

A plant review of *Flacourtia jangomas*

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Abstract

Flacourtia jangomas (Indian coffee plum), a tropical medicinal plant native to South-eastern Asia, has been traditionally used to treat various ailments. This review highlights the plant's bioactive properties, including anthelmintic, antioxidant, analgesic, antidiarrheal, and hepatoprotective activities. The plant's leaves, bark, fruits, and roots contain valuable compounds like limonoids, flavonoids, and phenolic compounds, contributing to its medicinal value. With its potential as a natural alternative for treating infections, oxidative stress, and related diseases. *Flacourtia jangomas* needs further pharmacological investigation and exploration of its therapeutic applications.

Keywords: *Flacourtia jangomas*, antioxidant activity, hepatoprotective activity, bioactive compounds, traditional medicinal plant

Introduction

Flacourtia jangomas (Lour.) Raeush. commonly recognized as Indian coffee plum is an exotic, semi-wild, tropical and indigenous medicinal plant. It is grown widely in the South-eastern and Eastern part of Asia predominately in the North-eastern states of India. The fruit is harvested from June to July ^[1].

The tropical fruit-bearing plant *F. jangomas* is a member of the Salicaceae family ^[2]. *F. jangomas* possess fungicidal, bactericidal, antihyperglycemic, antidiarrheal, analgesic, antioxidant, cytotoxic activity ^[3] and hepatoprotective activity ^[4]. Leaves and bark are slightly acidic and acrid and reported to be useful in diarrhea, piles, weakness of limbs, bleeding gums, toothache, and stomatitis ^[5]. The plant is astringent, acrid, sour, refrigerant, and stomachic and used for a variety of ailments like diarrhoea, inflammation, skin disease, jaundice, tumors, nausea, dyspepsia and diabetes in South Indian traditional medicine ^[6]. The important compounds reported in *Flacourtia jangomas* was Limonoids (limonin and jangomolide) ^[7]. The fruit extracts, the plant leaves and roots have medicinal characteristics. It can be used as antibiotic, antioxidant, analgesic and antidiarrheal medicine ^[8].



Fig 2: Leaves of *Flacourtia jangoma*

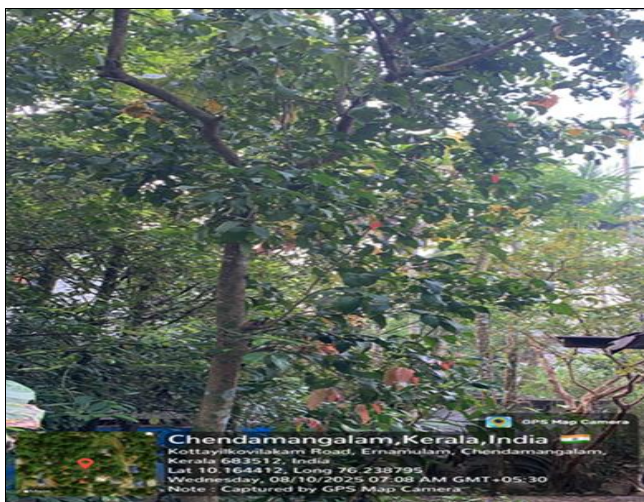


Fig 1: *Flacourtia jangomas* tree

Taxonomical Class

Table 1: Taxonomy of *Flacourtia jangomas* ^[5]

Kingdom	Plantae
Division	Tracheophyta (Vascular plants)
Class	Magnoliopsida
Order	Malpighiales
Family	Salicaceae (previously classified under Flacourtiaceae)
Genus	Flacourtia
Species	jangomas

Common Names

Indian plum, Indian coffee plum ^[5]

Ethnomedicinal Uses

Flacourtia jangomas is a significant fruit tree that has a lot of nutritional and medicinal value. Barks are used to treat intermittent fever. The roots are sweet, help cool down the body, clean out toxins and increase urine production. The leaves and young shoots have a taste similar to rhubarb and are astringent and help the stomach ^[9]. The leaves and bark

are used to treat diarrhea, bleeding gums, toothache, hemorrhoids and weakness in the limbs. They are also applied directly to bleeding gums and sore teeth ^[10]. The fruits are used to treat conditions like biliousness and diarrhea. It is also used to treat tooth pain, diabetes, and the leaves, when boiled, are used to treat diarrhea, dysentery, and hemorrhoids ^[11]. It is used in traditional medicine in South India to treat many health issues such as diarrhea, inflammation, skin problems, jaundice, tumors, nausea, indigestion, and diabetes ^[12]. Different parts of the plant are also used in medicines for treating asthma, cleansing the blood before and after childbirth and other health conditions ^[7].

Ecological Range of *Flacourtia jangomas*

Height: Up to 10 metres (30 feet)

pH: 6.5-7.5

Climate: Sub Tropical, Tropical.

Temperature Range: 10 to 40°C / 50 to 104°F

Soil Type: Moist, well-draining soil

Growth Type: Deciduous, Slow Growing

Water Requirements: Light - Medium

Annual rainfall: Up to 300 cm ^[13]

Botanical Description

Flacourtia jangomas is commonly known as Indian plum, or Coffee plum. It belongs to the Salicaceae family. It's a small deciduous tree. It grows up to 6-10 m tall, sometimes up to 14 m. Old trees have trunks and branches without thorns. Young trees have woody thorns. Leaves are alternate and deciduous. They're pale pink when young and spirally arranged. They are rarely ovate-lanceolate with a long point and thin. Flowers are dioecious. They are white to greenish with 4 or 5 ovate triangular petals. They smell like honey. They appear from December to April with new leaves. Fruits are dull brownish red or purple, then blackish. They have greenish-yellow pulp. They ripen from March to July. They enclose 4-5 flat seeds. ^[10]

Phytochemistry

Flacourtia jangomas is an understudied plant species, with limited scientific research on its phytochemical properties. Studies have shown that *F. jangomas* contains a range of compounds, including terpenoids, alkaloids, flavonoids, tannins, and phenolic acids. The plants bark, leaves, and young shoots are rich in tannins, while its fruits are nutrient dense and contain various bioactive compounds. Research has identified specific compounds, such as limonoids, coumarins, and flavonoids, which have potential health benefits. The plants fruit, leaves, and stem have been found to possess antioxidant, anti-inflammatory, and other therapeutic properties, making it a valuable resource for medicinal and nutritional applications ^[10].

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