



Review on NIRGUNDI (Vitex Negundo Linn.) Plant

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ABSTRACT:

When traditional medicines were first used, a great deal of information about the therapeutic potential of various plants was available. One of the most beneficial plants in the Indian System of Medicine is *Vitex negundo* Linn, also known as niggundi. This large, aromatic shrub has been used for thousands of years and is found all over India. "Nirgundi" has been used medicinally for many years in traditional and folk remedies to treat a variety of illnesses. It appears to assist in restoring the body to its optimal state of health as opposed to just curing a specific illness. This review focuses primarily on the medicinal benefits and actions of *Vitex negundo* Linn, also known as nergundi, in Brihatrayees (Caraka Samhitha, Susrutha Samhitha, and Ashtanga Hridaya).

Keywords: Brihatrayees, Nirgundi, *Vitex negundo* Linn., Therapeutic utility.

Overview:-

The life science of Ayurveda addresses the different connections between the body, mind, and soul. The central tenet of this age-old science is maintaining the health of the healthy and preventing disease in the sick. Nirgundi, botanically known as *Vitex nigundo* Linn. of the Verbenaceae family, is one of the many drugs used in Ayurveda that accomplishes the system's goals.

Because of the flexible nature of its stems and twigs, the word "Vitex" comes from the Latin "vicio," which means to tie or bind. Out of the 270 species that are known to exist in the genus, roughly 18 are cultivated and are called "chaste trees," or just Vitex. Four species were included in the genus when Linnaeus established it in 1753: *Vitex agnus-castus*, *V. negundo*.

Lamiaceae in the 1990s based on DNA sequence phylogenetic analyses (Chantaranothai, 2011). Certain species of chaste trees are indigenous to the warm parts of the Old World. Natural growth of *Vitex Agnus-castus* extends eastward from the Mediterranean Sea to central Asia. Five to seven radiating leaflets make up each leaf. Compared to *Agnus* species, *Vitex negundo*, the fiveleaved chaste tree, is more resilient to cold weather. In addition to Afghanistan, Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Taiwan, and Vietnam (in Asia), vitex is found in Kenya, Tanzania, Mozambique, Madagascar, and other African and Asian countries. Similar habitats can also be found there, along the coast of Mauritius, Japan, and southward through Malaya to tropical Australia and Polynesia.

There are those who argue that *Vitex negundo* is indigenous to both India and the Philippines (Orwa et al., 2009). This assertion can be supported by the fact that the name is present in nearly all regional dialects and languages in both countries (Table 1). *V. negundo*, *V. glabrata*, *V. leucoxydon*, *V. penduncularis*, *V. pinnata*, and *V. trifolia* are the most common species of *Vitex* in India (Kulkarni, 2011). Nearly everywhere, but primarily on wastelands from the coast to an elevation of roughly 1,500 meters in the outer Himalayas, are wild nirgundi (*V. negundo*) plants. It grows best in wastelands and mixed open forests with high humidity levels or beside water courses. On sandy soils, it grows gregariously and is common (Chowdhury et al.,



A] Leaf of nirgundi plant

Historical Review:

The Vedas make no mention of sindhuvara, or white-flowered negundo. "That Which protects the body from diseases" is the literal translation of Nirgundi, the Sanskrit term for V. Negundo. All of the Ayurvedic Samhitas mention it as one of their herbs. Several names for newri are listed in the Amarakosha (500–800 CE), including sinduk, sindhuvara, indrasursa, nirgundi, indranika, and Sinduar. Two names are identified as sindhuvara by the ancient treatise Varahamihira's Brahat Samhita (c. 500 CE). One of its four names in the Puranic texts is nirgundi [Matsya Purana (MP)], followed by Nirgundika, Sindhuvara (MP), and Sindhuvaraka [Agni Purana, MP, Brahma Vaivarta Purana, (BvP)].²The traditional Sanskrit writings, like Ritu Savambhara by Kalidasa³ and Banbhata also names and alludes to these two varieties in his Harsacharita and Kadambari texts.⁴ Most likely the first mention of them is the Charaka Samhita (about 700 BCE) on the blue variety of nirgundi.

Review of Ayurveda:

Ancient Indians distinguished between two types of nirgundi: sindhuvar, which had white flowers (shwetapushpi) and blue flowers (pushpanilika), which was called nirgundi in Sanskrit

- .1) Susruta: two varieties, Svetapuspa and Nila puspë.
- 2) Dalhana: Nirgundi & Sinduvara are the two types.
- 3) Dhanvantari Nighantu—two varieties, Nila and Sveta.
- 4) 5) Two varieties of Bhāvamisra: Svetapuspa (Sinduvara) and Nilapuspi (Nirgundi)
- 6) Kaiyadeva: Three types: Sinduvara, Nirgundi, and Sephalika
- 7) Sodhala: two varieties: Sephalika (blue) and Sinduvara (white).
- 8) Three varieties of Raja Narahari: Sinduvara, Nlanirgundi, and Sephalika.
- 9) Nighantu Ratnākara: two varieties: Aranya Nirgundi and Nirgundi. The following types of Nirgundi are explained by different academics:

Used Parts: Bark, roots, leaves, flowers, and fruits

Nirgundi Colloquial appellations:

- 6,7 Indian Pochotia
- Bengali Samalu, Nishinda, and Nirgundi
- Horseshoe vitex; English five-leaved chaste tree
- Chinese chaste tree
- Nagoda from Gujarat; Shamalic
- Hindi Mewri, Nisinda, Sambhalu, and Nirgundi;

Bile-nekki Kannada
 Indrani Malayalam
 Nirgundi in Marathi
 Simali in Nepal; Nirgundi
 Banna, Marwan, Maura, Mawa, Punjabi
 Swanjan Torbanna
 Sanskrit Nirgundi, Sindhuvara, and Se...
 Ushna Virya (hot)
 Vipaka Katu, a sharp
 Kapha-Vata Shamaka Doshakarma
 Botanical Classification of Nirgundi:
 Plants, or Kingdom Plantae
 Subkingdom Vascular Plants (Tracheobionta)
 Super division: Seed plants (Spermatophyte)
 Magnoliophyta Division: Blooming Plants
 Magnoliopsida class: Dicotyledons
 Asteridae Subclas
 Lamiales Order
 Lamiaceae Family
 Vitex Linn, Genus



B] Nirgundi in natural habitat

Vitex negundo Linn. Pharmacological actions and therapeutic qualities supported by current research findings:

1] Inhibition of inflammation:

The Vitex negundo Linn dosage that is ineffective. enhanced the anti-inflammatory effects of phenylbutazone and ibuprofen in models of cotton pellet granuloma and hind paw oedema caused by carrageenin. Research suggests that it could be helpful as an adjuvant treatment. In addition to common anti-inflammatory medications 16

2] Activity of CNS depressants:

a methanolic leaf extract (*Vitex negundo* Linn). was discovered to greatly enhance the amount of time that pentobarbitone sodium, diazepam, and chlorpromazine caused people to sleep.

3] **Antifungal action:**

Fractionation of the ethanolic extract of *Vitex negundo* Linn. leaves was guided by bioactivity. led to the isolation of five well-known compounds and a novel flavone glycoside. At MIC 6.25 µg/ml, it was discovered that compound 5 and the novel flavone glycoside exhibited noteworthy antifungal activity against *Trichophyton mentagrophytes* and *Cryptococcus neoformans*. 18 2] Invertebrate activity.

To test the ethanolic extracts of *Vitex negundo* and *Moringa oleifera*'s anthelmintic properties against the Indian earthworm *Pheritima Posthuma*. Both plant extracts exhibited dose-dependent activity, however *Moringa oleifera* exhibits greater activity than *Vitex negundo*. 19

4] **Antiallergic Properties:**

Vitex negundo Linn. ethanolic extract. demonstrated antiallergic activity against mast cell degranulation induced by immunological mean

5] **Activity of neutralizing snake venom:**

The *Vitex negundo* Linn. root extracts in methanol. Also demonstrating antisnake venom activity was *Emblica officinalis*. *Vitex Negundo* Linn. is the plant. In both in vitro and in vivo experiments, extracts dramatically inhibited the lethal activity induced by the venom of *Vipera russellii* and *Naja kaouthia*. Both plant extracts significantly reduced the hemorrhaging, coagulant, defibrinogenating, and inflammatory effects of *vipera russellii* venom. There were no discernible precipitating bands between the snake venom and the plant extract.

6] **Anti-tumor Activity:**

Research evaluating the histomorphological effects of *Vitex negundo* extracts in rats revealed that the stomach tissues were unaffected, even at toxic doses [16]. The research found that there were dose-dependent alterations in the tissues of the heart, liver, and lungs. *Vitex negundo* leaf extracts' cytotoxic effects were confirmed using COLO-320 tumor cells [17]. The *Vitex negundo* leaf chloroform extract was found to be non-cytotoxic on mouse genitourinary and mammary cells [19], but toxic on a panel of human cancer cell lines.

7] **Anti-asthma action:**

Aqueous leaves of *Vitex negundo* and petroleum ether, among other fractions, were tested for their antiasthmatic properties using a variety of experimental models, including egg-albumin induced ...

The reference standard employed was dexamethasone. It was discovered that ethanolic extract and *Vitex negundo* were leaf aqueous were beneficial in a variety of asthma experimental models. Mast cell stabilization and effects that inhibit acute hypersensitivity reactions

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8] **Hepatoprotective Properties**

The compounds known as negundoside and agudoside, which are found in *Vitex negundo* extracts, have been shown to enhance liver functions and lower indicators of liver damage, including serum bilirubin, total protein (TP), aspartate, and alanine aminotransferase. *Vitex negundo* leaf extracts have hepatoprotective activity against liver damage caused by d-galactosamine, carbon tetrachloride, and frequently prescribed antitubercular medications [31, 32]. In a different study, an ethanolic extract of *Vitex negundo* leaves protected rat liver cells from paracetamol-induced damage at a dose of 300 mg/kg/body weight. This protection was due to an antibacterial activity.

In an investigation to assess the antibacterial properties, *Vitex Negundo* demonstrated noteworthy efficacy against *E. Coli*, *K. aerogenes*, *P. vulgaris*, and *P. aerogenes* at every dosage. At all dosages, an extract from *V. negundo*'s leaves demonstrated activity against all bacteria. At all dosages, an extract from *V. negundo*'s leaves demonstrated activity against all bacteria. A standard disc containing 30 mg of the antibiotic chloramphenicol was utilized as a positive control [34]. Significant activity against *Bacillus subtilis* was noted. The methanol extract of *Vitex negundo* showed significant inhibition against *Salmonella typhi*, *Pseudomonas aeruginosa*, and *Bacillus cereus*. The most notable inhibitory activity against *Bacillus subtilis*, *Bacillus megaterium*, *Salmonella typhi*, and *Vibrio mimicus* was shown by the pet-ether and carbon tetrachloride fractions. This activity was relatively prominent when compared to the common antibiotic kanamycin. Significant activity was demonstrated by the methanol extract and the pet-ether fraction against *Aspergillus niger* and *Candida albicans*, respectively [35]. Significant activities of the *Vitex negundo* extracts against Methicillin-resistant *Staphylococcus aureus* were found in another study.

Conclusion based on current research findings

Among the Vishaghna Dashemani is Nirgundi. Similar to how *Vitex negundo* is found in almost all medical systems, including Ayurveda, Homeopathy, Allopathy, Chinese medicine, and folklore healing techniques, it is also referred to as Vishaghna & Krimighna. The identification and isolation of a few key chemical constituents, mainly flavanoids, from various parts of leaves, twigs, barks, seeds, and roots has also supported the traditional use of *nirgundi*. The key to the next generation developing into a healthier society in all respects is the plantation and the promotion of the plant as having medicinal qualities.

quantity of plants that are described Nirgundi is one of the herbs with greater medicinal significance in Ayurveda. Over 80% of the world's population receives their primary healthcare from traditional medicine, according to a World Health Organization report. "A man cannot die of disease in an area where Vitex Negundo Linn, Adhatoda vasica, and Acorus Calamus are found," is a well-known local proverb among the Bengalis in the Western Himalayan region of India.

In Indian traditional circles, the plant is known as "sarvaroganivarini," which means "the remedy for many diseases." Since niggundi is a widely used and accessible drug, it merits a review of the literature, as this plant has been the subject of numerous studies. In terms of morphological description, synonyms, and etymology, more research on the therapeutic qualities could be conducted for the general public's benefit. The current context discusses therapeutic utility; extensive descriptions can be found in the majority of samhitas and nighantus. Based on observations of Nirgundi's morphology, therapeutic utility, habit, and habitat, various Acharyas have classified it under distinct varga (groups) for ease of study. "Nishkasya Vyaadhinam Gundayathi Sareeram Rakshatiti" is the etymology of niggundi, which protects the body and heals a variety of ailments.

The legend surrounding Nirgundi/Nirgundi, a plant revered in Indian rituals, is said to have come from Ganesha's abdomen and is used in many sacred ceremonies. On Nithya Somavara Vrata, the leaves are offered to Lord Shiva and Gouri.

mostly flavonoids, etc., from various sections Bark, seeds, roots, twigs, and leaves. Therefore, it is imperative that we all plant nirgundi in our surroundings for the benefit of both the present and the future generations.

Ayurveda characteristics:

Ushna (hot) Virya-Ruksha (dry)

Vipaka-Katu (sour) Tana-Laghu (light),

Tikta (bitter), and Rasa-Katu (pungent),

Kapha, Doshakarma, and Vata Shamaka.

Plants with therapeutic properties have been documented since antiquity (the Vedic era). The Rigveda contained descriptions of 67 medicinal plants, the Yajurveda listed 81 plants that were used medicinally, and the Atharvaveda, the source of Āyurveda, contained mentions of 289 medicinal plants. Astanga Hridaya explained medicinal plants and their properties and uses in 1150, Sushruta Samhitā explained 1270, and the Caraka Samhitā explained 1100.

FINAL VERDICT:

Traditional and ethnobotanical uses of natural compounds, particularly those derived from plants, have drawn a lot of attention recently due to their proven efficacy and general perception as being safer for use by humans. One of the most commonly used herbal remedies in Ayurveda is niggundi. Both internally and externally, it has been widely used. A thorough analysis of the literature on Vitex negundo Linn., also known as nergundi, revealed that it is a widely used remedy. The extraction and identification of multiple potentially active chemical constituents, primarily flavonoids, from various parts of Nirgundi has further substantiated the benefits of its traditional use. Bark, seeds, roots, twigs, and leaves. Thus, it is imperative that we all plant nirgundi in our immediate surroundings. For the benefit of both the current and upcoming generations

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