CHAPTER 4

THE PLANTS AND THE RECIPES
A. INTRODUCTION

In the entire world, there are two main important cultures which are said to have originated as ancient cultures, one in the south and southeast, other in the west, that is ancient Indian culture identified as Indus (Hindu) civilisation. Only these two civilisations that is, Indus and Greek had greatly contemplated to the medicine of plant origin. Hindu philosophy believes that जनर्व्युद्वर्मी जिनात्रे जन्यतीयम् there is no plant which does not have medicinal value. The ancient Indian medical science, 'The Ayurveda' has developed on this belief. India being a tropical country, it is blessed by treasures of plants, luxuriantly growing on mountainous ranges of Sahyadri or Western Ghāts in the south west, and the beautiful Himalayas garlanding the northern boundaries of India and Vindya in the Central India. As already mentioned before, Ayurveda believes in deriving various medicinal principles of different plants and putting them together in the form of Leha, Rasāyana, Vati, Quātha (decoction) etc.

In the present investigation the medicinal principles to treat the ailments pertaining to degenerative diseases of intervertebral discs are derived into following two forms - 1) Swadamstradi Guggul, 2) Padmaka Kitta yoga. The preparation of each of different origin is being used. And while treating the patients the former is administered in the form of powder and latter in the form of curma.

Swadamstradi guggul which is administered in the form of curma is prepared by various parts of eleven plants. The amusing part of this is it derives medicinal principle, partly acting on this ailment. The second form Padmaka Kitta yoga is prepared by combination of the
medicinal principle of one plant plus a mineral called mandoor. These two miraculously work synergistically in curing all those disorders described elsewhere.

Many of the plants that are used in these recipes are well known and have been in use in various Ayurvedic preparations recommended on various diseases and disorders. Even the chemical principles are studied and known but the combination that has been tried in the present recipes has never been known. Therefore, it is felt essential to give a brief account of these plants with their characteristic properties wherever known, so that one may wonder how miraculously these plants belonging to different taxa used in different forms and parts eventually contribute to form recipes Swadānstradi guggul and Padmaka Kitta yoga.

B. The Plants:

1) Pedalium murex Linn. (Plate 4.1)

   a) Vernacular Names -

(b) Botanical Information

Description

Much branched succulent herb with rough slime secreting glands, leaves simple, opposite, flowers bright yellow, auxiliary and solitary, fruits, bluntly angled with stout sharp conical horizontal spines from the angle (Arya Vaidya Sala, 1995).

(c) Distribution -

A succulent herb growing in Deccan peninsula and sea coasts of south India and Shrilanka. It also occurs in Delhi, Rajasthan, Punjab and Gujrat.

(d) Chemistry -

The fruits and leaves of Pedalium murex yields a number of phenolic acids (Das et al 1966). The ethanolic extraction of fruits yield two new compounds, characterised as heptatriacontonoic acid hentriaontanoic acid, ursolic acid and vanillin (Shukla and Thakur, 1983).

(e) Ayurvedic Information

(Translation:)

"गोक्षुर (पु) क्रुरति विलिखर्तीति। क्रुर विलेखने
बुधराक्तका गेहितसुं तथासम्।"

(SKD Part II)
i) **Gana** -

Caraka - mutravirecaniya, sothahara, Krumighna, Anuvāsnopaga
Susṛuta - Vidarigamdhadi, Laghuparmacula, Karṇakarmacula, vātāsmaribhedana

ii) **Kula** - Gokṣura Kula

iii) **Parts used** - fruit

iv) **Properties** -

Gūna - Guru, Snigdha
Rasa - Madhur
Vipāka - Madhur
Veerya - Sheeta

(Sharma 1978)

(f) **Uses** -

The plant is sweet, cooling, mucilaginous, diuretic, lithotriptic, aphrodisiac antispasmodic, emmenagogue, antiinflammatory, digestive, carminative, tonic and rejuvenating.

2) **Fagonia arabica** Linn. i.e. F. Bruguieri DC. Prodr. I (1824) 704; 
**Fagonia cretica** Linn Sp. Pl (1753) 386. (Plate. 4.2)

(a) **Vernacular Names**:

Gujarati - Dhamaso; Hindi - Damahan, Hinguria, Ustarkhar; Marathi - Dhamasa, Dumaso; Punjabi - Dama, Domiya, Dhma, Dhamonh, Dramah, Samaba; Sanskrit - Ajabhakshya, Ananto, Ātmamuli, Dhanuryasa, Dhanvayasa, Dhanvi, Durabhigraha, Duralabha, Dusparsha, Gandhari, Grahani, Idankarya, Kachhura, Kashaya, Kunashaka, Marujauma,
b. Botanical Information

**Description:**

A small spiny undershrub with stiff branches often more or less prostrate. Twigs slender, terete, striate, glabrous, glandular, leaves opposite, 1-3-foliate, about 12 by 2.5 mm., entire, linear or elliptic, mucronate; petiole very variable, 0.3 cm long, sometimes leaflike; stipules transformed into sharp, slender spines upto 1.2 cm long, persistent and continuing growth long after the fall of the leaves. Flowers solitary, rose-coloured, on peduncles 5-12 mm long, arising from between the stipules. Sepals 5, deciduous, imbricate, half as long as the petals. Petals 6 mm long, spathulate with a marked claw. Disk short, inconspicuous, stamens 10, inserted on the disk; filaments filiform, naked; anthers oblong. Ovary hairy, sessile, 5 angled, 5 celled, tapering into a 5 angled style; stigma simple. Fruit 5 mm long of 5 1-seeded cocci, glandular pubescent, deeply 5-partite almost to the axis; cocci dehiscing along the ventral suture and separating from a horny endocarp.

(c) Distribution:

Maharashtra, Cutch, Sind, Baluchistan, Punjab, Prsia.

(d) Chemistry: —
e) Ayurvedic Information

Ayurvedic Information

i) Gana
   Carak - Trisnanigraham, Arsoghna

ii) Kula - Gokṣur kula

iii) Parts used - Pañcanga

iv) Properties
   Guna - Laghu, Snigdha
   Rasa - Kasaya, Tikta, Madhur, Katu
   Vipāka - Madhur
   Veērya - Usna

(f) Uses

Leaves, twigs and juice are found to be bitter tonic, diuretic, and astringent. Leaves and twigs possess cooling and antiseptic properties used in sore mouth, stomatitis.

3) Bergenia ligulata (Wall) Syn. (Plate 4.3)

[f Saxifraga ligulata (Wall)]

(a) Vernacular Names:

Bengal - Himasagara, Pathakucha, Patharchuri, Guirat - Pakhanbheda,
Hindi - Pakhanbheda, Marathi - Pashanbhed, Punjab - Banpatrak,
Bapta, Dakachru, Dharposh, Kachalu, Kurgotar, Photia, Phuta, Popal,
Saproti, Schaprochi, Til, Wa; Samskrt - Ashmabhedaka, Ashmaghna,
Bhimyogini, Giribhita, Nagbhita, Pashanbheda, Pashanbhedana,
Shailgarbhaja Shilabheda, Shweta, Upalabheda; Telgu Telanurupindi

(b) Botanical Information

**Description** -

A perineal herb, Rootstock very stout, stem short, thick, fleshy, procumbent. Leaves ovate or round 5-15 cm or more and turning bright red, cordate, entire, fringed with short stiff hairs, both surfaces hairy, becoming almost hairless in age. Stalk sheathing at the base, flowers white, pink or purple, 3.2 cm diameter, forming a cymose panicle flowering stem flexible, leafless, 10-25 cm long styles long.

(c) Distribution -

Temperate Himalaya from Kashmir to Bhutan, Khasia Hills at altitude of 1,600 m.

(d) Chemistry -

Bergenin (a-c glycoside) and B-sitosterol have been isolated from the roots. Other compounds reported from roots are: gallic acid, tannic acid, glucose and bergenin (atzelechin), amino acids isoleucine, leucine, methionine, phemylolamine, thieonine and triptophane (Malhotra, 1990).
(e) Ayurvedic information

पायानमहेत्रं (पृ०) पायाण अन८मरी शंक्ततिः।

(SKD Part III)

i) Gana

Carak - Mutravirecaniya

Suśruta - Veertarvādi

ii) Kula - Pasanbheda-kula

iii) Parts used - Root

iv) Properties -

Guna - Laghu, Snigdha, Tikṣṇa
Rasa - Kasaya, Tikta Vipāk - Katu
Veerya - Seeta
Prabhāva - Asmaribhedan

5) Uses -

It is useful in diarrhoea, dysentery and piles. It is also used in heart diseases and cough. Its main use is however in urinary calculus. Root is diuretic, demulcent and astringent. It acts as an antidote to opium. With honey it is applied to gums in teething of children to alloy irritation. It is bruised and applied to boils and also in ophthalmia. (Atkinson & Dr. Stewart).

4) Zingiber officinale Roscoe in trans. Linn (Plate 4.4)

Soc VIII (1807) 348 Plate 944.
(a) Vernacular names -

**Assam** - Ada, **Bengal** - Adu, **Hindi** - Ada Adrak, **Konkni** Alem,
**Malayalam** - Andrakam, Chinchatakam, Chinchiver, Chukku, Inji,
Sringiveram, Tirksnnotham, **Marathi** - Ale, **Tamil** - Allam; Artiragam,
Attiradam, Inji, Kulumamulam, Kodataram, Maruppu, Sangai Sigaram,
Singaveram. Singiveram, Sukku, Sundi, Ubugallam, Verkkombu, **Telgu** -
Allamu Ardrakamu, Mahaushadamu, Sonti, Sunthi, Sringaberamu, **Tulu** -
Sunthi, **Uriva** - Ardroles oda, Sunthi, **Arabic** - Zanjabil, **Brazil** - Mangaraha,
Zingiber, **Burma** - Khyenseing, Cantonese Kon keung, Keung pi, **Chinese** -
Chiang Pi, Kan chiang, Kiang, Sheng, Chiarg; **Danish** Ingefaer, **Dutch**
- Gember, **English** - Ginger, **French** - Gingembre, Herbe au gingembre,
**German** - Ingwer, **Hungarian** - Gyoember, **Italian** - Zenzero, Zenzevero,
**Norway** - Ingefaer, **Persian** - Shangabir, Zanjobil, **Portuguese** -
Gengibre, Gengivre, Gimgibve **Roumanian** - Ghimber, **Russian** - ambir,
**Sinhalese** - Ingefuera, **Urdu** - Ardraka.

(b) Botanical Information:

**Description** -

Herbs with elongated leafy stems and horizontal tuberous root stocks. Leaves oblong-lanceolate. Flowers in spikes usually radical, less
commonly forminal, very rarely lateral on the leafy stems. Peduncle short
or long, bracts persistent, usually 1 flowered calyx cylindric, shortly 3-
lobed corolla 3 lobed, with cylindric tube, lobes lanceolate, the
upper concave stamen-1 perfect; filament short; anther 2 celled. The cells
contiguous, with a narrow crest as long as themselves, lateral staminodes
0, or adnate to the obovate cuneate lip. Ovary 3-celled, ovules many,
superposed, placentas axile, style filiform, stigma small, subglobose. Fruit an oblong capsule, tardily dehiscent. Seeds large, globose, arillate.

Flowering and fruiting - It rarely flowers and produces seeds.

(c) Distribution -

Widely cultivated in tropical Asia - Native country unknown.

(d) Chemistry -

Indian ginger contains an aromatic volatile oil 1-5% light yellow colour having a characteristic odour and contains comphene, phellandrene, Zinziberine, cineol, borneol, gingerol, a yellow pongene body, an oleoresin 'gingerin' is the active principle. Other resin to which ginger owes its pungent flavour, occur just beneath the skin or epidermis. The pungent principles of ginger are not volatile in stem to any appreciable extent and are therefore, not found in the volatile oil. It has, however been isolated and been named 'Zingerol' but its true chemical nature has not yet been finally settled (Chopra, 1976).

(e) Ayurvedic information -

आद्याओऽको अदृश्यतिः कण्य आद्रे - ज्ञातमूलविवेचयः

(SKD Part I)

i) Gana -

Carak - Truptighna, Arsogha, Deepaniya, Sulprasamam,

Trusṇāṅigrana,
Susruta- Pimpallyādi, Trikatu,
Bhāvprakāśa - Paṅckola, Sadusāna

ii) Kula - Ādrak kula

iii) Parts used - Rhizome

iv) Properties--

   Guṇa - Laghu, Snigdha

   Rasa - Katu

   Veerya - Usna

   Vipāka - Madhura

(f) Uses -

The rhizome is bitter in taste, thermogenic, stomachic, digestive, carminative, rejuvenating, somatalgia, synovitis, rachialgia, radiculolgia, radiculitis, ramitis, rheumarthritis, rheumatalgia, rhinitis, rhinalgia, neuralgia, hypothermia, hemiplegia paraplegia, hemicrania, gout, gastropathy, antiflatulence, dyspepsia, cardiodynia, cardio palmus, carminative, benic, antipyretic, antiemetic and the vitiated conditions of Vāta.

5. Piper nigrum Linn. (Plate 4.5)

(a) Vernacular names:

Bengal - Golmorich, Kalamorich, Kolukung Muncha, Murichung, vellajung,

Guirati - Kalamari, kalomirch, miri Hindi chocamirch, Golmirch, Gulmirch,

Botanical Information:

Description:

A stout globrous climber; stems terete, sparingly rooting, much thickened at the nodes. Leaves coriaceous, 10-18 by 512.5 cm, broadly ovate, acuminate, glabrous, 5-9 nerved, the supra-basal nerves usually
alternate, base usually rounded, more or less oblique, petioles 1.3-2.5 cm long. Flowers in slightly interrupted globrous spikes of variable length (5-15 cm), dioecious or sometimes polygamous; bracts of the female spikes more or less adnate to the rhachis, forming a short hemispheric cup beneath the ovary; bracteoles forming a semilunar ridge above the ovary. Stomens 2. Stigmas 2-4. Fruit globose, 6 mm diam. or less, at first yellow, afterwards becoming red when fully ripe.

(c) Distribution:
Throughout India, in evergreen forest upto 1,500 m and also widely cultivated.

(d) Chemistry:
A volatile alkaloid piperine or pipirine 5 to 9% piperidine or piperidin 5% a balsamic volatile essential oil 1-2% fat 7% masocarp. Contains Caricin, a balsomic volatile oil, starch, lignin, gum, fat 1% proteids 7% and ash containing organic matter 5% caricin is a soluble pungent concrete resin, it contains very little piperine and no volatile oil piperine crystallizes in flat, four sided glassy prisms insoluble in water (Malhotra, 1990)

(e) Ayurvedic Information:

(SKD III)
i) Gana -
Caraka - Deepaniya, Sula-prasmana, Krmighna, Shiro-veerecana.
Suśruta - Pipalyādi, Truṣṇa
ii) Kula - Pipali
iii) Parts used - Fruits
iv) Properties:
   - Guna - Laghu, Tikṣṇa
   - Rasa - Katu
   - Vipāka - Katu
   - Veerya - Usna

(f) Uses:

   The fruits are acrid, bitter, anthelmintic, carminative, alterant, ophrodisiac, alexeteric, antiperiodic, deobstruent, diuretic, digestive, emmenagogue, rubefacient, stimulant and stomachic. They are useful in arthritis, pharyngodynia, asthma, fever, cough, catarrh, dysentry, dyspepsia, flatulence, hiccups, haemorrhoids, urethrorrhea and dermatopathy.

6) Piper longum: Linn Sp. Pl. (1753) (Plate 4.6)
   a) Vernacular Names:

   Bengali - Piplamor, Piplamul, Pipi, Pipul; Gujarati - Pipar, Pipli; Hindi - Gazpipal, Pipal, Pipar, Pipalamul, Pipili, Pipulmul; Malayalam - Chopola, kana, kattutipoli, Magadhi, Pippali, Tippoli; Marathi - Pimpali; Punjab - Darfilfil, Filfildaraz, Maghzipipal, Pipal, Piplamul; Snaskrit - Chanchala, Chapala, Danta kapha, Eranda, Gonamika, Granthika, Kagophale, Kana, Kati, Katubija, Kola, Kolya, Korangi, Krikala, Krishna, Krishnapippali, Magadha, Magadhi, Magadhodhava, Pippali, Shoundi, Shyama, Sukhmotandula, Tikatandula, Trikana, Upakulya; Ushana, Vaidehi; Tamil - Argadi, Atti, Kalidi, Kalini, Kaman, Kanna, Kattuttippili-kkodi, Kindigam, Kirandigam, Kolagam, Magadai, Magad, Pippili, Sabala, Sadi, Salani,
Salini, Samilagi, Sonjalai, Savundi, Sayini, Sirumulagam, Sirumulam, Tippili, Tirandigom, Tunavi, Ulagulam, Vayavetti; Telugu - Modi, Pippali, Pippallu; Arabic - Darfilfil; English - Long pepper; French - Poivre long; German - Longer Pfeffer; Greek - Peperi, Makron; Italian - Pepe lungo; Mexican - Tlathancuaye; Nepali Pipal, Piplamol, Popal; Persian - Filfilidaraz, Filfiidroy, Maghzipal, Pipil, Pipal; Spanish - Pimentera larga; Urdu - Pipul.

(b) Botanical Information

Description:

Rootstock erect, thick, jointed, branched, stems numerous, 0.6-0.9 m., ascending or prostrate (not climbing) much branched, stout, cylindrical, thickened above nodes, finely pubescent. Leaves numerous, 6.3-9 cm., lower ones broadly ovate, very cordate with broad rounded lobes at base, upper ones oblong-oval, cordate at base, all subacute, leaves 5-7.5 cm; stout, of upper leaves very short or none; stipules about 1.3 cm, membranous, lanceolate, obtuse, soon falling, spikes solitary, pedunculate, male slender, bracts narrow, female 1.3-2.5 cm bracts circular, flat, peltate; stamens 2; stigmas 3 or 4, short, spreading, persistent. Fruit very small, ovoid, completely sunk in solid fleshy spike which is 2.5-3.8 cm, ovoid oblong, erect, blunt, blackish green, shining.

(c) Distribution:

This plant is indigenous to North Eastern and Southern India and Shriramula and cultivated in Eastern Bengal.
(d) Chemistry:

Resin, volatile oil, starch, gum, fatty oil, inorganic motter and an alkoloid piperine 1-2% . (Malhotra, 1990).

(e) Ayurvedic Information -

पिपळी (फ़री) पियपैली (SKD III)

i) Gana -
   Carak - Kāsahar, Hikkānigrahan, shirovirecan, Vamana, Truptighana, Deepanya, Sulaprasaman,
   Suśrut - Pipalyādi, Urdvabhaṅghar, Shirovirechan.

ii) Kula - Pipalyādi

iii) Parts used - Fruit

iv) Properties
   Guna - Laghu, Snigdha, Tikṣṇa
   Rasa - Katu
   Veepāka - Madhur
   Veerya - Anushana, sheet

(f) Uses -

Infusion is stimulant, carminative and alternative tonic more powerful than black pepper also aphrodisiac, vermifuge and emmunogouge. Externally rubefacient. Root is stimulant. The root and fruit are used in palsy, gout, lumbago.

7) Cyperus rotundus Linn. (Plate 4.7 )

(a) Vernacular Names -

(b) Botanical Information

Description:

Glabrous; stolons elongate, slender 10-20 cm long, bearing hard ovoid tunicate black fragrant tubers 0.8-2.5 cm diam., root fibres clothed with flexuous hairs; stems sub-solitary, 10-75 cm long, triquetrous at the top, sometimes tuberous at the base. Leaves shorter or longer than the stem, narrowly linear, 4-8 mm broad, finely acuminate, flat, 1 nerved. Umble simple or compound, rays 2-8, the longest reaching 7.5 cm long bearing short spikes of 3-10 slender spreading red-brown spikelets (the inflorescence sometimes contracted into a head, occasionally of only one spikelet); bracts 3, variable in length the longest reaching 15 cm long, but sometimes abbreviated and much shorter than the head. Spikelets variable in length, 1.6-3.8 cm by 2.5 mm, linear, subacute, red brown, 10-50 flowered: compressed, rhachilla with hyaline wings. Glumes 3-4 mm long, oblong, obtuse or slightly apiculate, back reddish brown, 3.7 nerved, sides, margins and tip hyaline. Stamens 3; anthers 2.5 mm long
Nut 1.6 mm long, broadly obovoid, trigonous, greyish black, style 1.6 mm long; stigmas 3, elongate, reaching 4 mm long, much exserted.

(c) Distribution -

A cosmopolitan weed seen in tropical, subtropical and temperate regions of all the world. Its plentiful species occurring throughout the plains of India especially South India.

(d) Chemistry -

Fat, sugar, gum, carbohydrates, essential oil, albuminous matter, starch, fibre and ash. There are stresses of an alkold (Malhotra, 1990).

(e) Ayurvedic Information:

नागरमुस्ता (स्त्रो) नागर इब्ब मुस्ता।

(SKD - I)

i) Gana -

Caraka - Trptighna, Trusnānigrahan, Lekhaniya, Kaṃdughna, Stanyāsodhan

Suśruta - Mustādi, Vacādi

ii) Kula - Mustaka- kula

iii) Parts used - tuber

iv) Properties - Guna - Laghu, Ruksha

Rasa - Tikta, Katu, Kaśaya
Vipāka - Katu
Veerya - Sheeta

(f) Uses:

Stimulant, Tonic, demulcent, diuretic, anthelmintic, stomachic, carminative, diaphoretic, astringent, emmenagogue and vermifuge, digestive, blood purifier, antipyretic.


Pl. t. 197- (Plate 4.8)

(a) Vernacular Names:

Myrobalan; Nepal - Harra, Herro; Portuguese Mirabolanos; Urdu - Haejarad.

(b) Botanical Information:

Description:

A moderate, sized or large deciduous tree, attaining 25-30 m in height. Leaf buds, branchlets and youngest leaves with soft, shining, generally rust-coloured hairs. Leaves 7-20 cm by 4-8 cm, glabrous or nearly so when mature, not clustered, distant alternate or subopposite, elliptic-oblong, acute rounded or cordate at base, penninerved, secondary nerves 6-8 pairs, arching prominent; petioles 2-5 cm long, pubescent, usually with 2-gland near the top. Flowers all hermaphrodite, 4 mm across, sessile, dull-white or yellow, with an offensive smell. Spikes sometimes simple, usually in short panicles, terminal and in the axils of the uppermost leaves, bracts exceeding the flower subulate, or lanceolate, hairy, conspicuous among the buds but soon deciduous. Calyx campanulate, 3 mm long, flat at the base expanding a little towards the mouth, glabrous outside, hairy within: teeth 5, short, sometimes obscure. Bark 6 mm thick, dark brown. Wood very hard, brownish grey with greenish or yellowish tinge.

Flowering - April to May.

c) Distribution:

Abundant along the line of the Ghats, Konkan, Mahabaleshwar, Khandala, throughout the greater part of India, Shrilanka, central
provinces and Bengal, common in Tamilnadu, Karnataka, in southern part of Maharashtra.

(d) Chemistry

Myrobalans contain astringent. Principles: tannin (tannic acid) 45% and a large amount of gallic acid, lucilage, a brownish yellow colouring matter, chebulinic acid which when heated in water splits up into tannic and gallic acids (Malhotra, 1990).

(e) Ayurvedic information:

हरितकी (स्त्रो) हरि पीतवर्ष कल्मिता भ्राप्ता इति हरिता
ततो संज्ञायों कन्द गोरादित्वात् ऊँचान्

(SKD - III)

i) Gana

Caraka - Prajāsthāpana, Jwaraghna, Kusthaghna, Kāsahgna, Arsogha

Susṛuta - Triphala, Āmalakyādi, Parusakādi

ii) Kula - Haritaki

iii) Parts used - Fruit

iv) Types:

In Ayurveda there are four varieties
i) Survari Hirda - large, dense and heavy about 2 inches long, yellowish brown, when cut, it contains yellowish or darkish brown pulp and stone.

ii) Ramgari Hirda - These are smaller, less winkle and less furrowed than the above variety, in length about an inch; the epidermis is yellow; when cut it presents a yellow dried pulp and a stone. The pulp is less astringent than of survari hirda.

iii) Bala Hirda are smaller than the above two varieties. Colour is deep brown or black highly wrinkled, dark or brown epidermis. Their pulp is dark and homogeneous, there is no stone.

iv) Jara Hirda - these are the smallest of all. Other characters are similar to those of Bal hirde.

v) Properties -

- Guna : Laghu, Ruksa
- Rasa : Pamcharasa
- Vipāka : Madhur
- Veerya : Usna
- Prabhāv : Tridosahar

v) Uses - Safe and effective purgative, astringent and alterative, unripe fruits are more purgative and the ripe are astringent, stomachic, tonic.

9) Terminalia belerica Roxb. (Plate 4.9)

Vernacular Names:

Bengal - Bahera, Baheri, Bahira, Bahura, Behera, Bhairach, Bohera, Bohora, Boyra, Buhuru; Gujrat - Bahedamuryhad, Bahedo, Bahaza
Beheda, Behedan. Bero, Sag; Hindi - Bahera, Behara, Behra, Bhaira, Bhairach, Bharla, Buhura, Bulla, Sagona; Konkani - Götting, Götting; Marathi - Bahera, Baira, Balra, Beda, Beharda, Behasa, Beheda, Bherda, Bhirda, Hela, Götting, Sagwan, Vāvara, Vela, Yehelabehada, Yela; Punjab - Bahera, Bahira, Balela, Bavrah, Behera, Birha; Sanskrit - Aksha, Anilaghnaka, Baheduka, Bahuvirya, Bhutavasa, Bibhitaki, Harya, Kali, Kalidruma, Kalinda, Kalivriksha, Kaliyugalaya, Kajparviksha, Karshaphala, Kasaghna Kushika, Sanvarta, Tailaphala, Talaphala, Tilapushpaka, Tusha, Vasanta, Vibhitaka, Vishaghna, Tamil - Akkam, Akkana Akkandam, Ambalatti, Kalonduri, Kalitturumam, Kandugam, Sadagam, Sirottam, Tanri, Vidimagam; Telugu - Bhutavasamu, Tadi, Tandra, Vibhitakannu; Tulu Dandi; Uriya - Bahada; Arabic - Baliloj, Batilaj, Beleyluj; Burma - Bankha, Pangam, Phanga, Phangasi, Phankhasi, Ruhira Thitsein, Tissein; Shrilanka - Tanti; English - Bastard myrabolan, Bedda Nuts, Belleric Myrobalan; French Badamier belleric, Myrobalan belleric; Portuguese - Myrabolano bellerico.

(b) Botanical Information:

Description:

A large deciduous tree, 10-20 m. high, leaves gathered about the extremities of the branches, alternate coriaceous, 10-20 by 7-15 cm. broadly elliptic or elliptic obovate rounded or rarely subacute or shortly acuminate, both surfaces puberulous when young, glabrous and reticulate, when old, the margins entire pellucid, base narrowed main nerves 6-8 pairs, spreading, prominent, the midrib prominent on both surfaces; petioles 2.5-10 cm. long, with an offensive odour, in axillary
slender spikes longer than the petioles but shorter than the leaves, those in the upper part of the spike male and very shortly pedicelled those in the lower part hermaphrodite, sessile. Bracts linear, early caducous culyx pubescent outside, inside woolly with long brown hairs; teeth broadly triangular, acute. Young ovary always tomentose. Drupe 12-25 mm diam., ovoid, grey, suddenly narrowed into a very short stalk, velvety, obscurely 5-angled when dried.

When mature the leaves are glabrous and usually punctate on the upper side. The punctations are much more permanent than in the other species.

The bark is bluish grey, with many fine vertical cracks. The wood is yellowish grey, hard, no heartwood, annual rings indistinct. Pores very scanty, large, frequently subdivided, joined by irregular wavy, concentric bands of soft loose cellular tissue.

Flowering - February to May.

(c) Distribution -

Throughout the forests of India, Burma and Shrilanka below elevations of about 3,000 ft. except in the dry and arid region of Pakistan and Rajasthan.

(d) Chemistry -

Beleric myrobalsans consists of gallo-tannic acid, colouring matter resins and a greenish yellow oil 25% Tannin. 21.4% asisterestol, Gallic acid, Elagic acid, Chebulic acid, glucose, galactose, fructose (Malhotra, 1990).
(e) Ayurvedic information:

i) Gana:

Caraka - Jwarhar, Virecanopaga
Suśruta - Triphalā, Mustādi

ii) Kula -

iii) Parts used - fruit

iv) Properties:

Guna - Rūkṣa, Laghu
Rasa - Kaśaya
Vipāka - Madhūr
Veerya - Ushna

(f) Uses -

Fruits are useful in coughs, hoarseness eye diseases, scorpion sting etc. It is astringent in nature. It is a good appetizer, anthelmintic. It is used in asthma as it clears the sputum and acts as an antiinflammatory drug on broncholes.

10) Emblica officinalis: Gaertn. Fruct II (1791)122 (Plate 4.10)


(a) Vernacular Names:

Assam - Amlaki, Amluki; Bengal - Ambolati, Amla, Amalaki, Gujarati - Amoli, Ambala, Ambri, Amla; Hindi - Amla, Amalaci, Amlika, Anola, Aonla; Konkani - Anvallo, Dogranvalli; Marathi - Avala, Anvala, Aonli,
Arola; Punjab - Ambal, Ambli, Ambul, Amla, Aonla; Sanskrit - Adiphala, Akara, Amalaki, Amlika, Amrita, Dhatri, Jatiphal, Shanta, Shiva, Triphala, Vayastha, Vrishya, Tamil Amalagam, Andakoram, Indul, Kattunelli, Nelli; Telugu - amalakamu, Amalaki, Nelli; Arabic - Amliy; English - Emblic Myrobalan Tree; Nepal - Amla; Persian - Amelah, Amuleh; Urdu : Anwala;

(b) Botanical Information:

Description

A deciduous small or middle sized tree with crooked trunk and spreading branches, bark greenish grey, peeling off in conchoidal flakes; branchlets glabrous or finely pubescent, 10-20 cm long, often deciduous. Leaves subsessil, 10-13 by 2.5-3 mm, closely set along the branch-lets, distichous, light green, glabrous, narrowly linear, obtuse, imbricate when young, having the appearance of pinnate leaves; stipules ovate, finely acute. Flowers greenish yellow, in axillary fascicles on the leaf-bearing branchlets, often on the naked portion below the leaves, with fimbriate bracts at the base. Male flowers numerous, on short slender pedicels. Sepals 6, oblong, obtuse, 1.2 mm long. Anthers 3 on a short central column. Female flowers few, subsessile. Sepals as in the male. Ovary 3-celled; styles connate at the base, irregularly twice 2-fid with acute lobes. Fruit 1.3-1.6 cm. diam. fleshy, globose, with 6 obscure vertical furrows, pale yellow of three 2-seeded crustaceous cocci.

(c) Distribution:

Throughout India, in deciduous forests on hill slopes upto 200 m; also cultivated in plains; Shrilanka, China, Malaylslands.
(d) Chemistry:

Gallic acid, Tanic acid, gum, albumin, cellulose, calcium, vitamins, Elagic Acid (Malhotra, 1990).

(e) Ayurvedic Information:

अामल्की का आद्र + मल + क्रृत + जतेरिंदेश पी |

खानामल्क्यांत पद त्वेतिविशेष: | (SKD - I)

i) Gana:
Carak - Vayasthapan, Virecanopāga
Susruta - Triphala, Parusakadi

ii) Kula - Arand

iii) Parts used: Fruit

iv) Properties: Guna: Guru, Rukṣa, Sheeta
Rasa: Paṃcharasa - except Lavan
Vipāka: Madhura
Veerya: Sheet

(f) Uses:

The root bark is astringent and is useful in ulcerative, stomatitis and gastro-helcosis. The bark is useful in gonorrhoea, jaundice, diarrhoea and myalgia. The leaves are useful in conjunctivitis, inflammation, dyspepsia, diarrhoea and dysentery.

The fruits are soar, astringent, bitter, acrid, sweet, cooling, ophthalmic, carminative, digestive, stomachic, laxative, anodyne, alterant, alexeferic, aphrodisiac, diuretic, antipyretic, tonic and trichogenous. They are useful in vitiated conditions of tridosha, diabetes, cough, asthma, bronchitis, cephalgia, ophthalmopathy, dyspepsia, colic, flatulence, hyperacidity, peptic ulcer, erysipelas, skin diseases,
leprosy, haematemesis, inflammations, anaemia, emaciation, hepatopathy jaundice, strangury, diarrhoea, dysentry, haemorrhages, cardiac disorders, intermittent fevers and greyness of hair.

11) **Commiphora mukul** : Engl. (Balsamodendron mukul Hook)

(Plate 4.11)

a) Vernacular Names:

**Bengali** - Gugal, guggul, mukul, Ranghanturb; **Gujarat** - Gugal, Gugoli, Gugar, Guggul, Mukul, Ranghanturb; **Hindi** - Gogil, Gugul, Guggul, Mukul, Ranghanturb; **Marathi** - Guggala, Gulag, Mukul; **Sanskrit** - Bhavabhishtha, Bhutahara, Devdhupa, Deveshta Dhurta, Divya, Durga, Guggulu, Jatala, Jatayu, Kulaniryas Kumbholukhalaka, Kunti, Mahishaksha, Marudishta, Nishadhaka, Palankasha Pavandvishta Pura, Puta, Rakshoha, Sarvasaha, Shambhara, Shiva, Uddipta, Ulukhalaka, Usha, Vayughna; **Tamil** - Gukkal, Gukkula, Maishakshi, **Telugu** - Gugul, Mahisaksha, Maisakshi; **Arabic** - Aflatan, Mogl. Moglearazagi, Mukul carb.

(b) Botanical Information:

**Description** -

Shrubby, 1.2-1.8 m high; young parts glandular -Pubescent; branches knotty and crooked, divaricate, usually ending in a sharp spine. Leaves 1-3-foliolate; leaflets subsessile (the terminal upto 20 by 8 mm), rhomboid-ovate, serrate-toothed in the upper part (the tapering base entire) smooth, and shining, the lateral leaflets when present less than half the size of the terminal ones. Flowers in fascicles of 2-3; pedicles very short. Calyx companionulate, glandular hairy; lobes 4-5, triangular, as long
as the tube. Petals brownish red, broadly linear, nearly thrice the length of
the calyx, reflexed at the apex. Stamens 8-10, alternately long and short,
half the length of the petals. Disk 8-10 lobed, the alternate sinuses deeper
and in these are inserted the shorter stamens. Ovary oblong-ovoid,
attenuated into the style. Drupes red when ripe, 6-8 mm. diam. ovoid,
acute; epicarp 4-valved, pyrenes ovate, acute; readily splitting into 2.

(c) Distribution: Bellary, Mysore, Deccan, Khandesh, Kathiawar,
Rajputana, Desert, Sind, Baluchistan, Arabia.

(d) Chemistry:

From the gum-resin, sesamin, cholesterol, few other steroids,
essential oil containing steroidal ketones, alcohols and aliphatic triols
(mostly as esters of ferulic acid) were reported. The structure elucidation
of steroidal constituents viz. Zguggulsterone, E-guggulstrone, Three new
sterols guggulsteroids I-II and III have been established alongwith partial
synthesis of guggulsterol-I from diosgenin In addition diterpenoid
constituents cembrene-A and mukulol some fatty tetrals octadecan-
1,2,3,4tetrol, eicosan-1,2,3,4 tetrol and non adecan-1,2,3,4 tetrol were
reported.

Two new sterols viz. guggulsterols IV-V have been reported for
the first time known compounds isolated were guggulsteroids I, II, III and
guggulsterones-Z and E (CSMDRI A,M).

A diterpene alcohol, guggulsterone guggulsterol I, II & III were
isolated from the gum-resin (CRU-D).
The chemical compounds reported by the other workers include, myxene, dimyrcene and polymyrcene (from essential oil of resins) along with sugars (in the gum) and aldobiouronic acid, myricyl alcohol, α-sitosterol, fifteen amino acids viz. cystine, histidine, proline, tyrosine, tryptophan, valine, leucine and isoleucine along with sugars, sucrose, glucose and fructose, açompharene cembrene and allylcembreol, cembrène-A (structure of), flavonoids viz. quercetin, quercetin 3-O-α-L-arabinoside, quercetin 3-O-β-D-glucoronide along with the other components like ellagic acid and pelargonidin-3, 5-di-O-glucoside from the flowers. Some steroidal components that is pregnenones - III & III (guggulsterol-VI) were isolated from the gum resin of the drug and the structure of the new Compound III was detected. Seed oil contains linoleic, oleic, stearic and palmitic acids while unsaponifiable matter contains sitosterol, stigmasterol cholesterol, campesterol and α-spinasterol Z-Gugguisterone was reported from the oleo-resin (Malhotra 1990).

(e) Ayurvedic Information:

शुगुल (पु) (गुगुल्ले तेलकति | गुग शब्दे + किन्नू)
शुक्र रोगस्थमात् युक्तीलि | गुड़ रक्षणे + बालहुवकात् हि!

(SKD - II)

i) **Gana** -
Susruta - Elādi

ii) **Kulā** - guggula

iii) **Parts used** - Gum

iv) **Properties** - Guna - Laghu, Ruksa,
Tiksna, Visāda, Suksma, Sara, Sugarāḍhi Snigdha,
Pichilla (New gum)
When fresh the oleogum resin is moist, viscid, fragrant and of a golden colour. It burns in fire, melts in the sun and forms a milky emulsion with hot water.

Guggul gum is an oleo gum resin. Old one has different characteristics properties, however, fresh and recently excluded gum is used in medicine. It is used in rheumatism, nervous diseases, scrofulous affections, urinary disorders, and skin diseases. It is highly reputed in the treatment of rheumatism given internally and applied locally. Mixed with lime juice or coconut oil it is applied as a plaster or "in the form of a lotion in indolent ulcers and bad wounds, and the lotion as a gargle in caries of the teeth, weak and spongy gums, pyorrhoea alveolaris, chronic tonsillitis and pharyngitis and ulcerated throat. A drachm of the tincture (20 per cent in 90 per cent alcohol) in 10 ounces of water makes a useful lotion and gargle. It is used as a stomachic in chronic dyspepsic with dilatation and atony of the walls of the stomach. Troublesome borborygmi are often relieved by the use of this oleoresin. As an intestinal disinfectant, it is used in chronic catarrh of the bowel, chronic colitis, tubercular ulceration of the bowels and diarrhoea. It is believed to stimulate the appetite, improves the general condition, reduces fever, causes absorption of effused products and reduces secretion from diseased
surfaces. In pulmonary tuberculosis it stimulates expectoration and
lessens and disinfects the sputum. In pleural effusions and in ascites of
tubercular peritonitis it is said to be of great value. In marmalade of children it
is said to be of value and is also used in anaemia, neurasthenia, debility
and allied conditions. Guggul given in large doses every 4 to 6 house is
believed to be useful in laryngitis, bronchitis, pneumonia and whooping
cough. It is often combined with salicylate of sodium. It is said to improve
the general condition of the patient of leprosy relieves lassitude, gives a
sense of well being and relieves the nervous pains that are so very
common in this disease. In pyelitis, cystitis and gonorrhoea it is useful
after acute symptoms have subsided. In chronic endometritis,
amenorrhoea, and menorrhagia it is particularly valued. Administered in
large doses it is said to be useful in leucorrhoea. Inhalations of the fumes
of burnt guggul are given in hay fever acute and chronic nasal
catarrh, chronic laryngitis, chronic bronchitis and phthisis. The beneficial
effects of the drug in many of the above conditions can be explained by the
presence of the oleo-resin which contains active aromatic substances.
According to Bhavaprakash (1472) is useful in any sort of wound healing
and also bone fractures as well as disorders.

12) **Prunus cerasoides** (D.Don C. (P. Puddum, Wall)

Roxb ex Brandis Rosaceae. (Plate 4.12.)

(a) Vernacular Names:

**Gujarati** - Padmak, Padmakathi; **Hindi** - Padam, Paddam, Padmakashtha, Pajia, Payo, Phaja; **Marathi** - Padmaka, Padmakastha; **Punjabi** Amalgu chh, chamiari, Paddam, Paja; **Sanskrit** -Charu, Hima, Kaidara,

Botanical Information

(b) Description:

A medium sized or large tree, bark peeling off in horizontal strips, wood pale red. Leaves glossy, nearly glabrous, ovate, long acuminate, sharply serrate, blade 7.5-12.5 cm., petiole 1.3 cm long, 1 or more conspicuous glands on the petiole; stipules pinnately or palmately divided, the divisions linear, grandular-fimbriate. Flowers white, pink, ox-crimson, appearing before the leaves, in umbellate fascicles, approximate near the ends of branchlets; pedicles slender, as long as or longer than the calyx. Calyx turbinate, lobes ovate, acute. Fruit yellow and red, ovoid or globose, 1.3-2 c.m. long, acid, somewhat astringent stone ovoid, rugose and furrowed, supported by the calyx-base, from which the tube separates after flowering.

(c) Distribution:

Outer Himalaya from the Sutlej to Sikkim mostly between 2500 and 7000 ft. Khasia Hills Manipur, Upper Burma 4,600 ft. often cultivated.

(d) Chemistry:

Sukuranetin, Genquanin, Prunetin, Padmakashtin, Sukuranin, Taxifolin, Dadmetin (Malhotra, 1990).
(e) Ayurvedic Information:

i) Gana:
   - Caraka: Vedanāsthāpan, Varnya, Kasaya Skāndha
   - Suśruta: Sāriwadi, Caṇḍanadi

ii) Kula - Taruni kula (Rosaceae)

iii) Part used - Bark

iv) Properties
   - Guna - Laghu
   - Rasa - Kashaya, Tikta
   - Vipāka - Katu
   - Veerya - Sheeta
   - Prabhāva - Vedanāsthāpan

(f) Uses -

The heartwood is astringent, bitter acrid, anodyne, refrigerant, vulnerary, demulcent, digestive, constipating, diuretic, emmenagogue, depurative, antipyretic and tonic. It is useful in vitiated conditions of pitta, burning sensation, sprains neuralgia, wounds, ulcers, leprosy, skin discolourations, pruritus, dyspepsia, diarrhoea, strangury, amenorrhoea, dysmenorrhoea, crysipelas, his cough asthma, vomiting, ophthalmopathy, cephalagia, cardiac debility, hallucinations and intermittent fevers.

C. Mamdoora -
Pedalium murex

Plai-e 4*1

Fagonia Cretica (Linn)

Plate 4.1

Fagonia Cretica (Linn)

Plate 4.2
Bergenia ligulara (wall)  
(Saxifraga ligulata) (wall)

Zingiber officinale  
Plate 4.4
Phyllanthus emblica (Linn)
(Emblica officinalis - Gaertn)

Plate 4-10

Cyperus rotundus (Linn)

Plate 4-7
Balsamodendron mukul (Hook ex Stocks)
(comiphora mukul)
Prunus cerasoides (D.Don)
(Prunus puddum)

Plate 4.12

MANDOOR

Plate 4.13
Mamdura means Lohakitta. While melting the iron there is a thin layer collecting at the top. It is removed and the same is called as Mamdoora or Lohakitta.

Mamdura, which is heavy, slightly glazy and old is supposed to be the best for preparing the medicine.

(a) Method of Preparation

1) Swadamstradi Guggul

It is well documented in Āyurvedic literature, that Gokṣurādi Guggul is one of the most widely used and at the same time, ancient recipe recommended mainly for urinary tract infection or diseases arriving out of kidneys, ureters and bladder disorders. It was first referred in Saramgdharasaṃhitā. As it has been mentioned elsewhere the diagnostic principles based on which recipes are formulated in Āyurveda, is mainly on Tridoṣa theory, and hence Gokṣuradi guggul, as per the Saramgdharasaṃhitā, specifically recommended for all those ailments caused in urinary tract or Apānakakṣā. Accordingly the recipe is prepared using Miri (black pepper), Surīth (dry ginger), pimplí, haritaki, bibhitaka, āmalki, nāgarmothā, gokṣur, and guggula. In the present investigation the very diagnostic principle is based on Paṇcamahābhuta theory, where it is possible to sharply differentiate bodily ailment to reach the cause and treatment, and hence the treatment is Paṇcabhoutik cikitsā. The swadamstrādi guggula is formulated to treat the ailment in an effective way.
<table>
<thead>
<tr>
<th>No.</th>
<th>Common name</th>
<th>Latin name</th>
<th>Part used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gokharu</td>
<td><em>Pedalum murex</em></td>
<td>Dry fruit</td>
</tr>
<tr>
<td>2</td>
<td>Dhamasa</td>
<td><em>Fagonia cretica</em></td>
<td>Whole plant</td>
</tr>
<tr>
<td>3</td>
<td>Lakadipasan</td>
<td><em>Bergenia ligulata</em></td>
<td>Root</td>
</tr>
<tr>
<td>4</td>
<td>Sumth</td>
<td><em>Zingiber officinala</em></td>
<td>Dry Rhizome</td>
</tr>
<tr>
<td>5</td>
<td>Miri</td>
<td><em>Piper nigrum</em></td>
<td>Dry fruit</td>
</tr>
<tr>
<td>6</td>
<td>Pimpli</td>
<td><em>Piper longum</em></td>
<td>Dry fruit</td>
</tr>
<tr>
<td>7</td>
<td>Hirda</td>
<td><em>Terminalia chebula</em></td>
<td>Dry fruit</td>
</tr>
<tr>
<td>8</td>
<td>Behada</td>
<td><em>Terminalia bekerja</em></td>
<td>Dry fruit</td>
</tr>
<tr>
<td>9</td>
<td>Amalaki</td>
<td><em>Phyllanthus embelica</em></td>
<td>Dry fruit</td>
</tr>
<tr>
<td>10</td>
<td>Nagaramotha</td>
<td><em>Cyperus rotundus</em></td>
<td>Bulb</td>
</tr>
<tr>
<td>11</td>
<td>Guggula</td>
<td><em>Comiphera mukul</em></td>
<td>Gum</td>
</tr>
</tbody>
</table>

From the above ingredients 1 to 10 taken each in proportion of one while guggul in the proportion of 10.

Step-1 - Triphala i.e. Hirdâ, Behdâ, Âmalki are taken together in same quantity as that of Guggul. Decoction is prepared adding water 4 folds and keeping it to one fold.

Step-2 - The decoction is decanted and guggul is kept in the decoction, overnight.

Step-3 - Next day the decoction is filtered through muslin cloth. The solution is allowed to settle for at least 6 hours.
Step-4 - The upper layer is decanted in another vessel and the solution is reduced to one-fourth.

Step-5 - All the powders together are added to the solution and mixed vigorously.

Step-6 - The guggula while it is in the wet form, knended into discs and dried.

Step-7 - It is powdered and used in the medicine (Dātār, 1966).

2. Padmaka Kitta Yog:

   a. Method of Preparation

   In Padmaka Kitta Yog there are two ingredients
   
   a) Padmak - Padmakashta
   
   b) Mandoor Bhasma.

   (i) Padmak -

   The bark of the Padmakāstha is sacrificed as it contains hydrocynic acid and the internal dry woody part is powdered and administered directly.

   (ii) Māndoora Bhasma -

   Māndoora Bhasma used for this purpose is prepared in the following way -

   Step-1 - As per the Āyurveda mandoor should be as old as possible. It is regarded that 100 years old māndoor has a best result, eighty year old māndoora has a medium effect and sixty year old or younger than that is normally not recommended. A Good Āyurvedacārya or Vaidya can very easily identify good mandoor. A
good mandoor looks like a deeply rusted iron log. One senses heaviness in it. It is reddish brown with a blackish tinge. It is irregularly eroded and is very hard to cut.

At first if requires to be purified (Suddhikaran). Mandoor should be purified in Triphala decoction and fresh cow-urine. It is noteworthy to mention here that the hirda used in triphala is of a special type called Survari hirda, which is large and bold, although it belongs to the same species Terminalia chebula. Triphala decoction is prepared by boiling mixture of Survari Hirda, bibhitaka and Amalaki in equal proportion. While purifying the mandoor cow-urine and the decoction is mixed in equal proportion. The process is carried out in vertical wooden pot so that mandoor thoroughly comes in contact with the mixture of triphala decoction and cow urine when dipped. This facilitates a very good interaction in ingredients.

Step-2 - Mandoora is first fired till it is red hot and dipped in the mixture of triphala decoction and cow urine. The process is repeatedly carried out for seven times. this facilitates release of mandoor in the decoction mixture. It is allowed to settle.

Step-3 - The upper decoction cow urine mixture is decanted slowly and the settled bottom portion of mandoor is washed with hot water and dried.

Step-4 - The above purified mandoor is taken in a stone pot to which equal amount of mixture of Triphalā decoction and cow urine is added. Then it is dried in sun.
Step-5 - In this step the mandoor is given Gajaputa. 1 cubic metre pit is dug in the soil. The mandoor is taken in the closed earthen curcible and is fired with charcoal overnight, till the entire mandoor goes into brownish powder.

Step-6 - Steps No.4 and 5 are repeated seven times.

Whether the preparation is accomplished for use is assayed in a following way -

i) Varitaratwa
ii) Rekhāpurnatva
iii) Unam Parikaṣa (Vaidya and Dole, 1987)

Whenever the maṇḍoora bhasma is prepared all the above properties have been scrupulously tested before brought into therapeutic use.

In śuddhikaran process of maṇḍoora the purpose of taking Triphalā decoction, cow urine and maṇḍoora in equal proportion by weight is that while maṇḍoora has a tendency of causing constipation, the Triphalā works as a laxative, so that it is able to counter the undesirable effect of maṇḍoora.

It is amazing to know the alchemy of whole preparation in Āyurveda. Cow urine is pungent (Katu) and bitter (Tikta). This property of cow urine helps in releasing every molecule of maṇḍoora in the preparation.
Table - 6.0 : Showing ayurvedic gunadharma of plant and plant organs used in the preparation of the recipe

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Dravyanama</th>
<th>Sanskrit</th>
<th>Rasa</th>
<th>Verrya</th>
<th>Vipaka</th>
<th>Samanya Guna</th>
<th>Visesa Guna</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gokharu</td>
<td>Goksur</td>
<td>Madhur</td>
<td>Seeta</td>
<td>Madhura</td>
<td>Guru, Snigdha</td>
<td>Mutra vircaniya, Krimighna.</td>
</tr>
<tr>
<td>2</td>
<td>Dhamasa</td>
<td>Yavasa</td>
<td>Kasaya, Katu</td>
<td>Usna</td>
<td>Madhura</td>
<td>Laghu, Snigdha</td>
<td>Sothahara</td>
</tr>
<tr>
<td>3</td>
<td>Lakadipasana</td>
<td>Pasanabheda</td>
<td>Tikta, Tikta</td>
<td>Seeta</td>
<td>Katu</td>
<td>Laghu, Snigdha, Tiksa</td>
<td>Trivirvancana, Asmaribhedana.</td>
</tr>
<tr>
<td>4</td>
<td>Suthi</td>
<td>Suthi</td>
<td>Katu</td>
<td>Usna</td>
<td>Madhura</td>
<td>Laghu, Snigdha, Tiksa</td>
<td>Trupighna. Asrogna.</td>
</tr>
<tr>
<td>5</td>
<td>Miri</td>
<td>Marica</td>
<td>Katu</td>
<td>Usna</td>
<td>Katu</td>
<td>Laghu, Tiksa</td>
<td>Deepniya, Sulaprasamana,</td>
</tr>
<tr>
<td>6</td>
<td>Pinnpali</td>
<td>Pippali</td>
<td>Katu</td>
<td>Anusnaseeta</td>
<td>Madhura</td>
<td>Laghu, Tiksa</td>
<td>Trisna nigraha, Krimighna.</td>
</tr>
<tr>
<td>7</td>
<td>Hirda</td>
<td>Haritaki</td>
<td>Pancarasa</td>
<td>Usna</td>
<td>Madhura</td>
<td>Laghu Ruksa</td>
<td>Hikkaniagraha, Kasahara, Deepnaya,</td>
</tr>
<tr>
<td>8</td>
<td>Behda</td>
<td>Bibhitak</td>
<td>Kasaya</td>
<td>Usna</td>
<td>Madhura</td>
<td>Ruksa Laghu</td>
<td>Trupighna, Trupighna,</td>
</tr>
<tr>
<td>9</td>
<td>Awala</td>
<td>Amalaki</td>
<td>Pancarasa</td>
<td>Seeta</td>
<td>Madhura</td>
<td>Guru, Seeta</td>
<td>Sulaprasamana</td>
</tr>
<tr>
<td>10</td>
<td>Nagarmotha</td>
<td>Musta</td>
<td>Tikta, Katu, Kasaya</td>
<td>Seeta</td>
<td>Katu</td>
<td>Laghu Ruksa</td>
<td>Tridosaghna. Prajasthapana,</td>
</tr>
<tr>
<td>11</td>
<td>Guggul</td>
<td>Guggulu</td>
<td>Tikta, Katu</td>
<td>Usna</td>
<td>Katu</td>
<td>Laghu Ruksa</td>
<td>Jwaraghna, Ksharghna, Kasahara,</td>
</tr>
<tr>
<td>12</td>
<td>Pudmakastha</td>
<td>Pudmaka</td>
<td>Kasaya, Tikta</td>
<td>Seeta</td>
<td>Katu</td>
<td>Tiksa Visada</td>
<td>Tridosaghna, Jwarahara, Virecanopaga</td>
</tr>
<tr>
<td>13</td>
<td>Goksuradi Guggul</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Suksma Sara</td>
<td>Vamshthapana, Virecanopaga</td>
</tr>
</tbody>
</table>

- Vipaka: Madhura, Madhura, Madhura