A Basic Information, Cultivation and Medicinal Use of *Tinospora cordifolia*
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*Tinospora cordifolia*, commonly known as *Giloy* or *Guduchi* is a multipurpose herb used widely in many Ayurvedic preparations. The stem of *Tinospora cordifolia* has a nutrient starch which is extracted and used in medicine. The principal constituents of *Tinospora cordifolia* are tinosporine, tinosporide, tinosporaside, cordifolide, cordifol, heptacosanol and tinosporidine all of these are effective in removing body toxins and improving immune system. The taste of the extract is bitter sweet with no distinct flavour. It is believed to impart youthfulness, vitality and longevity and hence it is also called *Amritam* in Sanskrit. In Ayurvedic medicine, Giloy is used as a tonic and as a remedy for diabetes. According to Ayurvedic concept, giloy is a *rasayana* herb, which enhances longevity, promotes intelligence and prevents diseases. The drug is well known Indian bitter and prescribed in fevers, diabetes, dyspepsia, jaundice, urinary problems, skin diseases, chronic diarrhea and dysentery. It has been also indicated useful in the treatment of heart diseases, leprosy, helmenthiasis and rheumatoid arthritis. The stalk obtained from the stem known as *guduchi-satva* is highly nutritive and digestive and used in many diseases.

**Introduction**

*Tinospora cordifolia* is belong to family Menispermaceae. It is a shrub that is native to India. Its root, stems, and leaves are used in Ayurvedic medicine. *Tinospora cordifolia* plant is found mainly in Malaysia, India and Srilanka. There are about 40 species of Giloy which are found throughout the world, comprising parts of Africa, Southern Eastern Asia, and Australia. Out of 40 species only 4 species have been found in India. The main parts uses of this plant are stem and root. *Tinospora cordifolia* is known as Giloy in hindi and it is also known as Guduchi (Marathi name). Giloy is an evergreen herbaceous perennial climbing shrub. It is found growing throughout in tropical India. Giloy can be seen growing widely on the big trees sometimes thickly covering the entire canopy and hanging from all over the tree. It has a soft stem and heart shaped leaves. It is called Heartleaf Moon seed in English. It is a multipurpose herb used widely in many Ayurvedic preparations. The stem of Giloy has a nutrient starch which is extracted and used in medicine. The taste of the extract is bitter sweet with no distinct flavour. It is believed to impart
youthfulness, vitality and longevity and hence it is also called “Amritam” in Sanskrit. In Ayurvedic medicine, Giloy is used as a tonic and as a remedy for diabetes. It reduces blood glucose levels and has anti spasmodic, anti viral, anti bacterial, anti inflammatory and anti pyretic properties. It is diuretic. It is an adaptogen. It helps to build up the immune system and increases the resistance of the body against infections. It also stops pre-mature ageing. Fresh juice obtained from the herb aids digestion. It is a blood purifying herb and helps in treating skin diseases. Giloy extract is the main ingredient in the formulations for treating cardiac weakness, anaemia, chronic fever and jaundice. According to ayurvedic concept, giloy is a rasayana herb- A herb that enhances longevity, promotes intelligence and prevents diseases. The demand for medicinal plant by the pharmacies

is seen to be moving in correspondence with the rate of growth of consumer demand for the Ayurvedic medicines ten percent per annum from 1993 to 1996 (Suneetha and Chandrakanth, 2002). At home one can harvest the stems in hot season and extract juice and dry it. Once the liquid dries up, white starch is left behind. This is used as medicine. Fresh juice can also be extracted and taken. Capsules of the extracts of giloy of many well known brands are available in the market.

Common names
There are many common names for this species in different languages. Telugu: (Tippa-teega) Tamil: (Shindilakodi) Malayalam: (Amruthu, Chittamruthu) Kannada: Amrutha balli, Sinhala: Rasakinda, Hindi:geloy (गिलौय), guruc (गुरूच), gurcha, Gujarati: galac, garo, Sanskrit: Amritavalli (अमृतवल्ली), amrta (अमृत), cinndbhava (छिन्नोद्भव), Marathi: Guduchi (गुडुची), gulvel (गुल्वेल) Oriya: Guluchi

Cultivation
The plant is very hardy and it can be grown in almost all climates but prefers warm climate. It grows well in almost any type of soils but Medium black soil or red soil is the best for the cultivation of Tinospora Cordifolia. Tinospora can be propagated by seeds and also vegetative cuttings. The best way is vegetative way. The cuttings of the small finger thickness with 6 to 8 inch length long stem having two nodes are used. Promotion of rooting of shoot cuttings by exogenous auxins application in several species has been reported (Hartmann et al., 1997). The cuttings are dipped by quick dip method in 2500 ppm of IBA and get greater success of rooting. This may be planted in poly bags of 4 inch ×6 inch size. The poly bags filled with mud, sand and dry cow dung in the ratio 1:1:1. The rooting of the cuttings takes almost 4 to 5 weeks. The cuttings of Tinospora cordifolia will be ready for planting into the main field by this time in the month of May-June. The seeds are curved. Flowers appear during the summer and fruits during the winter (Kirtikar and Basu, 1975; Anonymous, 1976). It requires some support preferably Neem and Mango trees, such plants are supposed to possess better medicinal values. Periodical hoeing is done, both in the nursery and field as per requirement. The medicinal plants have to be grown without chemical fertilizers and use of pesticides. Organic manures like, Farm Yard Manure (FYM), Vermi-Compost, Green Manure etc. may be used as per requirement of the species. To prevent diseases, bio-pesticides could be prepared (either single or mixture) from Neem (kernel, seeds & leaves), Chitrakmool, Dhatura, Cow's urine etc. The field after plantation should be irrigated periodically as and when required weekly or fortnightly. Mature plants are collected, cut into small pieces and dried in shad. Yield Approximately 8-10 q./ha and The rate for a kg. of dried stem ranges from Rs. 15-20.
Uses in Diseases
Many disease which this is used in Dengue, Swine flu, Bird flu, Fever of unknown origin, Throat infection, Sneezing, Coughing and Body aches.

Few of its medicinal uses are
1. If you are suffering from any kind of skin diseases if giloy juice is taken with neem and amla it is very effective. You can see the result in fifteen days.
2. In pilled its juice with butter milk is very useful.
3. Its juice is considered very effective in removing both exogenous and endogenous toxins. It also cleans out the brain toxins that disturbs mental function.
4. My father is an Asthma patient and he started chewing its root and bark every day. This has helped him a lot. Giloy is effective in respiratory troubles particularly in asthma. My father took it every day weather he was having problem or not.
5. In Diabetes it juice is taken in high quantity regularly.
6. Its steam, leaves and root can be used in excessive bleeding during menstruation or if one have bleeding after abortion or delivery. 5 grams of its leaves are crushed together and its juice is extracted. Its juice is taken in 2 to 3 ml in half cup of water and given to the patients till their conditions improve.
7. Used in malaria and other fever too which is taken with honey. (The stem of the plant with pipil (Piper longum) is taken).
8. During indigestion the juice is taken or the paste of the leaves is given with butter milk.
9. The stem of Tinospora cordifolia is one of the constituents of several ayurvedic preparations used in general debility, dyspepsia, fever and urinary diseases (Singh et al., 2003).
10. Modern use of Tinospora cordifolia is as an immuno modulator has drawn the interest of researchers in the last few decades (Spelman, 2001).

Some practical uses of Tinospora cordifolia
- The principal and constituents of giloy are tinosporine, tinosporide, tinosporaside, cordifolide, cordifol, heptacosanol and tinosporidine, all of these are effective in removing body toxins and improving immune system.
- Giloy satva is considered to be a good remedy of headaches (along with triphala churna) caused due to dosha imbalance, giloy satva is a solid powdery substance which is a water soluble extract of the stems of giloy, giloy juice is considered to be clearing some nervous toxins which in turn helps in brain function, that might be helping in management of headaches too.
- Giloy juice taken with neem, haldi and amla is effective in treatment of skin affections, the most annoying types of eczema, lichens planus and other infections can be treated with this (point to be noted is that long standing affections take more time to be cured), the juice is considered a good blood purifier and hence useful in skin affections.
- Giloy juice with buttermilk is beneficial in treatment of piles and fissures, other dietary restrictions should be followed alongside.
- The root and bark juice taken with whey helps in curing asthma and other respiratory ailments.
- Stem decoction is considered good for improving the quality of breast milk in lactating mothers.
- The fresh juice of stem (a foot long stem crushed and juiced) taken daily in the morning is useful in controlling blood sugar. (Dietary restrictions not to be forgotten).
- Excessive menstrual bleeding can be controlled by fresh juice too, to be taken twice a day, till condition improves.
- Warm decoction of stem with pippali (Piper longum) and honey is good for fevers cause by infections in the body.
For indigestion, the juice of stem with honey or leaf paste mixed with buttermilk and seasoned with black salt and roasted cumin powder are very effective.

Since the stem decoction is considered anti-inflammatory and diuretic, it helps in urinary tract infections, addition of fennel seeds and palm candy to the decoction is useful.

For gout and high uric acid conditions, the fresh stem juice first thing in the morning helps; low protein diet will be helpful in a fast relief.

Since it is a good immunomodulator, it helps in the management of several autoimmune diseases.

Also as is claimed in Ayurveda, the juice of wheat grass, giloy and aloe Vera is considered very beneficial in treatment of blood cancer, a foot long stem piece of giloy, 3-4 inch piece of aloe leaf and a cup full of wheat grass has to be juiced together, the green juice is considered to lessen chemotherapy sessions.

**Treatment and Prevention of Malaria, Yellow Fever, Encephalitis, Dengue Fever**

The best remedy is to take white inner bark of Neem (Neem antarchaal), Rasont (Daruhaldi) and Satva Giloy, all in equal quantity, ½ tea spoon with warm water. This protects from all types of infectious fevers.

Juice of 1ft. Long Branch of Giloy and seven leaves of Tulsi; boiled and taken as a herbal drink enhances body’s resistance level up to three times. It also increases platelets count, which decreases considerably in Dengue fever.

*Tinospora cordifolia* is used for diabetes, high cholesterol, allergic rhinitis (hay fever), upset stomach, gout, lymphoma and other cancers, rheumatoid arthritis (RA), hepatitis, peptic ulcer disease (PUD), fever, gonorrhoea, syphilis, and to boost the immune system.

**How does it work?**

*Tinospora cordifolia* contains many different chemicals that might affect the body. Some of these chemicals have antioxidant effects. Others might increase the activity of the body's immune system. Some chemicals might have activity against cancer cells in test animals. Most research has been done in test tubes or in animals. There isn’t enough information to know the effects of Tinospora cordifolia in the human body.

**Tinospora Cordifolia: Side Effects and Safety**

*Tinospora cordifolia* seems to be safe when used short-term. The safety of long-term use, more than 8 weeks, is not known.

**Special Precautions and Warnings**

Pregnancy and breast-feeding: Not enough is known about the use of *Tinospora cordifolia* during pregnancy and breast-feeding. Stay on the safe side and avoid use.

**Diabetes:** *Tinospora cordifolia* might lower blood sugar levels. Use it cautiously if you have diabetes, and monitor your blood sugar levels. The doses of your diabetes medications might need to be adjusted.

“Autoimmune diseases” such as multiple sclerosis (MS), lupus (systemic lupus erythematosus, SLE), rheumatoid arthritis (RA), or other conditions: *Tinospora cordifolia* might cause the immune system to become more active, and this could increase the symptoms of autoimmune diseases. If you have one of these conditions, it’s best to avoid using *Tinospora cordifolia*.

**Surgery:** *Tinospora cordifolia* might affect blood sugar levels, so there is a concern that it might interfere with blood sugar control during and after surgery. Stop taking *Tinospora cordifolia* at least 2 weeks before a scheduled surgery.
**Tinospora Cordifolia Dosing**
The following doses have been studied in scientific research:

**By Mouth**: For allergic rhinitis (hay fever): 300 mg of a specific *Tinospora cordifolia* aqueous stem extract (Tinofend, Verdures Sciences) three times daily for 8 weeks.

**References**

Hiremath VT and Taranath TC. 2010. Traditional Phytotherapy for Snake bites by Tribes of Chitrardurga District, Karnataka, India Ethnobotanical Leaflets 14: 120-25.


