

The Review on Medicinal Uses of *Nyctanthes Arbortristis* (Night Jasmine)

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Abstract:

Ayurveda is one among the oldest system of medicines that users plants and their extracts for treatment and managing of assorted diseases states *Nyctanthes arbortristis* Linn shrub and subtropical region of the planet that has been conventionally wont to provoke menstruation, treatment of scabies and other skin infection as hair grease, laxatives, diaphoretic, diuretics in treatment of arthritis, malaria, bronchitis and as anthelmintics. *Nyctanthes arbortristis* is one in all the foremost useful traditional medicinal plant in India. It's distributed widely in sub- Himalayan region and southward to Godavari Each a part of the plant has some important medicinal value is thus commercial exploitable The aqueous and alcoholic extract of flower by were prepared and standardized by preliminary phytochemical tests, various invitro antioxidants and free radicals scavenging activities like DPPH, anions scavenging and reducing power activity. Fresh material however, had pronounced antibacterial activities as compared to it of dried plant parts. In Ayurveda, the plant is employed for a spread of pharmacological effects, including anticancer, antimalarial, antiviral etc. it's mythological plant; has high medicinal value in Ayurveda. The popular medicinal use as laxative, in rheumatism, skin ailments and as a sedative. Vitaly, the native plant it in their home gardens to expire its medicinal usage to oncoming generations. This flower is additionally called Night Jasmine.

Keywords: *Nyctanthes arbor-tristis*, scavenging, laxative, Antimalaria, medicines, traditional.

INTRODUCTION:

The earliest speak about of traditional medicine is established in Rigveda, the oldest repository of information during this subcontinent. Later Ayurveda, developed from the Vedic concept of life, became the many basis of all systems of therapeutic sciences. In course of your time it became part of culture and heritage of the people of the Indian subcontinent. The Greek word of a plant is 'Phyto' and chemicals created by plants are called phytochemicals/fight-o-chemicals.[1] Utilization of plants for medicinal usage has been documented long back in ancient works of literature. Such documentation of prime mental object on medicinal plants provided many important drugs of the fashionable era. *Nyctanthes Arbor-tristis*[2]. These inhibitory phenolic compounds are stored within the pericarp assisted by the reproductive structure. The speed of germination is improved by either removing both the coverings or treating seeds with an answer of antioxidants like polyvinylpyrrolidone (PVP) and polyvinylpolypyrrolidone (PVPP) before

germination[3]. The plants used as drugs are fairly innocuous and comparatively free from toxic effects or were so toxic that lethal effects were well-known. The character has provided the storehouse of remedies to cure all ailments of mankind[4]. Since ages, man has been captivated with *N. arbortristis* for curing various body diseases. From ancient civilization various parts of various plants were accustomed pain, control suffering and counteract disease. Most of the drugs utilized in primitive medicine were obtained from plants and are the earliest and principle *N. arbortristis* source of medicines[5]. The employment of the medicinal flowers and plant parts for curing illnesses or diseases has been documented in history of all civilizations. The interest in medicinal and fragrant flowers has been shown everywhere the planet due to their safe and effective energetic principles.[6] The orange heart is employed for dyeing silk and cotton, this practice was started with Buddhist monks whose orange robes got their colour by this flower. The Parijata is regarded in Hindu mythology united of the five wish-granting trees of Devaloka [5]. Different parts of *Nyctanthes arbor-tristis* are known to have for treatment of assorted ailments by tribal people of India especially Orissa and Bihar together with its use in Ayurveda, Siddha and Unani systems of medicines[7,8]



Fig 1: *Nyctanthes Arbortristis* Linn.

Use of the medicinal plants for curing disease has been documented in History of all civilization. The interest in medicinal and aromatic plants has been shown everywhere the earth because of their safe and effective active principles[9]. It may be found within the outer Himalayas and parts of Jammu & Kashmir, Nepal to the east of Assam, Bengal, and Tripura, which stretch from the central region to the Godavari within the south. It prefers arid and semi-arid weather conditions and grows in red and black soils with a pH of 5.6-7.5 [10]. It grows in Indo-Malayan region and disseminated across Terai tracts similarly as Burma and Ceylon 8 . Wherever the elevation is above 1500 feet from water level as a shrub but at 3000 feet it is well formed tree called cow by the natives. The wood is chiefly used for handles of axes koolharees for turning purposes and as firewood[11].

Vernacular names:

Family: Oleaceae, *Nyctanthes*.

Unani: Harasingaar.

Sanskrit: Parijata.

Siddha: Pavazha Mattagami.

Hindi: Harsingaar.

Ayurvedic: Parijata, Shephaali, Shephaalika, Mandaara.

English: Tree of Sorrow, night jessamine, Coral Jasmine.

Marathi: Parijathak.

Kannada: Parijata.

Plant Description:

Nyctanthes arbor-tristis can be a shrub or a little tree growing to 10m (33 ft) tall, with flaky grey bark. The leaves are opposite, simple, 6-12 cm (2.4-4.7) long and 2-6.5 cm (0.79- 2.56) broad, with entire margin.[12] It grows in Indo – Malayan region and distributed across Terai tracts furthermore as Burma and Ceylon. It tolerates moderate shade and is usually found as undergrowth in dry deciduous forests.[13] *N. arbor-tristis* Linn. (NAT) can be a little tree or shrub growing upto 15-20 feet tall with a grey flaky bark. It is a awfully popular spermatophyte in warm, humid regions. It's somewhat square shaped stem and shoots. Stem bark is brown, rough and white spots are found thereon.[14] it is also invaded open forests margins, the edges of stems and shrub lands. The plant grows best in well-draining, sandy soil, preferably somewhere with many space for its roots to unfolded. Young twinges are thinly finely hairy. Branches are erect or drooping, angular, olive or bluish-green, lenticel late and glabrescent.[15]

Taxonomical Classification:

Kingdom: Plantae

Division: Magnoliophyta

Class: Magnoliopsida

Order: Lamiales

Family: Oleaceae

Genus: *Nyctanthes*

Species: *arbor-tristis*

Binomial name: *Nyctanthes arbor-tristis*

Medicinal uses of *Nyctanthes arbor-tristis* :

Nyctanthes arbor-tristis is most vital in local and traditional medicines especially in India for treating intermittent fevers, arthritis and obstinate sciatica. Crude extracts and isolated compounds from the plant were shown to be pharmacologically active against inflammation, malaria, infection, leishmaniasis and as an immunostimulants.[16] Reported that bioactive compounds of *Nyctanthes arbor-tristis* are very useful to impress menstruation, treatment of scabies and other skin infections, as a toiletries, chalogogue, laxative, diaphoretic, diuretic, treatment of arthritis, malaria, bronchitis's and anti-helminthic.[17]

Seeds: Seeds employed in diabetes, also in cutaneous diseases. Filaments— astringent and cooling; prescribed for bleeding piles and menorrhagia. Plant—toxic on the nervous system.



Fig.2 *Nyctanthes arbor-tristis* seeds

The seeds are used as anthelmintics and in alopecia. It's antibilious and an expectorant, and is additionally useful in bilious fevers. The powdered seeds are accustomed cure scurfy affections of scalp, piles and skin

diseases.[13] On the idea of chemical constituents, Seeds contain Arbortrioside A&B, Glycerides of polyunsaturated fatty acid, oleic acid, lignoceric acid, saturated fatty acid, palmitic and myristic acids, nyctanthin acid, 3-4 secotriterpene acid, a water soluble polysaccharide composed of D-glucose and D mannose.[18]

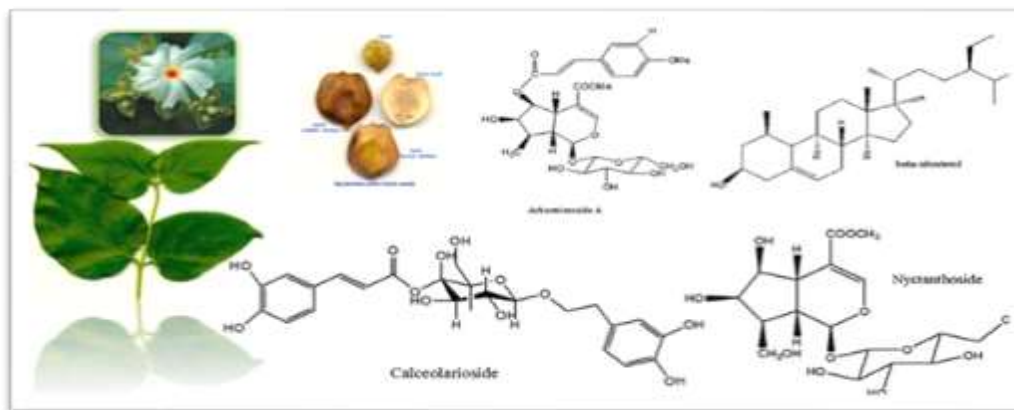


Fig.3 Chemical constituents in seed of Nyctanthes Arbor-tristis

Leaves: The leaves of *Nyctanthes arbor-tristis* Linn are used extensively in Ayurvedic medicine for the treatment of varied diseases like sciatica, chronic fever, rheumatism, and internal worm infections, and as a laxative, diaphoretic and diuretic. Leaves are utilized in cough reduction. Leaf juice is mixed in honey and given thrice daily for the treatment of cough. Paste of leaves is given with honey for the treatment of fever, high vital sign and diabetes. Juice of the leaves is employed as digestives, antidote to reptile venoms, mild bitter tonic, laxative, diaphoretic and diuretic. Leaves are employed in the enlargement of spleen. The leaf juice is employed to treat loss of appetite, piles, liver disorders, biliary disorders, intestinal worms, chronic fever, obstinate sciatica, rheumatism and fever with rigors. The extracted juice of leaves acts as a cholagogue, laxative and mild bitter tonic. It's given with little sugar to children as a remedy for intestinal.[18] The plants leaves are having immense medicinal value and are thus commercially exploitable. It's popular garden shrub that grows to a height of three.0-4.5 m and holds a vital role in conditions associated with fever and inflammation.[19]



Fig.4 Leaves of Nyctanthes arbor-tristis

Asthma- Leaf (5-6 numbers) and one leaf of Piper beetle are crushed together and brought thrice daily to release cough and cure asthma. Bed sores- Leaf paste is applied twice daily over the affected part regularly. Spleen enlargement- Leaf of the plant, leaf of Hygrophila auriculata and Achyranthes aspera are crushed together and brought with cow's milk 2-3 times daily. Intermittent fever- Leaf (5-6 numbers) extract and rhizome of ginger extract are mixed together and brought 3 times daily for 7 days. Leaf extract (2 teaspoon) of the plant, rhizome extract of ginger and honey are mixed together and is taken 2 times daily for 7 days. Anthelmintic- Leaf extract together with lime water is taken once daily in empty stomach. Sciatica- Leaf (10 numbers) paste is in love a glass of lukewarm water and is taken 2-3 times daily. Constipation and Stomach disorder- Seed paste is crazy water 2 times daily. Dandruff and lice- Seed paste is applied over the affected part.[20]

Flowers: The flowers are used as stomachic, carminative, astringent to bowel, expectorant, toiletry and within the treatment of piles and various skin diseases and within the treatment of ophthalmic purposes. The intense orange corolla tubes of the flowers contain a colouring substance which is identical with α -Croctin from Saffron. The corolla tubes were formerly used for dyeing silk, sometimes along with Safflower.[18]

The flowers are used as stomachic, carminative, astringent to bowel, antibilious, expectorant, toiletry and within the treatment of piles and various skin diseases and in the treatment of ophthalmic purposes. The bright orange corolla tubes of the flowers contain a colouring substance nyctanthin, which is identical with α -Croctin from Saffron. The corolla tubes were formerly used for dyeing silk, sometimes together with Safflower or turmeric.[21]



Fig. 5 Flowers of Nyctanthes Arbortristis

Bark: The bark used as a tanning material and also the leaves sometime used for polishing wood and also the ivory.[21] The bark contains glycosides and alkaloids an used for various purposes. Sometime bark is incredibly useful for wound.[15]

Stem: The branches are somewhat flexuous (bending and twining) and are sparsely finely hairy (pubescent) with simple hairs. The smaller twigs especially, exhibit these hairs. The stems contain the glycoside naringenin-4-0- β -glucapyranosyl- α -xylopyranoside and β -sitosterol.[15]

Side Effects of Nyctanthes Arbortristis:

Parijat should be used cautiously and moderately. There will be some side effects of Parijat that may be seen:

- Parijat leaves have a bitter and sharp taste which will cause vomiting for first time consumers.

- Continuous use of parijat leaves can cause gastric lesions because it contains salicylate.
- The leaves also contain phenol which will cause stomach irritation, nausea, and vomiting for a few people.
- Ingesting large amounts of Parijat leaves directly can cause nausea, stomach irritation, and diarrhoea because of the presence of glycoside within the leaves.

Treatment of Piles, Gout, Dry Cough:

The seeds of *N. arbortristis* are utilized in treatment of piles. The decoction of *N. arbortristis* flowers are utilized in treatment of gout. Leaves are used against dry cough. The aqueous paste of leaves is employed externally in treatment of skin related troubles specifically in treatment of ring worm. The young leaves are used as female tonic. *N. arbortristis* also has hypoglycaemic effect, potentiating action of exogenous insulin and streptozotocin- induced diabetic rat model.[22]

Toxicity of *Nyctanthes arbor-tristis*:

This concentrate additionally showed aggravation results since it, portion conditionally, go away a laxative effect as confirmed via the arrangement of unformed semi-liquid collagenous pale stools in pale skinned person mice, created conjunctival clog with oedema while imparted into the bunny's eye, while the person who grounded the dried leaves progressed vesicles on both palms.[23] The harmful effect of the ethanolic concentrate of leaves of *Nyctanthes arbor-tristis* has been identified in rats.[24] a corporation of ethanol concentrate of the leaves (1, 2 and 4 gm/kg/day) orally for 6 back to back days is formed gastric ulcers in rats.[25] Its antifungal activity of the leaves was established against *Alternaria alternate*.[26] a trial had been made to gauge the antitrypanosomal activity of fifty ethanol extract of its leaves and located to possess significant activity.[27] The leaves of NAT are used extensively in Ayurvedic medicine for the treatment of assorted diseases like internal worm infection and as laxative.[28] like other parts of *Nyctanthes arbor-tristis* are useful in medicaments, as well as in Ayurveda. Powdered seeds are in use to cure scurfy affection of scalp and in piles and skin diseases. Powdered stem bark are used traditionally in rheumatic joint pain and internal injury. The bark is additionally used as expectorant together with other adjuvants. The flowers in and of itself are bitter, astringent, carminative, stomachic and then utilized in a number of the ophthalmic purposes. The juice of the flowers is employed to forestall greying of hairs and baldness.

CONCLUSION:

The plant *N. arbor-tristis* is one in all the foremost important sources of medicinally important phytochemicals widely experimented by such a lot of people. Up to now most of the scientific works are conducted on the leaves and seeds of *N. arbortristis* plant although there are reports about using bark powder and root extract in folk medicine. In last four decades the scientists are keen to judge many plant drugs employed in medicinal folk lore. It's thanks to their specific healing properties, healthy action and non-toxic effects. During this dimension pharmacognostic studies on *Nyctanthes arbor-tristis* L. fruit could be a substantial step and it further requires a protracted term study to gauge pharmacological action further because therapeutic efficacy and toxicity of fruit to ascertain as the drug. The pharmacognostic study of the *Nyctanthes arbor-tristis* L. fruit has been dispensed for the primary time. Plant has wide selection of pharmacological actions, which can be therapeutically beneficial for overall health and wellness of population, the necessity of the hour to further research in clinical aspect. Animal studies enlighten on

anti-pyretic, antibacterial, anti-viral, anti-inflammatory, hepatoprotective, antihistaminic, anti-filarial, anti-oxidant, immune-protective activities of Phyto-chemicals. *N. arbor-tristis* possessed a broad spectrum of activity against a panel of bacteria answerable for some common microbial disease in human and in plants. *Nyctanthes arbor-tristis*, a valuable medicinal plant could be a unique source of useful metabolites like alkaloids, phytosterols, phenolic, tannins, flavonoids, glycosides and saponins. The medicinal study of the *Nyctanthes arbor-tristis* L. fruit has been administrated for the primary time. This might also serve within the identification and preparation of a monograph on the plant.

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