# Tinospora cordifolia: A Promising Herb of Ayurveda

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# ABSTRACT

Ayurvedic products (naturally obtained) with medicinal value are gradually again gaining importance worldwide. Tinospora cordifolia, commonly known as "GUDUCHI" is the nectar plant and has been called amrita in Sanskrit as it works in detoxifying and rejuvenating and boast immunity of the body. It is climber in nature which belongs to the family "Menispermaceae". It is a deciduous plant with dry woods grown in tropical districts in India, Myanmar, and Sri Lanka, frequently climbing over fences or small trees. Following chemical constituents are alkaloids, diterpenoids lactones, glycosides, steroids, sesquiterpenoid, phenolic, aliphatic compound, and polysaccharides. T. cordifolia is found effective in dyspepsia, fever, urinary disorders and shows the following biological activities such as anti-fungal, anti-inflammatory, anti-arthritic, and spermicidal

Keywords: Guduchi, Immunomodulatory, Tinosphora cordifolia.

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# INTRODUCTION

Plants have been the most significant source of dietary substances, drugs, and beauty care products from the beginning of human civilization. This article consists of the chemical substance, pharmacological properties of the plant "Tinospora cordifolia" (Chunekar & Pandey, 2004; Vaidya, 1994) It is known as Amrita, its main pharmacological property is immunomodulatory. Immunity is the principal cycle that safeguards the body from the infections and sometime, the body is unable to produce enough response to eliminate them. Intake of the plant like T. cordifolia as medicine helps the body produce enough response against the diseasecausing bacteria or foreign matter (Anomymus, 1986; Joshi, 2019; Aman Sharma, Baghel, Mittal, & Singh, 2019).

### **Botanical Classification**

"Botanical name"	"Tinospora cordifolia"
"Family"	"Menispermaceae"
"Kingdom"	"Plantae"
"Division"	"Magnoliophyta"
"Class"	"Magnoliospida"
"Genus"	"Tinospora"
"Species"	T. cordifolia <sup>[7]</sup>

# Distribution

Guduchi found in India, Mayanmar and Sri Lanka. Guduchi is found all through the tropical area of India and up to the height of 1200 m from ocean (P. Sharma, 1998; Vaidya Gogte, 2009).

# Habit and Habitat

T. cordifolia is a deciduous climber. it flourishes effectively in the topical reasons, often growing t great heights and grown over hedges and small trees (Chunekar & Pandey, 2004).

#### **Description of Guduchi in Ayurvedic Texts**

S.N	Name of text book	Varga/gana	"Rasayana, Sangrahi, Balya, Agnidioana,	"Daha, meha, kasa, pandu,	"Bhav p Nighar
1.	Charak Samhita	"Sandhaniya" "Tripthigna" "Sthanyashodana snehopaga" "Trishnanigrahanan" "Dahaprashamana" (Sastri, 2013)	Tridoshshamak"	kamla, kushta, vatarakta, jwara, krimi, prameha, swas, arsha, krichi, hridroga"	Sharma 1979) "Guduo (Kamat

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2.	Astanga Hridya	"Tiktavaarga" "Patoladigana" "Guduchyahdi" "Aravadadigana" (Vidyanath, 2006)
3.	Sushrut Samhita	"Aragvadadi" "Guduchyadi" "Shyanmadi" "Patoladi" "Kakolyadi" (Yadavji, 1980)
4.	Dhanwantari nighantu	"Guduchyadi varga" (Kamat, 2002)
5.	Bhavprakash nighantu	"Guduchyadi varga" (Chunekar & Pandey, 2004)
6.	Kaiyadeva nighantu	"Aushadi varga" (P. V. Sharma & Sharma, 1979)
7.	Priya nighantu	"Pippalyadi varga" (PV, 2004)

# Karma (Action-pharmacodynamics) and Prayoga (uses) According to Various Ayurvedic Texts

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Action	Medicinal use	References
"Rasayana, Sangrahi, Balya, Agnidioana, Tridoshshamak"	"Daha, meha, kasa, pandu, kamla, kushta, vatarakta, jwara, krimi, prameha, swas, arsha, krichi, hridroga"	"Bhav prakash Nighantu" (P. V. Sharma & Sharma, 1979) "Guduchuadi varga" (Kamat, 2002)

Action	Medicinal use	References	
"Vata-pitta- kaphanashak Trishnanashaka, Agnideepaka"	"Jwara, chardi, daha"	"Astang sanghr sutrasthan" (Vidyanath, 2006)	
"Sangrahi, Vatahara, Agnideepana, Shlesm-Shonit- Prashamana"	"Vivandha"	"Charak Samhita" (Sastri, 2013)	"Osteo activity
"Tridoshashamaka, Vishagni, Jawara- bhootagani"	"Jawar, daha, trishna, vataraktha, prameha, pandu, bhrama, balipatila″	"Raj nighantu Guduchyadi varaga" (Tripathi & Dwivedi, 2006)	"Diuret
"Dipana, Grahi"	"Kas, pandu, jwara"	"Ark prakash tritiya shatak" (Tripati, 1995)	
"Balya, Tridoshashamaka"	"Laghujwara, meha, daha, kasa, pandu,vitsarana (Atisar)"	"Siddh bhesajya mani mala Dwitiva" (K., 1999)	"Anti-m activiti

# **Chemical Constituents**

A large number of chemicals are found in *T. cordifolia*, which belongs to the different classes such as:

 Alkaloids, Diterpenoids lactonesm, Phosphorus, Glycosides, Sesquiterpenoids, Aliphatic compounds, Polysaccharides, Protein (11.2%), Calcium, Phenolics, Amritosides. (A,B,C,D) (Reddy & Reddy, 2015; Abhimanyu Sharma, Gupta, Singh, & Batra, 2010)

# **Pharmacological and Clinical Correlates**

After so much research and experiments were done in the lab and among the rats, animals, and common public, it is found that Guduchi is highly effective in the treatment or enhancing or boating power of following:

"Enhancing memory"	In Ayurveda, Guduchi is known as "Medhya Rasayan" (Kulkarni, Girish, & Kumar, 2012) Verbal learning and logical memory are found to increasing with the intake of aq. Extract of its" roots" (Kulatunga, Dave, & Baghel, 2012)
"Anti-diabetic activity"	In Ayurveda, Guduchi is well known for treating diabetes. After number of experiments, it is found that Guduchi at the dose of 220 milligram per mL, acts like insulin, which maintains the blood sugar level in the human body (Dwivedi & Daspaul, 2013; R. Sharma <i>et al.</i> , 2013; Singh <i>et al.</i> , 2020)
"Anti-inflammatory and Anti-arthritic effect"	In Ayurveda, Guduchi is well known for treating gout arthritis, RA, and burning sensation. Their main symptom is inflammation and alc. extract of Guduchi is found to deploy anti-inflammatory action (Abhishek Chatterjee <i>et al.</i> , 2018; Patgiri <i>et al.</i> , 2014)
"Anti-allergic effect"	In Ayurveda, Guduchi is well known for the treatment of allergic diseases such as cough and asthma.

	The liq. extract or juice is directly given to the patient After so many clinical trials, it has been reported that patient gets 99.99% relief (Tiwari, Nayak, Prusty, & Sahu, 2018)
"Osteoprotective activity"	In Ayurveda, Guduchi is well known in the treatment of bone erosion. After so many clinical trials on rats and then on humans it has been found that 10 mg/kg body weight of the patients slow down the bone erosion rate (Saeed <i>et al.</i> , 2020)
"Diuretic effect"	In Ayurveda, Guduchi is well known for the treatment of urine disorders. After so many clinical trials on rats and human volunteers, it is found that liq. Extract 15 milligram per kg weight of the human body to reduce the urinary problems (Spelman, 2001)
"Anti-microbial activities"	In Ayurveda, Guduchi has been compared with Neem at many places, and it is best known for its anti-microbial activities. During the in vitro clinical trials, Guduchi extract's microbial activities have been checked and shown anti-microbial effect over the following microbes. Salmonella typhi, Staphylococcus, enterbacter aeruginosa, pseudomonas, Salmonella typhimunurium (Jahfar, 2003)
Cardiovascular activities	In Ayurveda, Guduchi is widely used formulation that shows the cardio- protective activities. "Bhavaprakesh nighantu" has especially mentioned <i>T. cordifolia</i> as the best drug to prevent heart from heart disorders. In the scientific study, its stem extract has shown extremely good results in preventing cardiac disorders as it normalizer's lipid metabolism (Chintalwar, Gupta, Roja, & Bapat, 2003; Nair, Melnick, Ramachandran, Escalon, & Ramachandran, 2006).
"Hepato-protective activity"	In Ayurveda, Guduchi is well known for the treatment of injury and liver damage. During the clinical trials or rats and human volunteers, it has been found that the extract from the Arial parts of Guduchi has shown the hepato-protective effect. The dose is 200 milliliter/kg weight of the body (Abraham, 2014; Nagarkar <i>et al.</i> , 2013; Singh <i>et al.</i> , 2017)
"Wound healing activity"	In the Charak Samhita, Guduchi is mentioned for the healing of the wound. In the scientific research methonalic extract of arial parts of Guduchi have shown the wound healing properties (Barua <i>et al.</i> , 2010)

# CONCLUSION

The present review indicates the pharmacological studies of "Guduchi" (*T. cordifolia*), as indicated in Ayurvedic texts and

proven through various pharmacological models. The plant exhibits properties like memory enhancement, wound healing, hepato-protective, cardio-protective, anti-microbial, antidiabetic, anti-inflammatory, and anti-arthritic. It is also used for immunomodulatory effects in various Ayurvedic formulations for ages.

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