



## A Review on *Cyclea peltata*(Menispermaceae)

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### ABSTRACT:

The synthetic medications that have taken over the ayurvedic medical system are dangerous for both persons and the environment. *Cyclea peltata*, also called Padathally or Padakkizhangu, is a plant that has been identified as having pharmacological significance in several ancient Ayurvedic literature, including Gulguluthikthaka ghrita, Mahatikthaka ghrita, Thikthaka ghrita, Saraswata ghrita, and Panchagavya ghrita. It belongs to the family Menispermaceae. Every part of *C. peltata* is known to have medicinal advantages on its own. Leaf has antioxidant, antihyperlipidemic, hepatoprotective, antifungal and antibacterial properties. Phytochemical studies reveal that the plant contains important components such furanoline, tetrandrine, cycleanorine, cycleacurine, cycleapeltine, cycleadrine, and D-isochondrodendrine that contribute to its pharmacological properties. The purpose of the current study is to provide data on *Cyclea peltata*'s restorative effects.

**Keywords:** pharmacological activities, flavanoids, Menispermaceae, *Cyclea Peltata*.

### INTRODUCTION:

*Cyclea peltata*, also known as Padathalli or Padakkizhangu in colloquial language, is a slender, twining, climbing shrub that belongs to the Menispermaceae family. In English, it's called the "Pata root". The presence of bent petals and sepals allowed for the effective identification of these species' types[1]. Velvet leaf, or *Cyclea peltata* (Lam) Hook. f. Thoms, is the common name. This is a thin, twining shrub that often climbs very tall trees. This species is widespread throughout southern India. The roots and leaves of this plant are its useful parts. Several Ayurvedic remedies contain the medication as a component. It is recommended for the treatment of diarrhea, vomiting, and skin conditions. Additionally, it is said to have antibacterial and wound-healing properties. The plant's anti-ulcer, antibacterial, and antioxidant properties have been demonstrated by studies. The current study's goal is to assess the plant's phytochemical and pharmacognostic characteristics, which will aid in the plant's authenticity.[3]

In traditional herbal medicine, it is referred to as rajapatha and is mentioned extensively in ayurvedic texts such as Sushruta Samhita, Ashtangahrudya, Charakasamhita, and others[4]. The pharmacological actions of *C. peltata* are attributed to phytoconstituents found in its underground portions, namely alkaloids such as cycleapeltine, cycleadrine, cycleacurine, tetrandrine (TET), cycleanorine, and so forth.



Fig:1

**TAXONOMICAL CLASSIFICATION:**

The methodical identification and classification of species into similar groups is known as taxonomy. An age-old field of study called "plant taxonomy" groups plants according to similar gross morphological characteristics, such as flower form, leaf shape, fruit form, etc. *Cyclea peltata* is the name of the plant, as shown by taxonomy.

KINGDOM	Plantae
PHYLUM	Tracheophytes
CLASS	Angiosperms
ORDER	Ranunculales
FAMILY	Menispermaceae
GENUS	<i>Cyclea</i>
SPECIES	<i>C. Peltata</i>

Table:1

**SYNONYMS:**

English : Pata root, Indian moon seed  
 Malayalam : Padathali, Padavalli, Padakizhangu,  
 Hindi : Raj patha  
 Konkani : Padavel  
 Marathi : Thorali Padavel  
 Kannada : Padubala balli, phalani  
 Sanskrit : Ambasthaki, Bhruhat patha  
 Tamil : Sirupathavalli  
 Telugu : patatige  
 Gujarati : Kalepat , Kanipet[5]

**HABITAT:**

*Cyclea peltata* is mostly found in the Andaman and Nicobar Islands, Arunachal Pradesh, Assam, Maharashtra, Kerala, and other tropical regions of Asia, particularly in evergreen and semi-evergreen forests. Of the 28 species of *Cyclea peltata* identified worldwide, nearly seven are found in India[6].

**DISTRIBUTION:**

Maharashtra :Ahemdnagar, Kolhapur, Nasik, Pune, Raigad, Satara, Sindhudurg.  
 Karnataka: Chikmagalur, Coorg, Hassan, Mysore, Shimoga.  
 Kerala: All district.  
 Tamilnadu: Coimbatore,Kanniyakumari, Salem,Theni,Thirunelveli[6].

**BOTANICAL DESCRIPTION:**

*Cyclea* species are dioecious, scandent, or climbing shrubs. Simple, alternating, veined palmately, peltate or non-peltate, petiole typically long. Cauliflorous, paniculated, racemose or thyrsoid, axillary, extra-axillary, terminal, or on old stems inflorescences. Flowers are monosexual.

Leaves : Simple, alternate, heart-shaped leaves measuring 2.5–10 cm long and 2.5–3.75 cm broad, with stipules 5–10 cm long and nerves 7–11[7]. The leaves are intense, short or marginally sinuate at the base with adjusted points, mucronate, and essentially bristly on the nerves and veins.

**Flower :**The male flowers are subsessile, spiky, or grouped into heads. The flowers have a pale yellow color. The rectangular, glabrous sepals of female flowers are racemose. Orbicular, blooms during the windy season, and is significantly shorter than the sepal ovary. Its organic products are ovoid drupes with shady brown or red seeds that are wrapped.

**Root ;**The tuberous root has a white starchy cortex and a spherical, empty, bent form. Its surface is colored greyish-earthy. [8]

Fruit- drupe. Reniform

### **TRADITIONAL USES:**

Indigenous Indian medicinal systems employ *Cyclea peltata* to cure wounds, as an antidote to poisons, and for a variety of inflammatory, cutaneous, and digestive conditions. It is also used to promote hair growth, treat jaundice, and control diarrhea. Together with *Plumbagozeylanica*, *Holarrhenaantidysenterica*, *Picrorhizakurroa*, *Aconitum heterophyllum*, *Terminaliachebula*, *Berberisaristata*, and *Cyperusrotundus*, it is a common ingredient in the traditional Ayurvedic Polyherbal formulation Shaddharana Choornam. This formulation is mentioned in Vagbhata's *Ashtangasangraha* and Charaka's *CharakaSamhita*. It is also used to promote hair and scalp health and relieve allergy symptoms.[9]

### **PHARMACOLOGICAL ACTIVITY:**

#### **Anti-bacterial:**

The antibacterial qualities of *C. peltata*'s ethanolic and aqueous concentrates are presently being investigated. Processes like microbiology and pharmacognosy were employed to analyze the concentrate's antibacterial properties. Among the bacteria examined were *Salmonella typhi*, *Bacillus subtilis*, *Shigellashigae*, *Proteus vulgaris*, *Escherichia coli*, *Salmonella para typhi*, and *Pseudomonas aeruginosa*. According to the study, when *Cyclea peltata* was compared to the conventional medication ciprofloxacin (5 mg/disc), the ethanolic extract exhibited greater antibacterial action than the aqueous extract. A further analysis of methanolic separation revealed more significant inhibitory activity against *Klebsiella pneumoniae*, *Proteus vulgaris*, *Staphylococcus aureus*, and *Streptococcus hemolyticus*. Following a thorough analysis, it is evident that the *Cyclea peltata* extract possesses antibacterial properties throughout[10]

#### **Anti-ulcerative effect:**

A breach that forms on the skin's surface or an organ's surface is called an ulcer. When surface cells are injured and pushed off, an ulcer develops. Additionally, several illnesses and cancerous growths may be linked to ulcers. A pylorus-ligated rat model was used for the survey, and levels of malondialdehyde, non-protein sulfhydryl social affairs (NP-SH), and gastric divider bodily mucousfluid were measured. Catalase and protein impacts on *Cyclea peltata* and a control group of rodents were evaluated. The *C. peltata* underlying part's ethanolic concentrate demonstrated basic antisecretory movement in addition to decreased pepsin discharge, reduced amount of digestive fluid, and terrible outcomes in mice that were pylorus-ligated. The concentrate clearly demonstrates *C. peltata*'s anti-ulcerative and counter-secretory effects.[11]

#### **Larvicidal:**

Research on *Culex quinquefasciatus* focused on *Cyclea peltata*'s larvicidal characteristics led to the current review. This is achieved by administering a 500 g/ml methanolic concentration of *Cyclea peltata* to hatchlings. Probit research was used to obtain the LC50 and LC90 values, which indicate an increased death rate for *Cx. Quinquefasciatus*. Following the review, it is evident that the leaf methanolic concentrate has larvicidal properties.[12]

#### **Neuropharmacological effect:**

*C. peltata*'s ethanolic concentration has neuroprotective properties. Fluoride was used in the study as an agent to cause brain injury. The food and water consumption, as well as any changes in body weight, of the animals receiving fluoride were observed. According to the study's findings, treating rats with ethanol extracts prevented brain damage and allowed them to resume their regular movements, which were similar to those of the control group.[13]

**CONCLUSION:**

Among them, *Cyclea peltata*, has demonstrated a variety of actions, including larvicidal, anti-dandruff, anti-bacterial, and neuropharmacological qualities, in addition to encouraging hair growth. Steroids, phenols, tannins, flavonoids, and alkaloids such as tetrandrine, bisbenzylisoquinoline, and tropoloisoquinoline were found to be responsible for these actions. The survey described earlier revealed more effective pharmacological tasks for *C. peltata*. Current knowledge about the significant herb for medicine can serve as a springboard for additional exciting research and the discovery of perhaps novel chemicals.

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