

# Ethnomedicinal Value of *Laportea interrupta* L. Chew: A Review

Nataraja Thamizh Selvam<sup>1</sup>, Surabhi KR<sup>2</sup>, Acharya MV<sup>3</sup>

<sup>1</sup>Assistant Director-Scientist II (Biochemistry), <sup>2</sup>Senior Research Fellow, <sup>3</sup>Director, NRIP.  
National Research Institute for Panchakarma, (CCRAS, Ministry of AYUSH, Government of India)  
Thrissur, Kerala- 679 531.  
Email: nthamizhselvam@gmail.com

**Abstract - Medicinal plants are part of the human life for millions of years and they are primary source of medicine for the common man on most of the occasions. The indigenous medicine system of every country is associated with plant and plant products for the treatment of illnesses. The present study has been taken up to review one of the ethno medicinal plants of India i.e. *Laportea interrupta* L. Chew known as Stinging nettle, for its taxonomical, pharmacological, biochemical characteristics.**

**Key words:** *Laportea interrupta*, Stinging nettle, pharmacological studies, medicinal plants

## Introduction:

Human beings are depending on the plants for the food, shelter, clothing and medical ailments. There is now renowned interest for the plant based drugs due to their less or nil side effect. The academic and research organizations all over the world are focussing on plant research especially for isolation of various compounds from plant and plant products, studying their chemical, pharmaceutical, pharmacological, biochemical characteristics and to make use of these details for intervention of human diseases (1,2). Such a way, the present work has been taken up to document the plant *Laportea interrupta* L. Chew for its ethnomedicinal value.

The Plant: (3,4)

*Laportea interrupta* L. Chew known as Stinging nettle is a small plant usually found in agriculture wet land as weed.

Taxonomy details:

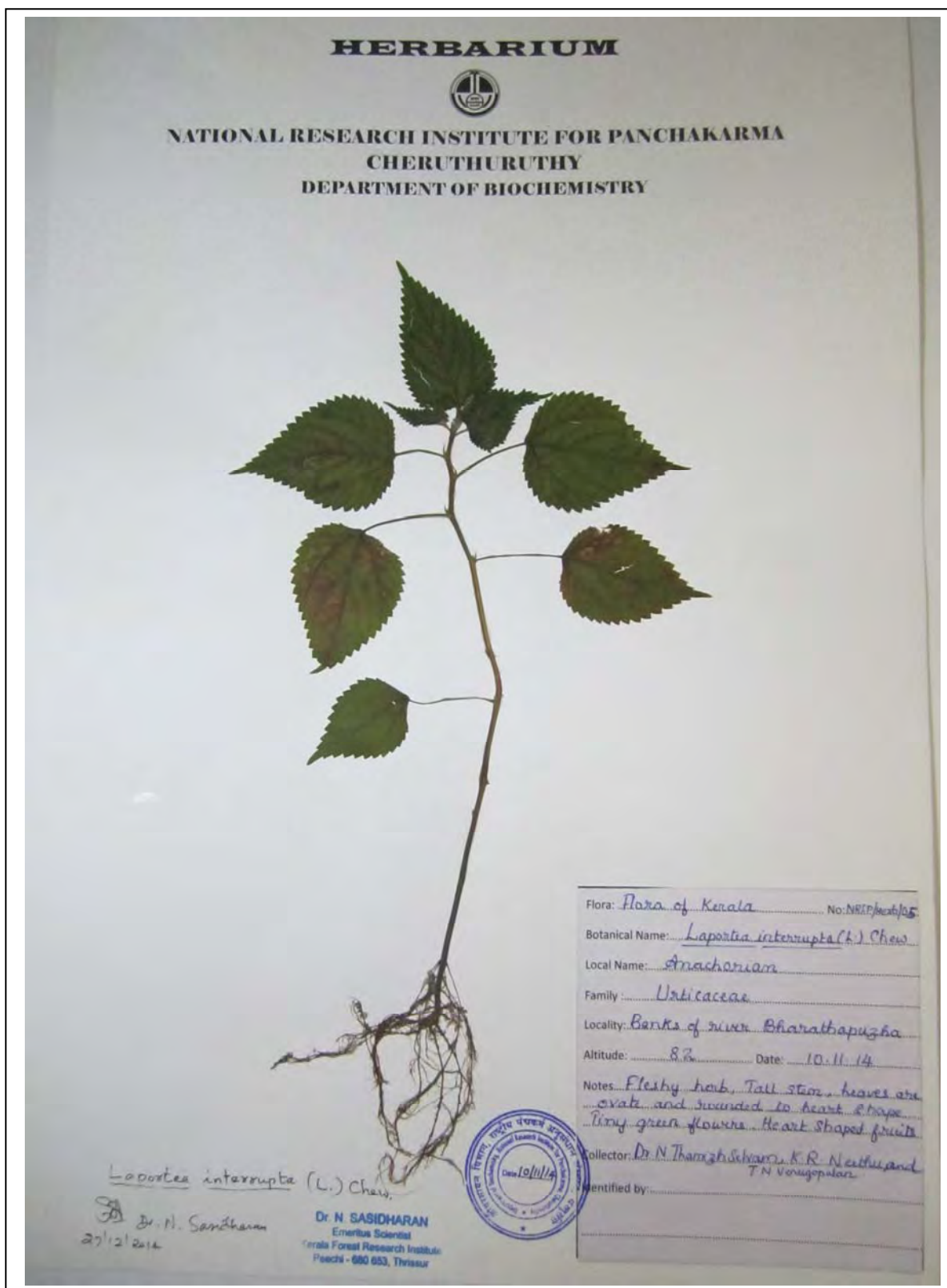
Kingdom	:	Plantae - Plants
Sub-kingdom	:	Tracheobionta – Vascular plants
Division	:	Magnoliophyta- Flowering plants
Class	:	Magnoliopsida – Dicotyledons
Subclass	:	Hamamelididae
Order	:	Urticales
Family	:	Urticaceae
Genus	:	<i>Laportea</i> Gaudich
Species	:	<i>Laportea interrupta</i>

Synonyms:

*Boehmeria javanica* (Bl.) Hassk.  
*Boehmeria interrupta* (L.) Willd.  
*Fleurya interrupta* (L.) Gaud.  
*Urtica interrupta* L.

Vernacular Name:

English	:	Hen's Nettle, Hawai's wood nettle, Stinging nettle
Hindi	:	Bichata, Bichua
Malayalam	:	Batti-schoringenam, Aanathumba



#### General Characteristics of Plants under Genus - Laportea: (4)

The plants of genus Laportea are Herbs, rarely shrubs with stinging hairs. Leaves are alternate, spirally arranged, stipulate; lamina chartaceous, variously toothed at margins; stipules partially connate, bifid at apex, intrapetiolar. The characteristics of inflorescences are solitary, axillary, cymose-dichotomous panicles, rarely simple racemes. The flowers of this genus are unisexual, 4 to 5 merous, in loose glomerules; male perianth somewhat membranous, connate in bud, splitting halfway during blooming. Female perianth has 4 unequal

segments and slightly imbricate. The fruits are usually a reflexed achene, often stipitate, sometimes several on a gynophores, with persistent, linear stigmas. There are about 21 species distributed in tropical and warm-temperate eastern Asia and eastern North America. The present study has been focussed on one of the prominent species under *Laportea* i.e. *Laportea interrupta* which is commonly find in Western ghat regions of India.

**Plant description of *Laportea interrupta* L. Chew : (5,6)**

*L. interrupta* is a small, hardly branched herb bearing hairs that irritate the skin. The stem grows up to 20-80 cm tall. Leaves are ovate, narrow tipped, 6-9 cm long, 5-6 cm wide. Leaves have internally grooved petioles, and are broader towards the base and very near to the tip with a short furrow, cuspidate towards the anterior part with a longer tip, are also hairy and burning. The whole margin has incised with thick teeth, and has riblets standing out on the lower side and with the mid-rib proceeding from the petiole, one on both sides. Flowers appear in short and branched peduncles, in long tender stalk-lets or petioles which arise from the origin of leaves, and in one head many collectively, and are small, light green buds and consisting of minute, white and less conspicuous leaves.

**Distribution: (5,6)**

The plant has been found distributed in tropical and subtropical regions of Africa and Asia and the Pacific Islands. In India, it is found widely in Western ghat regions.

**Reported Biological Activities:**

**Antimicrobial Activity: (7)**

The antimicrobial activity of aqueous and methanolic extracts of *L. interrupta* Leaf has been reported against *E. coli* and *S. Aureus* at different concentrations. The zone of inhibition was comparable with the standard antibiotic Gentamycin. The zone of inhibition was high for the methanolic extract than aqueous extract against these pathogens.

**Foetal-maternal Health: (8)**

Nettle (*Laportea interrupta*) is one of the commonly recommended herbal medicines to aid in pregnancy in traditional medicine system of Philippines. As the plants of Urticaceae family has been reported for significant levels of minerals including iron, manganese, calcium, potassium and vitamins, the *L. interrupta* is also expected to have significant characteristics. The leaves of this plant is used in tea preparation (nettle tea) and widely consumed by Philippines. The study of Guzman *et al.*, (2015) revealed that the pre gestation consumption of *L. interrupta* extract is positively influencing the placental angiogenesis and morphology, foetal growth, and maternal health in ICR female mice.

Table. 1. Some of the major plant species under Urticaceae family and their medicinal values.

S.No.	Plant species	Therapeutic uses
1	<i>Urtica dioica</i> L. (9-15)	Anti-inflammatory effect (Reihemann <i>et al.</i> , 1999), Prostatic hyperplasia (Kreski <i>et al.</i> , 1993) Diuretic (Tahri <i>et al.</i> , 2000), Immunomodulatory activity (Delcourt <i>et al.</i> , 1996; Musette <i>et al.</i> , 1996) Treatment of cancer (Baytop 1984, Samur <i>et al.</i> , 2001).
2	<i>Urtica pilulifera</i> (16)	Stimulating tonic, blood purifier, enhancing haemoglobin concentration (Chrubasik <i>et al.</i> , 2007)
3	<i>Urtica angustifolia</i> (17)	Anti-fague activity (Alshuwayeb <i>et al.</i> , 2013)
4	<i>Urtica circularis</i> (18)	Antinociceptive activity (Gorzalczany 2011)
5	<i>Urtica dentate Hand</i> (19,20)	Immuni suppressive effect (Ming Xiang 2009; Wang <i>et al.</i> , 2002)
6	<i>Urtica interrupta</i> (7,8,21,)	Anti microbial (Biswajit <i>et al.</i> , 2014), pre-natal care (Guzman <i>et al.</i> , 2015), Nutraceutical studies (Krishna <i>et al.</i> , 2014), antipyretic activity.

**Nutraceutical Properties :(21)**

The ethanolic extract of *Laportea interrupta* root has been studied by Krishna *et al.*, 2014 for its nutraceutical properties comprising of physico chemical characteristics, *in vitro* radical scavenging assays, animal experiments for antipyretic property. The study conducted in rats showed significant reduction of pyrexia by 68 % and 57.4% for the ethanolic extract of root and leaf (dosage of 400 mg/kg) of *L. interrupta* respectively.

**Anti-inflammatory (22)**

The *L. interrupta* root is used in the formulation along with leaves of *Eriocaulon cinereum* and *Holarrhena antidysenterica* in the ratio of 2:1:1 for anti-inflammatory purpose by the Tribes of Tripura, North-east India.

**Other studies: (23, 24)**

Deepa *et al.*, (2013) had developed Lehya using ethyl acetate extract of *L. interrupta* Leaf. The Phytochemical constituents of the Lehya have shown the presence of alkaloids, phenols and steroids in it. The chemical characteristics of Arishta prepared using *L. interrupta* has been reported by Deep and Seena. The clinical usage of Lehya and Arishta has not been reported so far.

**Adverse Drug Reaction: (25)**

Stinging hairs of *L. interrupta* has been reported for skin irritation, swelling, intense itching.

**Conclusion:**

*Laportea interrupta* is one of the ethnomedicinal plants of the western ghat region of India. The plant parts are being used by the traditional healers for treatment of various illnesses. The tender leaf is also used as food ingredient by the local people of Kerala. There are some studies reporting for its antimicrobial activity and anti-inflammatory activity. The nutraceutical characteristics of the plant and its usage in pre-natal care have been studied in experimental animals. However, it is observed that there are not many scientific studies on *L. interrupta* for its detailed pharmacological properties, biochemical studies etc. There are not much scientific reports found for isolation and characterization of active compounds / or principle compounds of the plant. So, the academicians and researchers shall take up a detailed research studies for better understanding of ethnomedicinal value of this great plant.

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**Conflict of Interest: Nil****References:**

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