology, useful parts, Kalpana, collection period, doses, properties, therapeutic uses etc. have been discussed.

27. THE WEALTH OF INDIA VOL. 7 (1969):⁸⁷

This valuable book describes the plant in detail, including its advantages and disadvantages. The article provides references to existing research on this plant, as well as information on its habitat, morphology, species, chemical constituents, and therapeutic applications for both the fruit and root.

28. THE WEALTH OF INDIA VOL. 4, FIRST SUPPLEMENT SERIES (2003):⁸⁸

This book explores the chemical composition and applications of both the root and fruit of *Cassia tora* Linn. This book reports the isolation of various alkaloids from roots and fruits. The article discusses the anti-giardia, immuno-modulatory, bioavailability-enhancing, hepato-protective, and hypercholesterolemic activities with references.

29. INDIAN MEDICINAL PLANTS: - (KIRTIKAR & BASU)⁸⁹

Family characters and morphology of the plant have been described elaborately, along with its uses, therapeutic applications and vernacular names.

SUBSTITUTION & ADULTERATION OF CHAKRAMARDA: -

1) *Cassia occidentalis* Linn. is sometimes used as substitute for *Cassia tora* on account for linguistic similarity in regional names. *Cassia tora* seeds are used as substitute for coffee ⁹⁰.

2) *Bakuchi* (*Psoralea corylifolia*) seeds substituted with *Chakramarda* seeds (*Cassia tora* Linn.)⁹¹

3) Adulteration of *chakramarda*: - Leaves of *Cassia tora* linn. resembles with the leaves of *Senna*, therefore sometimes the true *senna* is adulterated with the leaves of this plant ⁹².

PART USED

The Leaves and Seeds

DOSES

Leaf juice -5-10 ml

Seeds power -1-3 gm

FIG 1: & FIG 2: - *Cassia tora* plantFIGURE 3: - *Cassia tora* plant with podsFIGURE 4: - *Cassia tora* seeds**TRADITIONAL USES ⁹³:** -

Different parts of *chakramarda* are known to possess various ailments by rural and tribal people of Satpura region of Madhya Pradesh along with its uses in *Ayurvedic* and Chinese system of medicine. Due to its moist quality and cold property of herb, it acts on liver and large intestine channels, clear the heat and liver fire, improve vision. Due to its fungicidal activity, it is also used as natural pesticide in organic farms. Seed powder is most popular in pet food industry and also useful in mining and other industrial application when mixed with guar gum.

CLASSICAL USES OF CHAKRAMARDA: -

Table -

S.NO.	DISEASE	USE
1	<i>Sidham kushta</i>	For Local application- used root of <i>chakramarda</i> with <i>kanji</i> ⁹⁴
2	<i>Shiroroga</i>	The seeds of <i>chakramarda</i> with <i>amla dravya</i> . and applied Locally ⁹⁵ .
3	<i>Gandamala</i>	1)Make a kalka of the root of <i>chakramarda</i> and cook it with soft flame in <i>Bhringarajaswarasa</i> and <i>sarshapa taila</i> . Then filter

		it and put <i>sindur</i> . This <i>siddha</i> oil cures <i>gandamala</i> ⁹⁶ . 2) <i>Chakramarda tailam</i> ⁹⁷ .
4	<i>Dadru</i>	Seeds of <i>chakramarda</i> with leaves of radish are apply on <i>Dadru</i> ⁹⁸ .
5	<i>Shoth and visphota</i>	<i>Chakramarda swaras</i> can be used in shoth and visphota caused by <i>bhallataka</i> ⁹⁹ .
6	<i>Pama</i>	<i>Chakramarda</i> seeds pounded with <i>takra</i> and apply on <i>pama</i> ¹⁰⁰ .
7	<i>Teething time</i>	At the time of teething, <i>chakramarda</i> leaves <i>kwath</i> given to children for strength ¹⁰¹ .
8	<i>Kushta</i> ¹⁰²	<i>Chakramarda</i> , <i>Vidanga</i> , <i>Haridra</i> , <i>Daruharidra</i> , <i>Aragvadh</i> and <i>Kushta</i> this combination is excellent for eradicating <i>kushta</i> . external application of <i>chakramarda</i> , <i>sarjarasa</i> etc. Mixed with sour gruel is remedy for <i>sidhma</i> type of <i>kushta</i> . seeds of <i>chakramarda</i> , with equal quantity of <i>jiraka</i> and a bit of <i>sudarshan</i> root destroy ringworm and <i>kushta</i> .
9	<i>Vatavyadhi</i> ¹⁰³	Vegetable or other dietary preparations of <i>chakramarda</i> leaves alleviates <i>vatavyadhi</i> .
10	For Easy delivery ¹⁰⁴	The root of <i>chakramarda</i> is pounded finely and put into the <i>vagina</i> . It helps easy delivery.

Reference

1. Journal of Drug Research in *Ayurvedic* Sciences; Published by Central Council for
2. Research in *Ayurvedic* Science; ISSN 2279-0357; Volume I; Page No. 1
3. Professor *Priyavrat* Sharma edited *Dravyaguna vijnana* volume II; edition 2006; page no.186
4. www.bimbima.com
5. *Vinita* Tiwari; '*Chakramarda (Cassia tora* Linn.): Natural drug for skin disorder; ISSN:2279-0543
6. *Santosh* kumar Shukla, *Anand* Kumar, *Marcelle* Terrence, *Joshua* Yusuf, *Vivek* Pratap Singh and *Manish* Mishra;'' The Probable Medicinal Usage of *Cassia Tora*; An Overview; ISSN:1608-4217
7. *Mohd.* Shadab, *Shariq* Shamsi, *Imtiyaz* Ahmad; '*Cassia tora* linn: A Medicinal Herb for Skin Disease''ISSN-2349-5162
8. *P. C.* Sharma, *M. B.* Yelne and *T. J.* Dennis Edited Database on Medicinal Plants Used in *Ayurveda* Volume II; Page No. 148
9. Lt. Colonel *K. R.* Kirtikar and Major *B.D.* Basu and *ICS* Edited Indian Medicinal Plants Volume II; Published by *Lalit* Mohan Basu; Edition 2003; Page No. 878.
10. www.easyayurvedacassiatora.com
11. *Bapalal* G. *Vaidya*; *Nighantu Adarsa* Vol.I; Published by *Chaukhambha Bharati* Academy, *Varanasi*; Reprint 2018; Page No. 470.
12. *Dr. Bramhanand* Tripathi; *Ashtang Hrudaya* of *Shrimad Vagbhata*; Published By *Chaukhambha Bharati* Academy, *Varanasi*; Reprint 2003; Page No. 434.
13. <https://niimh.nic.in/ebooks/e-Nighantu/ashtanganighantu/?mod=read>
14. *Acharya* *Priyavrat* Sharma; Interpreter *Dr. Guruprasad* Sharma; *Dhanwantari Nighantu*; Published By *Chaukhambha* Orientalia; Reprint 2002; Page No. 121.
15. <https://niimh.nic.in/ebooks/e-Nighantu/shodhalanighantu/?mod=read>
16. *Nrupamadanpalvirchit* *Madanpalnighantu*; *Madanpal Nighantu*; *Khemraj* Shrikrushnadas *Prakshan*; *Mumbai*; Reprint 1998; Page No.42.
17. *Aacharya* *Priyavrat* Sharma; Interpreter *Dr. Guruprasad* Sharma; *Kaidev Nighantu*; *Chaukhambha* Orientalia; Reprint 1979; Page No. 130.

18. Commentary By Dr. K. C. *Chunekar*; Edited by Dr. G. S. Pandey; *Bhavprakash Nighantu*; Published by *Chaukhambha Bharati Academy*; Reprint 2004; Page No. 125.
19. Dr. Indradeo Tripathi and Pandit *Narahari* Edited with *Dravyaguna Prakasika*; *Rajnighantu*; Published By *Chukhambha Krishnadas Academy*; Reprint 2003; Page No.102.
20. Gangavishnu SD, *Nighantu Ratnakar*, 1st Edition, *Nirnayasagar* Publication, Mumbai. Reprint 2001.
21. *Shaligram Nighantubhushanam Arthat Bruhatrinighantu ratnakarantargati Saptamashtamabhagi*; *Shaligram Nighantu*; Published by *Khemraj Shrikrushnadas Prakshan* Mumbai; Reprint 2002; Page No. 163.
22. Prof. Priya Vrat Sharma; *Priyanighantu*; Published by *Chaukhamba Surbharati* Prakashan; Reprint 2004; Page No. 106.
23. Bapalal G. Vaidya; *Nighantu Adarsa* Vol.I; Published by *Chaukhambha Bharati Academy*, Varanasi; Reprint 2018; Page No. 470.
24. Dr. Bramhanand Tripathi; Foreword by Dr. Ganga Sahay Pandey; *Charak Samhita* Vol I; Published by *Chaukhamba Surbharati Prakashan* Varanasi; Reprint 2009; *Sutrasthan Adhyaya* 3; *Shlok* No.3; Page No.60.
25. Dr. Bramhanand Tripathi; Foreword by Dr. Ganga Sahay Pandey; *Charak Samhita* Vol I; Published by *Chaukhamba Surbharati Prakashan* Varanasi; Reprint 2009; *Sutrasthan Adhyaya* 3; *Shlok* No.15; Page No.63.
26. Dr. Bramhanand Tripathi; Foreword by Dr. Prabhakar Janardhan Deshpande; *Charak Samhita* Vol II; Published by *Chaukhamba Surbharati Prakashan* Varanasi; Reprint 2009; *Chikitsasthan*; *Adhyaya* 7; *Shlok* No.115; Page No.322.
27. Dr. Bramhanand Tripathi; Foreword by Dr. Prabhakar Janardhan Deshpande; *Charak Samhita* Vol II; Published by *Chaukhamba Surbharati Prakashan* Varanasi; Reprint 2009; *Chikitsasthan*; *Adhyaya* 7; *Shlok* No.126; Page No.324.
28. Dr. Bramhanand Tripathi; Foreword by Dr. Ganga Sahay Pandey; *Charak Samhita* Vol I; Published by *Chaukhamba Surbharati Prakashan* Varanasi; Reprint 2009; *Sutrasthan Adhyaya* 3; *Shlok* No.13; Page No.163.
29. Dr. Bramhanand Tripathi; Foreword by Dr. Prabhakar Janardhan Deshpande; *Charak Samhita* Vol II; Published by *Chaukhamba Surbharati Prakashan* Varanasi; Reprint 2009; *Chikitsasthan*; *Adhyaya* 7; *Shlok* No.93; Page No.319.
30. Anant Ram Sharma; *Sushruta Samhita* Volume II; *Chaukhamba Surbharati* Prakashan; Reprint 2000; *Chikitsasthan Adhyaya* 9; *Shloka* No. 19 Page No. 254.
31. Anantram Sharma; *Sushruta Samhita* Volume II; *Chaukhamba Surbharati Prakashan*; Reprint 2000; *Chikitsasthan Adhyaya* 10; *Shloka* No. 4 Page No. 261.
32. Anantram Sharma; *Sushruta Samhita* Volume II; *Chaukhamba Surbharati Prakashan*; Reprint 2000; *Chikitsasthan Adhyaya* 9; *Shloka* No.12; Page No. 253.
33. *Bhisagratna* Pandit Sri. *Bramha Sanskara* Misra; Edited *Vidyotini* Hindi Commentary; *Bhavprakash* of *Sri Bhavamishra* Part II; Published by *Chaukhambha Sanskrit Sansthan*, Varanasi; *Adhyaya* 54; *Shlok* No.101-103; Page No.537.
34. *Bhisagratna* Pandit Sri. *Bramha Sanskara* Misra; Edited *Vidyotini* Hindi Commentary; *Bhavprakash* of *Sri Bhavamishra* Part II; Published by *Chaukhambha Sanskrit Sansthan*, Varanasi; *Adhyaya* 54; *Shlok* No.112-120; Page No.539.
35. *Bhisagratna* Pandit Sri. *Bramha Sanskara* Misra; Edited *Vidyotini* Hindi Commentary; *Bhavprakash* of *Sri Bhavamishra* Part II; Published by *Chaukhambha Sanskrit Sansthan*, Varanasi; *Adhyaya* 54; *Shlok* No.135; Page No.540 .
36. *Bhisagratna* Pandit Sri. *Bramha Sanskara* Misra; Edited *Vidyotini* Hindi Commentary; *Bhavprakash* of *Sri Bhavamishra* Part II; Published by *Chaukhambha Sanskrit Sansthan*, Varanasi; *Adhyaya* 54; *Shlok* No.140; Page No. 541.
37. *Bhisagratna* Pandit Sri. *Bramha Sanskara* Misra; Edited *Vidyotini* Hindi Commentary; *Bhavprakash* of *Sri Bhavamishra* Part II; Published by *Chaukhambha Sanskrit Sansthan*, Varanasi; *Adhyaya* 55; *Shlok* No. 12; Page No. 549.
38. Translation By Vaidyaraj Datto Ballal Borkar; *Sarth Yogratnakar* Part II; Reprint 1984; Page No.350.
39. Vinita Tiwari;''*Chakramarda (Cassia tora* Linn.): Natural drug for skin disorder; ISSN:2279-0543.
40. Vinita Tiwari;''*Chakramarda (Cassia tora* Linn.): Natural drug for skin disorder; ISSN:2279-0543.
41. Vinita Tiwari;''*Chakramarda (Cassia tora* Linn.): Natural drug for skin disorder; ISSN:2279-0543.
42. Translation By Vaidyaraj Datto Ballal Borkar; *Sarth Yogratnakar* Part II; Reprint 1984; Page No.367.
43. Vinita Tiwari;''*Chakramarda (Cassia tora* Linn.): Natural drug for skin disorder; ISSN:2279-0543.
44. *Bhisagratna* Pandit Sri. *Bramha Sanskara* Misra; Edited *Vidyotini* Hindi Commentary; *Bhavprakash* of *Sri Bhavamishra* Part II; Published by *Chaukhambha Sanskrit Sansthan*, Varanasi; *Adhyaya* 54; *Shlok* No.112-120; Page No.539.

45. Vinita Tiwari; ''*Chakramarda (Cassia tora Linn.)*: Natural drug for skin disorder; ISSN:2279-0543.
46. Vinita Tiwari; ''*Chakramarda (Cassia tora Linn.)*: Natural drug for skin disorder; ISSN:2279-0543.
47. Bhisagratna Pandit Sri. Bramha Sanskara Misra; Edited *Vidyotini Hindi Commentatory*; *Bhavaprakash of Sri Bhavamishra Part II*; Published by *Chaukhambha Sanskrit Sansthan*, Varanasi; *Adhyaya 54; Shlok No.135; Page No.540*.
48. Translation by vaidyaraj Datto Ballal Borkar; Sarth Yogratnakar part II; reprint 1984; page no.359.
49. Vinita Tiwari; ''*Chakramarda (Cassia tora Linn.)*: Natural drug for skin disorder; ISSN:2279-0543.
50. 64.Vinita Tiwari; ''*Chakramarda (Cassia tora Linn.)*: Natural drug for skin disorder; ISSN:2279-0543.
51. Bhisagratna Pandit Sri. Bramha Sanskara Misra; Edited *Vidyotini Hindi Commentatory*; *Bhavaprakash of Sri Bhavamishra Part II* Published by *Chaukhambha Sanskrit Sansthan*, Varanasi; *Adhyaya 54; Shlok No.140; Page No. 541*.
52. Dr. Indra Dev Tripathi; *Rasaratna Samuchchaya of Vagbhatacharya*; Published by Chaukhambha Sanskrit Bhawan Varanasi; Edition 2003; Page No. 262.
53. Bhisagratna Pandit Sri. Bramha Sanskara Misra; Edited *Vidyotini Hindi Commentatory*; *Bhavaprakash of Sri Bhavamishra Part II*; Published by *Chaukhambha Sanskrit Sansthan*, Varanasi; *Adhyaya 55; Shlok No. 12; Page No. 549*.
54. Nagindas Chaganlal Shah; *Bharat-Bhaishyaja Ratnakar Part IV*; Published by B. Jain Publishers New Delhi; Reprint 2005; Page No. 3 And 103.
55. Nagindas Chaganlal Shah; *Bharat-Bhaishyaja Ratnakar Part IV*; Published by B. Jain Publishers New Delhi; Reprint 2005; Page No. 105.
56. Nagindas Chaganlal Shah; *Bharat-Bhaishyaja Ratnakar Part II*; Published by B. Jain Publishers New Delhi; Reprint 2005; Page No. 377.
57. Translation By Vaidyaraj Datto Ballal Borkar; Sarth Yogratnakar Part II; Reprint 1984; Page No.350.
58. Nagindas Chaganlal Shah; *Bharat-Bhaishyaja Ratnakar Part IV*; Published by B. Jain Publishers New Delhi; Reprint 2005; Page No. 394.
59. Chanchal Thombare and Sanjivani Shekokar, 'A Critical Review of *Chakramarda (Cassia Tor)* Related with Skin Disease ', ISSN 2277-7105; Volume 9, Issue 15,1427-1435.
60. Sharma P.C., Yellne M. B., Jeniss T.J. Database on medicinal plants used in *Ayurveda* and Sidd Vol 3 (2007) Central Council for Research in Ayurveda Siddha, New Delhi.
61. Gamble J.S., Flora of the presidency of Madras, Bishen singh mehandra pal singh, Dehradun, Vol 2, 1993, pp. 1202-1204.
62. Wealth of India, Vol 7, Council of Scientific and Industrial research, New Delhi,2003 (reprint) pp.96.
63. EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal Volume: 9| Issue: 11| November2023|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2023: 8.224 || ISI Value: 1.188.
64. Shree Chandraraj Bhandari, *Vanausadhi Chandrodaya*: Varanasi, *Chaukhambha Sanskrit Sansthan*, Reprint Edition 2016,
65. Prof. P.V. Sharma, Classical uses of Medicinal Plants, Varanasi: *Chaukhambha Vishva Bharti*, reprint 2014, pp.239-247.
66. Shastri Jairam Shukla *Vanausadhi Samgraha*, Varanasi: *Chaukhambha Vishwabharti*, Part-1, reprint edition, 2014, pp 148-149.
67. Dr. J.L.N. Sastry, *Dravyaguna Vijnana*, Varanasi, *Chaukhambha Orientalia*, reprint edition 2017, Vol. 2nd, pp-.452,561.
68. Pharmacognosy of Ayurvedic Drugs, Kerala Prof. Narayana Aiyer & M. Kolammal, 1996, Department of pharmacognosy, university of Kerala, Series 1, Pg. No. 54.
69. Dr. Manshi Deshpandey, *Dravyaguna Vigyan*, Delhi: Chaukhambha Sanskrit prtisthan, reprint edition 2019, 2nd part, pp.324-330.
70. Sharma P.C., Yellne M. B., Jeniss T.J., Database on medicinal plants used in *Ayurveda* and Sidd Vol 3 (2007) Central Council for Reserch in *Ayurveda* & Siddha, New Delhi.
71. Indian materia medica, *Nadkami A K 1954*, Dr. K.M. Nadkarni & Popular Book Depot, Bombay - 7.
72. Shree *Govindram Seksaria*, *Gavon me Aushadh Ratan, Pratham Bhag*, Ajmer: Krishangopal Ayurvedic Dharmarth Aushadhalaya,1949, pp 253-263.
73. Dr. M. Daniel, Medicinal plants Chemistry and properties, USA, Enfield, NH: Science publication, 2006, pp 39, 172, 227.
74. Anonymous, The *Ayurvedic Pharmacopeia of India*, Part-1, Volume-1, New Delhi, Government of India publication,200.
75. Colonel Heber Drury, Useful Plants of India, Dehradun (India): Allied Book Centre, 2nd edition, reprint 1991.

76. Pharmacognosy of indigenous drugs.
77. Prof. Asima Chatterjee, Dr. Satyesh Chandra Prakash, The Treatise on Indian Medicinal Plants, New Delhi: National Institute of Science Communication and Information Resources, reprint edition 2003, Vol.4.
78. Vayaskara N.S. Mooss, Ayurvedic Flora Medica, Kottayam, Vaidyasathya press LTD: Edition 2nd, 1978.
79. A Handbook of Medicinal plants, Narayan das prajapati.
80. Flora Simelensis, collett henry, 1971, M/S Bishen singh mehandra pal singh, new onnought place, Dehradun, 3rd edition.
81. Indian Medicinal plants, All Illustrated Dictionary, Khare C.P., 2007 (reprint) Spring privare Limited new Delhi, pp. 492.
82. Ayurvedic Pharmacopoeia of India Part1, Vol.4, Ayush Govt. of India, 1st edition, the controller of publication civil lines, Delhi, pp 90.
83. The Ayurvedic Plants. Kulkarni P.H. & Ansari *Shahida*, Sri Satguru publications, 1st edition, Pg. No. 245.
84. U C Dutt, The Materia Medica of The Hindus, New Delhi: Mittal Publications, reprint edition,1989.
85. Prof. P. V. Sharma, Fruits and Vegetables in Ancient India, Varanasi: *Chaukhambha* Orientalia, first edition 1979, pp123,158.
86. Flora of Orissa Vol. 3, Sexena H.O. & Brahman M., 1995, Forest department Orrisa, Pg. No.1554.
87. K.R. Kirtikar and B. D. Basu, Indian Medicinal Plants, Madaras: Orient Longman Ltd., reprint edition 1996.
88. *Vaidyaraj Hakim* Thakur Daljit Singh, Unani *Dravya guna Vigyan*, Mumbai: Nirnayasagar Press, 1st edition, 1949, p.448-450.
89. Shetty B.V. & V. Singh, Flora of Rajasthan, Volume -2, Botanical Survey of India.
90. *Vaidya* Ramesh Kumar Bhutya, *Vanaspati Aushadha Vigyan*, Jodhpur: Scientific Publishers 2007, pp 151.
91. El-Tahir A, Satti GMH, Khalid SA. Antiplasmodial *Acacia nilotica*. *Phytother Res* 1999; 13:474-478. activity of selected Sudanese medicinal plants with emphasis on.
92. Koo A, Wang JC, Li KM. Extraction of hypotensive principles from seeds of *Cassia tora*. *Am J Chin Med* (Gard City NY) 1976; 4(3): 245-248.
93. P. C. Sharma, M. B. Yelne and T. J. Dennis Edited Database on Medicinal Plants Used in *Ayurveda* Volume II; Page No. 148.
94. Neelam. Nirmal Kumar, K.N. Dwivedi, B. Ram, "Adulteration and Substitution of Medicinal Problem in Herbal Industry". Received 1 Apr 2014 Accepted 11 Apr 2014.
95. Mohd. Shadab, Shariq Shamsi, Imtiyaz Ahmad; "Cassia tora linn: A Medicinal Herb for Skin Disease" ISSN-2349-5162.
96. Smita Jain and U.K. Patil, "Phytochemical and Pharmacological Profile of *Cassia Tora* Linn- An Overview;" Received 7 Aug 2009 and Accepted 29 March 2010.
97. Bapalal G. Vaidya; *Nighantu Adarsa* Vol.I; Published by *Chaukhambha Bharati* Academy, Varanasi; Reprint 2018; Page No. 470.
98. Bapalal G. Vaidya; *Nighantu Adarsa* Vol.I; Published by *Chaukhambha Bharati* Academy, Varanasi; Reprint 2018; Page No. 470.
99. Bapalal G. Vaidya; *Nighantu Adarsa* Vol.I; Published by *Chaukhambha Bharati* Academy, Varanasi; Reprint 2018; Page No. 470.
100. Dr. Indra Dev Tripathi; *Rasaratna Samuchchaya of Vagbhatacharya*; Published by *Chaukhambha Sanskrit* Bhawan Varanasi; Edition 2003; Page No. 262.
101. Bapalal G. Vaidya; *Nighantu Adarsa* Vol.I; Published by *Chaukhambha Bharati* Academy, Varanasi; Reprint 2018; Page No. 470.
102. Bapalal G. Vaidya; *Nighantu Adarsa* Vol.I; Published by *Chaukhambha Bharati* Academy, Varanasi; Reprint 2018; Page No. 470.
103. Bapalal G. Vaidya; *Nighantu Adarsa* Vol.I; Published by *Chaukhambha Bharati* Academy, Varanasi; Reprint 2018; Page No. 470.
104. Bapalal G. Vaidya; *Nighantu Adarsa* Vol.I; Published by *Chaukhambha Bharati* Academy, Varanasi; Reprint 2018; Page No. 470.