PLANT DESCRIPTION
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I. *Vitex negundo* Linn.

(i) **Synonyms:**

*Vitex bicolor* Willd.; *Vitex trifolia* Graham, *Vitex nirgundi trifolia*.

(ii) **Distribution/Occurrence:**

It is found in shrub jungles and roadsides in the warmer parts throughout India. This plant is indigenous to the Mediterranean countries and Central Asia. It is also found in parts of India and in Burma. The dried fruit, which has a pepper like aroma and flavor, is used in western herbalism.

(iii) **Vernacular Names:**

Hindi : Shambhalu, Shivari, Nisida, Nirgundi

Sans. : Nirgudi, Sinduvaraka, Sephali, Svetakusuma

Beng. : Nisbinda

Tam. : Vellai-nochi

Eng. : Five leaved chaste tree, Three leaved chaste tree

(iv) **Habit:**

A large aromatic shrub or small tree

(v) **Parts Used:**

Whole plant, roots, leaves and bark
(vi) **Plant Description:**

A large aromatic shrub with quadrangular, densely whitish tomentose branchlets; upto 4.5m in height or sometimes a small, slender tree, found throughout the greater part of India, ascending to an altitude of 1500m in the outer Himalayas. Bark thin, grey; leaves 3-5 foliate; leaflets lanceolate, entire or rarely crenate, terminal leaflets 5-10 cm×1.6-3.2cm, lateral leaflets smaller, all nearly glabrous above while tomentose beneath; flowers bluish purple, small in peduncled cymes, forming large, terminal, often compound, pyramidal panicles; drupes globose, black when ripe, 5-6 mm in diameter, invested at the base with enlarged calyx.

(vii) **Flowering:**

During June-August and fruiting in cold season.

(xi) **Traditional Uses:**

Lodhas give stem decoction with paste of long peppers (3:1) to children as cure for whooping cough. Lodha women use young fresh branch for aborting purpose. Leaf decoction with common salt is used in laryngitis while, smoking dried leaf powder is advised as cure for asthma. Santhals take decoction of root barks, about 15ml, with paste of 21 black peppers in catarrh fever with heaviness and dullness of hearing.

Veterinary: Tribals and other ethnic communities use leaf decoction for washing aseptic wounds of cattle.

Insecticide: Tribals and other ethnic communities use fresh twigs as repellent of stem borer (insect) from paddy fields. They put dry leaves for preserving food grains.

Magico religious belief: Lodhas wear a piece of stem about 4 cm long in white thread as cure for Adhakapala (Migraine).
(x) **Medicinal Uses:**

Leaves are vermifuge, aromatic, tonic, alterative, anodyne, antiparasitic, discutient, anti-inflammatory and anti-rheumatic. Rheumatic patients are advised to have bath in water boiled with its leaves. A smoke of dried leaves is taken in headache and catarrh. Roots are anodyne, febrifuge, expectorant and tonic. These are used in boils, colic, dyspepsia, leprosy and as anthelmintic and also as demulcent in piles and dysentery. The root-bark tincture is used in rheumatism. Fruits are cephalic, nervine tonic and dried ones are used as vermifuge. Flowers are astringent, cardiotonic and are prescribed in cholera, fever, diarrhoea and liver complaints.

(xi) **Preparation:**

Nirgundi kalpa, Nirgundi taila, Vishgarbha taila and Safuf fanjisht.

(xii) **Chemical Constituents:**

Subramaniam and Mishra (1978) isolated 2 new leucoanthocyanidins I & II from the stem bark as methyl ethers of leucodelphidin and leucocyanidin-7-o-rhamoglucoside. The seeds contain β-sitosterol, p-hydroxy benzoic and 5-hydroxy isophthalic acids, palmitic, oleic and stearic acids. Leaves contain two alkaloid nishindine and hydrocotylene. Fresh leaves yield pale greenish yellow oil. From leaves organic acids, glucosides, essential oils, alkaloids, flavonoids and β-sitosterol, n-alkenes from seeds. The leaves of the drug have been mentioned to contain essential oil, glucononitol, hydroxyaromatic acids and a glucoside. An alkaloid nishindine, vitamin C and carotene and 5-hydroxy 3,6,7,3′4′-pentamethoxy flavone have also been isolated from the leaves. β-sitosterol, β-amyrin, epifriedelinol, oleanolic acid from heartwood of *Vitex negundo*. 
II. *Tinospora cordifolia* (Willd.) Miers ex Hook. f. & Thoms.

(i) Synonyms:

*Cocculus cordifolius* DC.; *Menispermum cordifolium* Willd; *Tinospora glabra* (N. Burm.) Merr.

(ii) Distribution/Occurrence:

(a) tropical regions of the world (b) throughout India (c) common as climber on hedges, thickets and on top of trees.

(iii) Vernacular Names:

Sans. : Gurnchi

Hindi : Amrita, Giloe

Beng. : Gulancha

Tam. : Amudon

Eng. : Gulancha tinospora

(iv) Habit:

A large, glabrous, deciduous climbing shrub

(v) Plant Description:

Glabrous twiners, stem terete, sparsely lenticellate and often producing filiform aerial roots, green when young with a loose greyish bark when mature; leaves simple, alternate, long petioled, lamina broadly ovate-cordate, shortly acuminate at apex. The flowers are small, yellow and unisexual. Male flowers are fascicled and females are usually solitary. The fruits are ovoid drupes,
succulent, lustrous and red when ripe. The seeds are curved. Flowering is during summer and fruiting in winter.

(vi) **Parts Used:**

The leaves, stem, root and fruits are used.

(v) **Traditional Uses:**

Lodhas prescribe stem decoction with common salt (3:2) as antacid and apply stem paste with paste of long peppers (3:1) for healing bone fracture. Stem and leaf decoctions are used in fever.

Magicoreligious belief: Expected mothers of Lodha community wear aerial root in black thread on saturday after giving a touch to *Tulsibedi* to protect themselves from evil eyes.

(vi) **Medicinal Uses:**

The leaves are prescribed in fever. Stem decoction mixed with the fruits of *Piper longum* and honey is used in fever associated with cough in the doses of 0.35-1.05g per day and in combination with the stem of *Piper longum* and honey is used to control heart palpitation due to flatulency and with combination of sweet oil, is administered in elephantiasis (Filariasis). The root is considered as a powerful emetic and is used for visceral obstruction. The pulverised fruits are considered as tonic and are used in jaundice and rheumatism. Its watery extract known as “Indian quinine” is used as febrifuge. Besides, various parts of the plant are used in general debility, dyspepsia, fever and urinary diseases. A necklace of small pieces of the stem known as “Kamlanimala” is worn in some parts of India as a cure for jaundice.
(vii) **Preparation:**

Guduchayadi churna, Balagutti, Bonnisan liquid, Sudarshan churna, Sanjivanivati, Guduchi taila, Sat giloe and Amritrista.

(viii) **Chemical Constituents:**