

Strength That Runs Deep Into the Bones - Adament Creeper (Pirandai)

*Saraswathi S

JKK Muniraja College of Agricultural Science, Tamil Nadu

*Corresponding Author's email: sarasukolanji2003@gmail.com

Cissus quadrangularis is a succulent herbal plant that is a member of the Vitaceae family. It has a mushy, cactus-like texture. Other names for it include *Lycopodium imbricatum* and *Vitis quadrangularis*. While the powdered root is primarily used to cure bone fractures, the entire plant is utilized to treat asthma. 30 to 40 grains of the powder are typically consumed. In Southern India, leaves and young shoots are commonly consumed with curries. Young plant shoots are dried, ground into a powder, and burned in a confined tank in Chennai. These ashes are used to treat some gastrointestinal issues, dyspepsia, and indigestion. Young shoots and leaves are also thought to be effective substitutes for gastrointestinal therapies. In otorrhea, stem juice is dropped into the ear; in epistaxis, it is dropped into the nose.



Introduction

The perennial plant *Cissus quadrangularis* is also referred to as “Hadjod.” Adamant creeper, square-stalked vine, veldt grape, devil’s backbone, asthisamharaka, pirandai, Vajravelli, and Mangara valli are some of its other names. It is indigenous to Bangladesh, Sri Lanka, India, Africa, and Southeast Asia. Both Brazil and the southern United States are importing it. The 1.5-meter-tall *Cissus quadrangularis* has branches with quadrangular sections and internodes that are roughly 8–10 cm length and 1.2–1.5 cm broad. There is a leathery edge at every aspect. The nodes are where the 2–5 cm wide toothed trilobe leaves emerge. Each has a tendril that protrudes from the node’s opposite side. Globular berries are crimson when ripe, with racemes of tiny white, yellowish, or greenish flowers.

Taxonomy of *Cissus quadrangularis*

Kingdom	: Plantae
Subkingdom.	: Tracheobionta
Super division	: spermatophyta
Division	: Magnoliophyta
Class	: Magnoliopsida
Subclass	: Rosidae
Order	: Vitales
Family	: Vitaceae
Genus	: Cissus
Species	: quadrangularis

History

Asia and Africa are home to the succulent vine *Cissus quadrangularis*. In Thailand, it is among the most widely utilized medicinal plants. Both Ayurveda and African medicine have long employed it. The plant is utilized medicinally in all of its sections. It is a traditional medicine that is typically attributed to Ayurveda, although because it grows in many different places, it seems to have been utilized medicinally in many different places. Its traditional name, “Bone Setter,” comes from the fact that it was primarily used to treat female disorders (menopause, menstrual disorders) and bone disorders (increasing bone mass or accelerating fracture healing rates). Other traditional uses include its purported antiulcer, antihemorrhoid, and wound-healing properties.



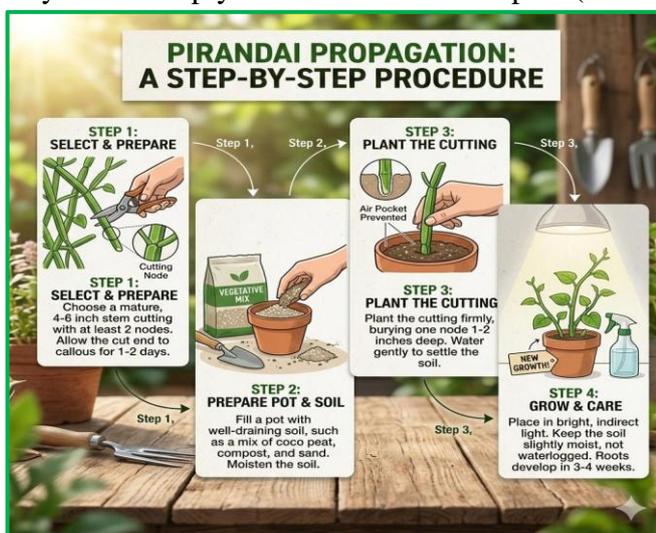
Adament creeper sprouts



Fruit of Adament Creeper

Propagation

Stem cuttings are the most effective way to multiply the Adamant Creeper (*Cissus quadrangularis*). Cut a portion with two or three nodes from a mature, robust vine. Importantly, let the cutting air dry in a shaded area for a full day to create a callous that keeps it from rotting. Plant the bottom node in a sandy or succulent soil mix that drains well when it has dried. After the dirt is entirely dry, moisten the pot sparingly and place it in bright, indirect sunlight. Overwatering is the biggest threat to this plant because it is a succulent and depends on stored moisture. The buried node will sprout roots and begin fresh climbing growth in a few weeks.



Nutritional value of Adament Creeper

- It has a lot of vitamins A, C, and B complex.

- These vitamins are essential for preserving health, supporting everything from immunity and brain function to eye health.
- Pirandai is also rich in vital minerals like calcium, phosphorus, iron, and magnesium.
- These minerals are essential for many body processes, including as bone health, energy synthesis, oxygen transport, and nerve signal transmission.
- Finally, Pirandai has strong antioxidants and dietary fiber that support healthy digestion and radical scavenging.

Nutrient approximate value

Nutrient	Value (per 100 g dry powder)
Energy	308 kcal
Carbohydrate	40.9g
Crude protein	15.6 g
Crude fibre	11.4g-15.6g
Total fat	9.2g
Ash (Minerals)	7.8g-18.2g
Moisture	5.1g

Bioactive compounds

The therapeutic power of Pirandai comes from its unique secondary metabolites:

- The most researched substances in Pirandai are called ketosteroids. By interacting with androgen receptors, they function as “anabolic” agents, assisting the body in the growth and maintenance of tissues (muscles, tendons, and bones).
- Flavonoids, such as kaempferol and quercetin, have potent anti-inflammatory and antioxidant qualities that help lessen joint pain.
- Triterpenoids, such as friedelin and amyryns, are well-known for their gastro-protective properties, which aid in ulcer healing and better digestion.
- Pectin is a soluble fibre that helps with weight control and digestive health.
- Calcium Oxalate is Found in the fresh sap, these crystals are responsible for the itchy sensation. These are broken down by processing (heat, acid, or frying).

Health benefits of pirandai

HEALTH BENEFITS OF PIRANDAI (CISSUS QUADRANGULARIS)



STRENGTHENS BONES & JOINTS
Aids bone healing, increases bone mass.



DIGESTIVE HEALTH
Relieves indigestion, gastritis, and constipation.



DIGESTIVE HEALTH
Relieves indigestion, gastritis, and constipation.



WEIGHT MANAGEMENT
Boosts metabolism and supports weight loss efforts.



ANTI-INFLAMMATORY PROPERTIES
Reduces joint pain and swelling (osteoarthritis).



HEALS ULCERS
Soothes and heals gastric ulcers.



DENTAL CARE
Strengthens teeth and gums; treats scurvy.



1. Pirandai for bone health.

Due to its abundance of calcium and phosphorus, pirandai is a fantastic way to keep bones healthy. For a quick healing from fractures, it is often recommended in conventional medicine.

2. The anti-inflammatory properties of pirandai for arthritis and joint pain.

In traditional medicine, pirandai is widely known for its potent anti-inflammatory qualities, which help lessen swelling and joint pain. People with arthritis or stiff joints from aging may find it extremely helpful. Frequent usage of Pirandai may enhance joint flexibility, lessen pain, and naturally promote joint health in general.

3. Pirandai for Digestion.

Pirandai's high fiber content promotes a healthy gut microbiota, helps with digestion, and relieves constipation.

4. Pirandai as an antioxidant.

Rich in antioxidants, pirandai supports cardiovascular health and plays a part in preventing chronic diseases by reducing oxidative stress.

5. Pirandai for Losing Weight.

By increasing feelings of fullness and decreasing overeating, the fiber in pirandai can aid with weight management.

6. Pirandai for Protection.

Pirandai's high antioxidant and vitamin C concentration makes it a natural immune enhancer. By bolstering the immune system, these nutrients increase the body's resistance to infections and seasonal illnesses. Frequent use may enhance the body's defenses against inflammation.

7. Pirandai for Healing Wounds.

Pirandai, which has long been used in herbal therapy, promotes quicker tissue repair and lowers inflammation to aid in wound healing. It is useful for both internal and external healing processes because of its antibacterial qualities, which also aid in preventing infection in small wounds or bruises.

8. Pirandai for Mental Wellness.

Strong antioxidants found in pirandai shield brain cells from oxidative damage. These substances may help with focus, memory, and general cognitive function. Additionally, it may have neuroprotective qualities that lessen mental deterioration brought on by aging.

9. Pirandai for Blood Sugar.

Pirandai has demonstrated potential in controlling blood sugar levels. It is a useful natural supplement for persons with diabetes or prediabetes since it may increase insulin sensitivity and decrease intestinal absorption of glucose.

10. Pirandai for heart health.

Pirandai's anti-inflammatory and antioxidant qualities improve heart health by lowering oxidative stress and promoting normal blood flow. Additionally, it may lower LDL (bad cholesterol), which lowers the risk of heart disease, and assist control cholesterol levels.

Uses of pirandai

- It gives food a distinct, tangy flavor and is used in stir-fries, pickles, sambars, and chutneys.
- Pirandai can be used as a home cure for a number of illnesses outside of the kitchen.
- For instance, Pirandai stem juice can be administered topically to relieve itching.
- Additionally, the nutritious content of soups and smoothies can be improved by using pirandai powder.

Conclusion

Pirandai is a significant medicinal herb that is frequently incorporated into everyday meals and traditional Indian medicine. It is full of nutrients and bioactive substances that improve general health, strengthen bones, enhance digestion, and lower inflammation. Joint discomfort, stomach issues, and bone fractures have all historically been treated with this plant. Because of its nutritional and therapeutic qualities, pirandai can also be used to make a

variety of high-value food items, including chutney, powder, and health supplements. Thus, encouraging the use and production of pirandai can help improve nutritional security, health, and the creation of functional foods.

References

1. Ayesha,S.& Sirisha ,M. A review on *Cissus quadrangularis* .The Pharma Innovation Journal (2017);6(7);329-334. <https://www.thepharmajournal.com/archives/2017/vol6issue7/PartE/6-6-31-792.pdf>
2. Guo S, Pietro LA. Factors Affecting Wound Healing, J Dent Res. 2010; 89(3):219-229.
3. Steven BL, DeGuzman L, Lee WP, Xu Y, Siegel MW,Amento EP. One Systematic Administration of Transforming Growth Factorbeta1 Reverses Age or Glucocorticoid- Impared Wound Healing, J Clinical Invest. 1993; 92:2841-2849.
4. Varaprasad KS, Abraham Z, Pandravada SR, Latha M, Divya S Raman, Lakshminarayan S et al. Medical Plants Germplasm of Peninsular India, Published by National Bureau of Plant Genetic Resources, New-Delhi-110 012, India, 2006, 50.