

## REVIEW ON THE THERAPEUTIC STUDY OF DASHAPUSHPAM: TEN SACRED PLANTS OF KERALA STATE IN INDIA

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BOTANICAL SOURCE	MALAYALAM NAME	SANSKRIT NAME	PARTS USED
<i>Aerva lanata</i> (L.) Juss.ex.Schult.	Cheroola	Bhadra	Whole plant
<i>Biophytum sensitivum</i> (L.) DC	Mukkutty	Viparitha lajjalu	Whole plant
<i>Cardiospermum halicacabum</i> L.	Valliyuzhinja	Indravalli	Shoot, leaves
<i>Curculiogo orchiooides</i> Gaertn.	Nilappana	Musali	Tuber
<i>Cynodon dactylon</i> (L.) Pers.	Karuka	Durva	Leaves
<i>Eclipta alba</i> (L.)Mant	Kayyunyam	Bringharajan	Shoots, leaves
<i>Emilia sonchifolia</i> (L.) DC	Muyalcheviyan	Akhukarni	Shoots, leaves
<i>Evolvulus alsinoides</i> (L.) L.var.alsinoides	Vishnukranthi	Hari Krantha	Whole plant
<i>Ipomea sepia</i> Koen. ex Roxb.	Thiruthali	Lakshmana	Whole plant
<i>Vernonia cinerea</i> (L.)Less.	Puvamkurunnel	Sahadevi	Whole plant

**TABLE1:DASAPUSHPAM**

### **ABSTRACT**

In pharmaceutical industry the main source of life saving drugs are plants. Kerala is famous for its medicinal plant wealth and traditional system of therapy, specifically Ayurveda. Dashapushpam, a group of ten potential herbs which are culturally and medicinally very much important to the people of Kerala. Women in Kerala celebrate the traditional festival thiruvathira by decorating their hair using Dashapushpam, in the Malayalam month of dhanu [December-January]. It is also used to prepare karkkidakakanji in the month of karkidakam [mid July – mid august] to improve immunity in the monsoon season. These ten group of plants are mainly used both internally and externally for the treatment of various skin diseases urogenital disease, indigestion and intermittent fever etc. some of them are scientifically validated for various bioactivities. The current review will open a new world of exposure in front of the scientific community for exploring the therapeutic potential of Dashapushpam the

ten sacred plants in Kerala and make a way to popularize them.

**Keywords:** - Dashapushpam, karkkidakakanji, sacred plants, therapeutic potential.

### **INTRODUCTION**

Plants are abundant source of natural compounds, which can be used for different applications for the welfare of human population [1] [15]. These phytomolecules are compounds synthesized by the primary and secondary metabolic pathways in plants [2] [16]. In early days people used to depend on plants for food, medicine, clothes and shelter [3] [17], and now many of the commercial products including pharmaceutical and healthcare, food and beverages, textiles, cosmetics and aromas are obtained from plants [15]. Hence, plants always play an important role for the wellbeing of life on earth [16].

In india, kerala is a famous biodiversity spot which is situated in the western ghats due to

its abundant plant resources. It is famous for its medicinal plants wealth and traditional therapy called Ayurveda. Biodiversity and traditional knowledge is interlinked as two sides of a coin and loss of one leads to loss of the other. Traditional healthcare system has a significant role in the local community healthcare [1]. Dasapushpam is a combination of ten scared herbs which has both medicinal and cultural importance to the people of Kerala. Dashapushpam is used by the ladies to decorate their hair during the thiruvathira in the month of dhanu (dec-jan), it is also used in the preparation of karkidakam kakanji in the month of karkidakam (July to august) for better health in the monsoon season. These plants are also used in folklore medicine for the treatment of skin diseases, urogenital diseases, vomiting, digestive disorders, fever etc. The plants which are called as Dasapushpam are listed in the following table1 [16].

#### **AERVA LANATA (L.) JUSS. EX. SCHULT:**

##### **TAXONOMY<sup>11</sup>**

BOTANICAL NAME	: Aervalanata
KINGDOM	: Plantae
SUBKINGDOM	: Viridaeplantae
INFRAKINGDOM	: Strptophyta
PHYLUM	: Magnoliophyta
CLASS	: Mangnoliopsida
SUBCLASS	: Caryophyllidae
SUPERORDER	: Caryophyllanae
ORDER	: Caryophyllales
FAMILY	: Amaranthaceae
DIVISION	: Tracheophyta
SUBDIVISION	: Spermatophyta
INFRADIVISION	: Angiospermae
GENUS	: Aerva
SPECIES	: lanata

#### **Habit and distribution**

Aerva lanata is a shrub which is erect and prostrate and very commonly seen in the fields.[1] The plant has long tap-root, branched from near the base with white to pale pink clusters of flowers 1 to 1.5 inches long . In the tropical region of India plant is seen from 6000 feet altitude. It is also seen in Andhra Pradesh, Tamil Nadu, Uttar Pradesh, Gujarat, Rajasthan,

and Madhya Pradesh.

This plant is cultivated throughout India, Ceylon, Arabia, Tropical Africa, Java and Philippines.

#### **Chemical properties**

##### **Chemical constituents [18]**

Plant contains biological active canthin-6-one alkaloids such as 10-hydroxy-canthin-6-one, 10-methoxy-canthin-6-one, 10-methoxy-canthine-6-one (methyl-ervine), 10-O-β-D-glucopyranosyloxy-canthin-6-one, 10 hydroxy-canthin -6-one(ervine), methyl-aervine (10-methoxy canthin-6-one), 10-β-D-glucopyranosyl-oxycanthin -6-one (ervoside), aervine(10-hydroxycanthin-6-one) and aervoside (10-β-D-glucopyranosyloxy-canthin-6-one). *Aerva lanata* is a rich source of flavanoids such as quercetin, isorhamnetin, kaempferol, isorhamnetin 3-O-β-[4-p-coumaroyl-α-rhamnosyl(1→6) galactoside and flavanone glucoside persinol, persinosides A and B, 5, 4'-hydroxy-3, 6, 7-trimethoxyflavone, 5-hydroxy-3, 6, 7, 4-tetramethoxyflavone, 5-hydroxy 2', 3,5', 6, 7-pentamethoxyl flavone, 3,3',5,7-trihydroxy-4'-methoxyflavone, 7-O-β-D-glucopyranoside and apigenin 7-O-β-D-glucoside.2[18].

#### **Pharmacodynamics [19]**

Rasa: tikta (bitter), kashaya (astringent), Virya: usna (hot), Guna: laghu (light), teekshna (Penetrating), Vipaka: katu (pungent) Doshakarma: kaphavata shamana (pacifying kapha and vata dosha).

#### **Uses**

##### **Therapeutic uses [18]**

The whole plant is diuretic, used in lithiasis [2]. The root is useful in strangury and also used in the treatment of headache. The herb is used for curing cough in Ceylon; also used as a vermifuge for children. The root juice of the herb is given orally to the patients with liver disorders like liver congestion, jaundice, biliousness and dyspepsia. In certain places the decoction of the whole plant is used to treat prolonged fevers like pneumonia, typhoid etc.. The medicinal properties of the plant include antimicrobial, antitumor, antidiarrhoeal and antihelminthi

activity[3, 4].

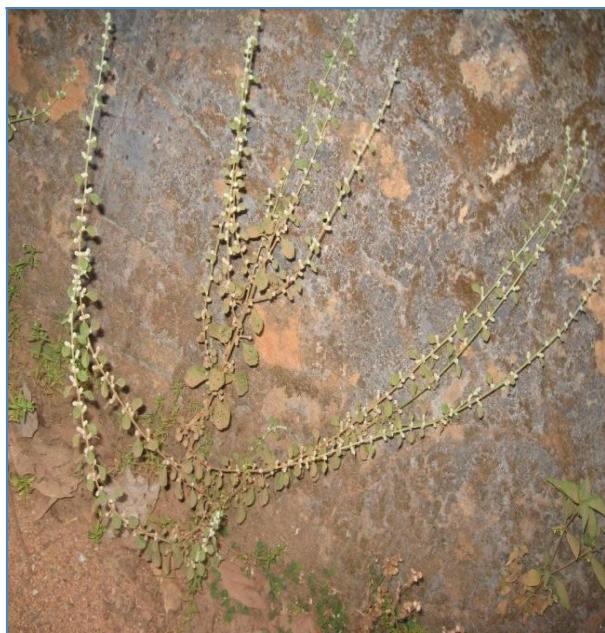


FIG 1: *AERVA LANATA* (L.) JUSS. EX. SCHULT

### ***BIOPHYTUM SENSITIVUM* (L.) DC:**

#### TAXONOMY<sup>[12]</sup>

KINGDOM	:	Plantae
PHYLUM	:	Tracheophyta
CLASS	:	Magnoliposida
ORDER	:	Oxalidales
FAMILY	:	Oxalidaceae
GENUS	:	Biophytum
SPECIES	:	Sensitivum

#### Habit and distribution [20]

The plant is mainly seen in the hottest areas of India as weeds in the waste lands and fields. This herb also be seen in Africa, Asia and Philippines. This is a very small plant flowering annually and has a stout or slender straight stem [45]. Each plant produces five to ten small flowers with yellow petals [5].

#### Chemical properties

#### Chemical constituents [20]

The main constituent isolated from this plant is insulin. The other constituent includes two biflavones amentoflavone, and cupressuflavone; three flavonoids, luteolin -7-methyl ether, isoorientin and 3-methoxyluteolin 7-O-glucoside and two acids, 4-caffeoylequinic acid were also isolated from this plant

#### Pharmacodynamics [20]

Virya: sheeta (cold) , Rasa: tikta (bitter), kashaya (astringent) Guna: laghu (light), ruksha (dry), Vipaka:katu (pungent), Doshakarma: kaphapitta shamana (pacifying kapha and pitta dosha)

#### Uses

#### Therapeutic uses [21]

The herb is used for the treatment of chest complaints diabetics cramps, tumors, stomach ache, inflammations, asthma convulsions and insomnia, convulsions, cramps, chest-complaints, inflammations and tumors. Different parts of the plants is used for treating various diseases. Crushed root juice is given for lithiasis and gonorrhea. The diuretic properties observed in leaves. The seed powder has wound healing activity. The plant decoction is used to treat chronic skin diseases

#### Pharmacological studies

The plant is reported as antioxidant [47], antidiabetic [49], anti cancer [51], anti-inflammatory [48], anti angiogenic activity, [50], chemo protective [52], radio-protective, immuno modulatory, and wound healing [53].

### ***CYNODON DACTYLON* (LINN.) PERS.:**

#### TAXONOMY

KINGDOM	:	plantae
PHYLUM	:	tracheophyta
GENUS	:	cynodon
CLASS	:	liliopsida
ORDER	:	poales
FAMILY	:	poaceae
SPECIUS	:	dactylon

Fruiting and flowering season :In warm climate

#### Habit and distribution [22]

The herb is seen in the southern part of India. It is a large twining herb with gray bark with soft extremities and the old steams are corky and deeply furrowed.

This herb is known as Durva, belonging to family Poacea and can grow in poor soil. It is a creeping grass growing throughout the country. It grows in open areas where there are frequent

disturbances such as grazing, flooding, and fire. The various common names are Bermuda grass, Bahama grass, Devil's grass. In ayurved this herb is used in medicines specially the stem parts and the leaves[54,7]. The leaves are narrowly linear or lanceolate and finely acute with 2-10 cm length and 1.25- 3 mm width. The stem is slender, very smooth and yellowish-green in colour. The roots are cylindrical, cream coloured and up to 4 mm thick.

### Chemical properties

#### Chemical constituents [22]

The leaves contain flavone C glycosides and a flavonoid sulphate. Bermuda grass is reported to contain cynodin, hydrocyanic acid, and triticin. Phenolic phytotoxins - ferulic, syringic, *p*-coumaric, vanillic, *p*-hydroxybenzoic and O-hydroxyphenyl acetic acids, are reported from the plant.

#### Pharmacodynamics [23]

Virya: usna (hot). Vipaka:usna (hot). Doshakarma: tridoshshara (pacifying tridosha) Rasa: tikta (bitter), kashaya (astringent). Guna: guru (heavy), ruksha (dry).

### Uses

#### Therapeutic uses [24]

The parts used medicinally are the stems and the leaves. The Ayurvedic Pharmacopoeia of India describes the dried fibrous root in menorrhagia, metrorrhagia and burning micturition. It is also reported to be antiseptic, demulcent, diuretic, and emollient. The grass is a remedy in epitaxis, haematuria, inflamed tumours, whitlows fleshy excrescences, cuts, cystitis, nephritis and in scabies and other skin diseases. Herb is possessing astringent, antacatarrhal, styptic properties. A decoction of the root is used to stop bleeding from piles. Internally it is used in the treatment of chronic diarrhoea and dysentery. The leaf juice has also been used in the treatment of hysteria, epilepsy and insanity. The plant is a folk remedy for headache, haemorrhage, hypertension, measles, snake bite, uro-genital disorders warts and wounds.

### Pharmacological studies

The over ground parts of *Cynodon dactylon* (Linn.) Pers. evaluated for in vitro antioxidant activity by DPPH free radical scavenging activity, Nitric oxide radical scavenging activity.[34]



FIG 3: *CYNODON DACTYLON* (L.) PERS.

### *EMILIA SONCHIFOLIA* DC.:

#### TAXONOMY

KINGDOM	: Plantae
SUBKINGDOM	: Tracheobionta
SUPERDIVISION	: Spermatophyta
DIVISION	: Magnoliophyta
CLASS	: Magnoliopsida
SUBCLASS	: Asteridae
ORDER	: Asterales
FAMILY	: Asteraceae
GENES	: Emilia
SPECIES	: sonchifolia
Fruiting and flowering season	: Annual flowering plant

#### Habit and distribution [25]

A glabrous slender herb, 30-40 cm in height. Erect, variously branched. Leaves obovate and flowers purplish in colour. Distributed throughout India, Ceylon, most tropical and sub tropical regions. Whole plant is used medicinally. Also known as Cupid's shaving brush. This is found in waste grounds and moist areas.

### Chemical properties

The aerial part of the plant has been reported to contain alkaloids, flavonoids, and terpenes. The aerial parts contain pyrrolizidine alkaloids, senkirine and doronine. Presence of simiaral,  $\beta$ -sitosterol, palmitic and triacontanic acids is also reported in the plant[26,8].

### Pharmacodynamics [27]

Rasa: tikta (bitter), kashaya (astringent), katu (pungent) Guna: laghu (light), teekshna (penetrating) Virya: sheeta (cold) Vipaka:katu (pungent) Doshakarma: kaphapitta shamana (pacifying kapha and pitta dosha)

### Uses

#### Therapeutic uses [25]

The plant is sudorific, antiseptic, astringent, depurative, diaphoretic, diuretic, expectorant, febrifuge, and ophthalmic.

A tea made from the leaves is used in the treatment of dysentery. The juice of the leaves is used in treating eye inflammations, night blindness, cuts and wounds and sore ears. It is used in infantile tympanitis and bowel complaints. Root used as antidiarrhoeal. Leaf used for otitis media under medical supervision. Fresh juice and methanoic extract of *E. sonchifolia* leaves reported to possess antiinflammatory and antioxidant activities. The water extract of this plant showed antimicrobial activity. It has been reported that the alcohol extract of this plant (aerial part) has cytotoxicity, as well as anti Ehrlich ascitic carcinoma (EAC) and anti Dalton's lymphoma ascites (DLA) activities in mice.

#### Pharmacological studies

The plant is reported as anti inflammatory, 49 antioxidant, [25]anti bacterial, [55]cytotoxic activity, [56]anti-cataract, [57] and anti diabetic activities



FIG 4: *EMILIA SONCHIFOLIA* (L.) DC

### *ECLIPTA ALBA* HASSK.:

#### TAXONOMY

BOTANICAL NAME	: <i>Eclipta alba</i>
KINGDOM	: Plantae
SUBKINGDOM	: Tracheobionta
PHYLUM	: Magnoliophyta
CLASS	: Magnoliopsida
SUBCLASS	: Asteridae
ORDER	: Asterales
FAMILY	: Asteraceae
GENUS	: <i>Eclipta</i>
SPECIES	: <i>alba</i>

#### Habit and distribution [28]

It is an erect or prostrate, much branched, roughly hairy, annual, rooting at the nodes. The stem and branches trigose with appressed hairs on both sides and tapering base.

It is distributed throughout India in moist waste lands. The roots are well developed and a number of secondary branches arise from the main root, and greyish in colour. Cylindrical stems are dark Green in colour and shows longitudinal ridges. The leaves are 2.2-8.5 cm long, 1.2-2.3 cm wide and usually oblong, lanceolate in shape. Small flower heads contain white, compressed ray florets and yellowish disc florets. Fruits are one seeded achenial cypselae.

In Ayurvedic medicine, the leaf extract is considered to be powerful liver tonic, rejuvenative and especially good for the hair. A black dye obtained from *Eclipta alba* is also for dyeing hair and tattooing. It also has traditional external uses, like eczema and dermatitis, on the scalp to treat hair loss and the

leaves have been used in the treatment of scorpion stings. It is reported to improve hair growth and colour. Coumestan derivatives such as wedelolactone and demethylwedelolactone and nor-wadelolactone. Thiophene derivatives ecliptal and various dithiemylacetylene esters (I, II, III) reported from roots, saponin compounds like eclalbosaponins I-IV and other common sterols and triterpenoids.

The flavonoids glycoside eg: luteolin-7 O glucoside and long chain alcohols such as hentriicontanol, 14- heptacosanol have also been reported along with certain alkaloids and polypeptides. The whole plant contains ecliptine, nicotine and stigmasterol. The entire plant contains triterpenes: ecalbatin, echinocystic acid, oleanic acid, ursolic acid, flavone.

### Uses

It is a potential hepatoprotective agent, in jaundice and in conditions of liver and spleen enlargement, Hypotensive and myocardial depressant activity, anti-inflammatory, abortion and miscarriage, piles, insect bites, swellings and other skin diseases. Dried aerial parts are used as a purgative, emetic, cholagogue, antiasthmatic. Leaves are used to treat epilepsy in India. Roots are used for insanity. The entire plant is used for tuberculosis and as haemostatic. Oil soluble extracts helps in promotion of growth and colour of hairs[9]. Its hair oil preparations are used as a scalp tonic in India[29]. Coumestans are known to possess estrogenic activity. Wedelolactone possesses a wide range of biological activities and is used for the treatment of hepatitis and cirrhosis, as an antibacterial, anti-haemorrhagic, as an antidote for snake venom.

The hydroalcoholic extract of the dried leaf reported analgesic activity, when administered intragastrically in mouse 100 mg/kg. The chloroform and methanol extract of the dried leaf 1 gm/ml showed antibacterial activity against *Bacillus subtilis*, *Escherichia coli*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus*. Various Other biological activities which have been reported in the literature for the extracts of *E. alba*: hepatoprotective,

antiviral, antirheumatic, molluscicidal, antimalarial and antifertility. Medicinally. This is a perennial vine. Annual, stems very long and slender, often purplish, twining, glabrous. Leaves are simple, alternate, entire, petiolate, cordate, blotched with brownish or purplish patches towards the centre and thin; flowers pale purple or pink, funnel shaped, in umbellate axillary cymes. Fruits ovoid capsules, 2-4 seeded, seeds grey colored covered over silky pubescence.



FIG 5: *ECLIPTA ALBA* (L.) MANT

### IPOMOEA SEPIARIA KOEN. EX ROXB.:

#### TAXONOMY<sup>[13]</sup>

KINGDOM	:	Plantae
DIVISION	:	Angiosperms
SUBDIVISION	:	Eudicots
ORDER	:	Solanales
FAMILY	:	Convolvulaceae
GENUS	:	Ipomea
SPECIES	:	sepiaria

#### Habit and distribution [30]

A slender twinning perennial with villous stems and tuberous roots. It is distributed throughout greater part of India. This plant known as Lakshmana in Sanskrit . Whole plant is used medicinally. This is a perennial vine. Annual, stems very long and slender, often purplish, twining, glabrous. Leaves are simple, alternate, entire, petiolate, cordate, blotched with brownish or purplish patches towards the centre and thin; flowers pale purple or pink, funnel

shaped, in umbellate axillary cymes. Fruits ovoid capsules, 2-4 seeded, seeds grey colored covered over silky pubescence.

### **Chemical constituents**

Ipomoea resin, the seeds contain non-ergoline type indole alkaloids, ipobscurine A & B, and a serotonin alkaloid Ipobscurines C.[30,10]

### **Pharmacodynamics [31]**

Rasa: madhura (sweet) Guna: guru (heavy), snigdha (unctuous) Virya: sheetha (cold) Vipaka: madhura (sweet) Doshakarma: vatapitta shamana (pacifying vata and pitta dosha) and kapha vardhaka (increasing kapha dosha)

### **Therapeutic uses [30]**

Juice of the plant is used as deobstruent, diuretic, hypotensive, uterine tonic, antidote to arsenic poisoning. The plant is reported to show aphidicidal activity and appeared to be useful as pesticides. Seeds used as cardiac depressant, hypotensive, spasmolytic. Plant is also used in the treatment of sterility in women, urinary retention, constipation, gynaecological disorders. The plant is reported to show aphidicidal activity and appeared to be useful as pesticides.



**FIG 6: IPOMOEA SEPIARIA KOEN. EX ROXB**

### **CARDIOSPERMUM HALICACABUM LINN.:**

#### **TAXONOMY[14]**

KINGDOM : Plantae

DIVISION : Angiosperms

SUBDIVISION : Eudicots

ORDER	: Sapindales
FAMILY	: Sapindaceae
SUBFAMILY	: Sapindoideae
GENUS	: Cardiospermum
SPECIES	: Halicacabum

### **Habit and distribution [32]**

Climbing, annual (sometimes perennial) herbs, up to 3 metres long. Stem and branches furrowed. Plant is commonly climbing on bushes and hedges along road-sides, forest-clearings and in dry deciduous forests, also common in cultivated fields. Greatly found throughout the plains of Southern India. Branches slender and leaves deltoid, 2-ternate, petioles 2-3.8 cm long and flowers are white. Seeds are globose. In india they are commonly consumed as leafy vegetable.

### **Pharmacodynamics [33]**

Rasa: tikta (bitter) Guna: laghu (light), ruksha (dry) Virya: ushna (hot) Vipaka:katu (pungent) Doshakarma: vatakapha shamana (pacifying vata and kapha dosha)

### **Therapeutic uses [32]**

The root is considered diaphoretic, diuretic, and aperient. The fried leaves are considered emmenagogue. The leaves and stem are used against common cold and angina. The leaf paste is applied on domestic animals to kill lice and other insects. It is used in the treatment of rheumatism, lumbago, skeletal fractures, nervous diseases, amenorrhoea, haemorrhoids, and erysipelas, emetic, laxative, rubefacient and stomachic. The herb is used in hair oils for treating dandruff, alopecia and for darkening hair. *C. halicacabum* has been used in the treatment of rheumatism, nervous diseases, stiffness of the limbs and snakebite. Leaves are crushed and made into a tea, which aids itchy skin. Salted leaves are used as a poultice on swellings. Young leaves can be cooked as vegetables. The leaf juice has been used as a treatment for earache as well[58, 11].

### **Pharmacological studies [34]**

The plant extracts showed marked insecticidal effects as ovicide and larvicide for *Musca domestica* Linn. and as larvicide for *Philosamia*

*ricini* (Boisd.) Alcoholic extract of the plant showed antisickling and antiarthritic activity. In the pharmacological validation of this plant, the toxicological evaluation of *C. halicacabum* revealed that the drug is safe and is not toxic upto 40 g/kg in rats. The plant extract showed significant analgesic and anti-inflammatory activity and sedative effect on CNS. The drug also showed (transient) vasodepressant activity. Seeds have positive anabolic activity and increase body weight by inducing a positive nitrogen balance. The alkaloid fraction from the seeds showed hypotensive activities and cardiac inhibition in anaesthetized dogs; blocked spasmogenic effects of acetylcholine, histamine on guinea pig ileum, biphasic action on frog rectus abdominus muscle. The seeds also showed antibacterial activity.

### Chemical constituents

It is known to contain saponin, quebrachitol, apigenin, proanthocyanidin and stigmasterol. The seeds show the presence of luteolin-7-O-glucuronide, β-sitosterol- β-D-galactoside. The leaves contain (+)- pinitol, apigenin and its 7-O-glucuronides, chrysoeriol and luteolin. The roots contain β- sitosterol. The leaves contain an alkaloid, oxalic acid and amino acids.



FIG 7: *CARDIOSPERMUM HALICACABUM* L.

### *EVOLVULUS ALSINOIDES LINN.:*

#### TAXONOMY<sup>14</sup>

KINGDOM	: Plantae
SUBKINGDOM	: Tracheobionta
SUPERDIVISION	: Spermatophyta

DIVISION	: Magnoliophyta
CLASS	: Magnoliopsida
SUBCLASS	: Asteridae
ORDER	: Solanales
FAMILY	: Convolvulaceae
GENUS	: Evolvus
SPECIES	: Alsinooides

### Habit and distribution [35]

This is a perennial prostrate herb widely distributed in tropical and subtropical regions throughout the world. It grows as a weed in open and grassy places throughout India. It has a small woody root stock. The leaves are alternate, simple, elliptic-oblong in shape. The flowers are light blue in colour, solitary or sometimes in pairs.

### Pharmacodynamics [36]

Rasa: tikta (bitter), katu (pungent) Guna: laghu (light), ruksha (dry) Virya: usna (hot) Vipaka:katu (pungent) Doshakarma: kaphavata shama (pacifying kapha and vata dosha)

### Therapeutic uses [37]

The whole plant is used for various ailments. The plant is used as a remedy for dysentery and to enhance intelligence and improve memory. The plant is bitter, acrid, febrifuge, aphrodisiac, anthelmintic, expectorant and useful in bronchitis, brain tonic, an aid in conception, astringent, antidiarrhoeic and asthma. It is also useful in epilepsy, forgetfulness, falling and greying of hair, intermittent fevers and general debility. Used in nervous affections (epilepsy, insanity, spermatorrhoea), and duodenal ulcers, also for uterine affections uterine bleeding and internal haemorrhages. A decoction of this herb is given as a blood purifier. It is also one of the ingredients of the polyherbal formulation, Bramhi Grita.. It is reported to show powerful stimulant activity on respiration and blood pressure (possibly analeptic). Aqueous extract of the petal showed antifungal property

### Pharmacological studies

It is reported to show powerful stimulant activity on respiration and blood pressure (possibly analeptic). Aqueous extract of the petal showed antifungal property. The plant is

reported as anti bacterial, [59] anti helmintic, [60] anti stress, [61] anti amnesic, [62] anti ulcer and anti catatonic, [63] anti oxidant, [64] gastro protective and immunomodulatory activities[65].



**FIG 8: EVOLVULUS ALSINOIDES (L.) L. VAR. ALSINOIDES**

### Chemical constituents

The plant contains alkaloids: betaine, shankha-pushpine and evolvine. Fresh plant contains volatile oil. It also contains a yellow neutral fat, an organic acid and saline substances. An unidentified compound has been isolated. [35] 2,3,4-trihydroxy-3-methylbutyl 3-[3-hydroxy-4-(2,3,4-trihydroxy-2-methylbutoxy)-phenyl]-2-propenoate (1) and 1,3-di-*O*-caffeooyl quinic acid methyl ester, caffeic acid, 6-methoxy-7-*O*-β-gluco-pyranoside coumarin, 2-C-methyl-erythritol, kaempferol-7-O-β-gluco-pyranoside, kaempferol-3-O-β-glucopyranoside and quecetine-3-O-β-glucopyranoside were reported from *n*-BuOH soluble fraction from the ethanol extract of *E. alsinoides*.[37]

### VERNONIA CINEREA (LINN.) LESS (*Cyanthillium cinereum*):

#### TAXONOMY<sup>14</sup>

PLANTAE	: kingdom
TRACHEOPHYTA	: phylum
MAGNOLIOPSIDA	: class
ASTERALES	: order
ASTERACEAE	: family
CYANTHILLIUM	: genus
CINEREUM	: species

### Habit and distribution [38]

An erect, rarely decumbent, tender or soft herb, a weed; stems slender, grooved and ribbed; branches hairy. It is distributed throughout India, as a weed on roadsides and open places. It is one of the commonest Indian weeds.

This plant is commonly called as ash-coloured fleabane belonging to the family Asteraceae, Sahadevi in Hindi and puvvamkurunnila in Malayalam. An erect annual herb, 12-75 cm in height with cylindrical branched stem, leaves is variable in shape and flowers are many pinkish violet in small heads. Regarding the history of the plant, it was mentioned in Sanskrit texts as being present in northern, western and southern India.

### Chemical constituents [39]

The chief constituents are the triterpenes. Aerial parts gave luteolin- monobeta-D-glucopyranoside. Whole plant gave triterpene compounds- betaamyrin acetate, lupeol acetate, betaamyrin and lupeol; sterols- beta- sitosterol, stigmasterol and alpha-spinasterol; phenolic resin and potassium chloride. The useful parts include the flower (treatment of conjunctivitis), seeds (used as anthelmintic), root (dropsy), and juice (piles).

### Pharmacodynamics [40]

Rasa: tikta (bitter) Guna: laghu (light), ruksha (dry) Virya: ushna (hot) Vipaka:katu (pungent) Doshakarma: kaphavata shamana (pacifying kapha and vata dosha).

### Therapeutic uses [39]

The whole plant is also considered to promote perspiration in febrile condition. The roots are useful in diarrhoea, cough, inflammations, skin diseases, leprosy, renal and vesical calculi. The leaves are useful in humid herpes, eczema, ring worm, guineaworms, and elephantiasis. The flowers are used in conjunctivitis. The seeds are useful in roundworms, threadworms, cough, flatulence, leucoderma, psoriasis, chronic skin disease. The plant is used as anticancer, febrifuge, diaphoretic (infusion of herb, combined with quinine, is used against

malaria). Used as a specific herb for leucorrhoea, dysuria, spasm of bladder, strangury and for haematological disorders, as a blood purifier and styptic, also used in asthma. Seeds used as antiflatulent, antispasmodic; used in dysuria, decoction used for colic. The Ayurvedic Pharmacopoeia of India recommends the plant in intermittent fever, filariasis, pityriasis versicolour (tinea versicolor), blisters, boils, vaginal discharges and in cases of psychoneurosis.

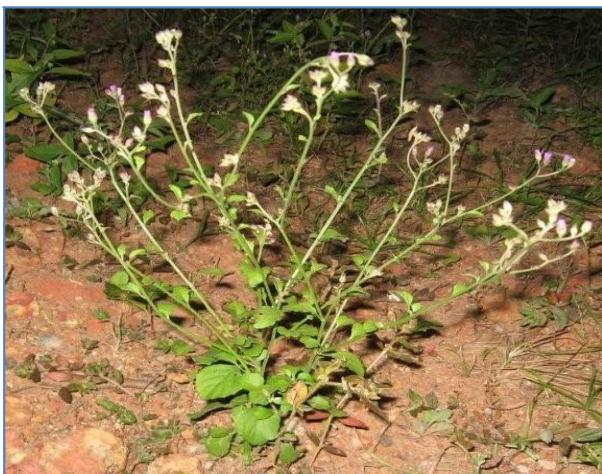


FIG 9: *VERNONIA CINEREA* (L.) LESS.

### Pharmacological studies

The water soluble fraction of the methanol extract of the defatted dried ground whole plant of *Vernonia cinerea* showed significant diuretic activity in rats comparable to lasix a known diuretic. The plant is reported as anti microbial, [39] anti oxidant, [66] immunomodulatory, [67] anti inflammatory, analgesic, anti pyretic<sup>68</sup> and cytotoxic activity[68].

### *CURCULIGO ORCHIOIDES* GAETRN.:

#### TAXONOMY

KINGDOM	: Plantae
DIVISION	: Angiosperms
SUBDIVISION	: Eudicots
ORDER	: Aspergales
FAMILY	: Hypoxidaceae
GENUS	: Curculigo
SPECIES	: Orchioides

#### Habit and distribution [41]

This plant is known as Musali in Sanskrit and Kali Musali in Hindi belonging to family

Amaryllidaceae, is an important Ayurvedic as well as Unani drug. It has been recorded occurring in the subtropical Himalayas from Kumaon eastwards ascending to 1800 meters, the Hhasia hills, Bengal, assam, Konkan, the western Peninsula and madras extending South as far as cape comorin. In Malayalam, this plant is known as nilappana. Kali Musali grows as forest herb. In many parts of India, due to its over exploitation, kali musali is becoming rare in occurrence. Leaves sessile or petiolate linear or linear-lanceolate and root stock stout. Flowers are bright yellow in colour.

#### Chemical constituents [42]

A new orcino; glucoside, orcinol-1- beta D-apiofuranosyl beta-D glucopyranoside was isolated. Orcinol glucoside, curculigoside, curculigoside B &C, Syringic acid, 2, 6 dimethoxyl benzoic acid. The rhizome contains saponins (curculigosaponin C and F) sapogenins; phenolic glycosides, a triterpene alcohol; a pentacyclic triterpene, an aliphatic compound, hentriacontanol, sitosterol, stigmasterol, cycloartenol and sucrose. A peptide, Curculin C, containing amino acids, has been isolated from the fruit.

#### Pharmacodynamics [43]

Rasa: madhura (sweet) Guna: guru (heavy), snigdha (unctuous) Virya: sheetha (cold) Vipaka:madhura (sweet) Doshakarma: vatapitta shamana (pacifying vata and pitta dosha) and kapha vardhaka (increasing kapha dosha).

#### Therapeutic uses [44]

It is present in several drug formulations used in the treatment of menorrhagia and other gynaecological problems. The root is bitter, appetizer, nervine, adaptogenic, sedative, anticonvulsive, androgenic and anti-inflammatory. It is also used in jaundice, urinary disorders and skin diseases, useful in piles, fatigue, diseases of the blood. The rhizome is used for asthma, diarrhoea, and gonorrhoea, demulcent and diuretic, tonifying kidney and for strengthening muscles and bones. According to Ayurveda, root is heating, aphrodisiac, appetizer, useful in the treatment

of piles, fatigue, blood related disorders. According to Unani system of medicine, root is carminative, tonic, aphrodisiac, antipyretic and useful in bronchitis, ophthalmic, indigestion, vomiting. The powdered rhizomes with milk are taken as a restorative tonic, also for sexual debility.

### Pharmacological studies

Curculigosaponin C and F promoted proliferation of spleen lymphocytes very significantly; F and G increased the weight of the thymus *in vitro* in mice. Alcoholic extract of the plant exhibited hypoglycaemic property. The plant is reported to possess antioxidant, [44]antihypoglycaemic, [42] immunostimulant, [69] hepatoprotective, [70] aphrodisiac [71] and estrogenic activities[72].



FIG 10: CURCULIGO ORCHIOIDES GAERTN

### CONCLUSION:

The therapeutic potential of these ten sacred plants are unlimited and not explored properly to cure various illness. Research and development must be encouraged for developing new drug molecules from these plants. The detailed investigation of its standardization, pharmacological activity, toxicity and clinical trials may help to develop new drugs for controlling various diseases. The global scenario has shown a great increase in phytomedicine research. So, the drug development from these plants has tremendous scope in the future. Some of the research activities have been carried out on these plants during the past few decades

which give sufficient motivation among the scientist community in exploring more information about these sacred plants. A research and development program should be undertaken on Dasapushpam for their potential in economic and therapeutic utilization. Appropriate measures for conservation can be executed since some of the plants like Kali musali, an Ayurvedic Dasapushpam and a rejuvenating and aphrodisiac drug is on the verge of extinction. So, those plants need to be conserved and cultivated.

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