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REVIEW ARTICLE

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## PSIDIUM GUAJAVA LINN (GUAVA) AS A POTENTIAL NATURAL REMEDY FOR SKIN DISORDER: A REVIEW

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### ABSTRACT

Guava, also known as *Psidium guajava*, is a significant food crop and medicinal plant. Tropical and subtropical areas are home to it. The leaves, fruits, and seeds of the guava plant are all utilized for their therapeutic qualities. Guava has been used traditionally for digestive health, antimicrobial, anti-inflammatory, antioxidant, anti-allergy, and antidiabetic purposes. Important phytoconstituents found in it include beta sitosterol, quercetin, ellagic acid, amritoside, oleanolic acid, ursolic acid, tannins, triterpenes, saponins, carotenoids, and flavonoids. It suggests a broad range of clinical uses for management of diabetes, diarrhea, and infantile rotaviral enteritis. This analysis is an attempt to gather all of the information available regarding the pharmacological, phytochemical, and ethanobotanical activities of this plant.

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## INTRODUCTION

Guava, or *Psidium guajava* L., is a medicinal plant in the Myrtaceae family. In India, *Psidium guajava* is found in large quantities. It is a well-known traditional medicinal plant that is utilized in many indigenous medical systems. Although it originated in Central America, it is now widely grown, dispersed, and its fruits enhance the diets of millions of people in tropical regions worldwide. Today, guavas can reach heights of up to 1500 meters throughout nearly all of India, and they are farmed commercially in nearly every state on an estimated 50,000 hectares of land. India's states that grow guavas are Maharashtra, Uttar Pradesh, Andhra Pradesh, Assam, West Bengal, and Bihar. Known as "poor man's Apple," *P. guajava*. There is a long history of medicinal use for the leaves and bark of the guava tree. Guava leaf is used in India to treat dysentery, vomiting, sore throats, diarrhea, and menstrual cycle monitoring. Guava leaves are a great way to treat pigmentation, scars, inflammatory acne, and uneven skin tone. Because of their active components, which include carotenoids, gallic acid, ascorbic acid, and isoflavonoids, guava leaves have antimicrobial properties that help prevent inflammation and skin infections. The Amazonian tribes use leaf decoction to treat mouth sores, bleeding gums, vaginal discharge, and to tone and tighten the vaginal walls during childbirth. Guavas don't contain fat or cholesterol. They are also a great source of potassium, vitamin A, and alcohol. Childbirth. Guavas don't contain fat or cholesterol. They are also a great source of potassium, vitamin A, and alcohol.

**Phytochemistry:** The wide range of phytochemicals found in guavas includes minerals, proteins, enzymes, triterpenoid acids, alkaloids, glycosides, steroids, flavonoids, tannins, and saponins.

Guavas are high in lutein, zeaxanthine, and lycopene and are also very rich in antioxidants and vitamins. Numerous chemical constituents can be found in guava leaves, including  $\beta$ -pinene,  $\beta$ -pinene, limonene, menthol terpenyl acetate, isopropyl alcohol, longicylene, caryophyllene,  $\beta$ -bisabolene, caryophyllene oxide, farnesene, humulene,  $\beta$ -complanene, selinene, cardinene, and curcumenone, as well as mallic acids, nerolidiol,  $\beta$  sitosterol, ursolic, crategolic, and guayavolic acids. Carotenoids and polyphenols, the two main classes of antioxidant pigments, are found in guavas and have a relatively high potential antioxidant value among plant foods. It has been reported that *P. guajava* leaves contain an essential oil that is high in triterpenes, tannins, and cineol. Moreover, three flavonoids that have been identified from the leaves are quercetin, avicularin, and guajaverin. Quercetin is one of the many flavonoids abundant in guava leaves. Because guava tree bark contains significant levels of tannins (between 11 and 27%), it is used to make tannins and dyes.

### Taxonomy

Kingdom : Plantae  
Order : Myrtales  
Family : Myrtaceae  
Subfamily: Myrtoideae  
Genus : *Psidium*  
Species : *Guajava*  
Binomial : *Psidium*  
Name : *guajava linn*

**Ethanobotany:** A significant amount of the long history of widespread use of *P. guajava* has been validated by recent research. Applications for ethno medicine include the crushing of leaves and

the application of the extract to the skin, soft tissue, boils, and wounds. Unripe fruit causes vomiting that feels like a fever and is indigestible. Bark, root-bark, and stem are all astringent. The fruit has a laxative effect, and the leaves are astringent. A local infusion of the leaves is very beneficial for infants experiencing proplapsus, headaches, and dizziness. *P. guajava* leaf is a phytotherapy drug used to treat respiratory and gastrointestinal disorders by acting as an anti-inflammatory. It has also been shown to have anti-malarial and anti-amoebic properties. Traditional medicine has made use of several plant parts.

**Leaves:** In India, the infusion of the leaves is used for rheumatism, as well as an antispasmodic and febrifuge. In the United States, the leaves are used as an antibiotic in decoction form to treat toothaches, ulcers, and wounds. Guava teas can also be used to treat pulmonary illnesses, coughs, asthma episodes, and pneumonia.

**Roots:** In West Africa, the root is used as a decoction to treat coughs, stomachaches, diarrhea, dysentery, toothaches, indigestion, and constipation; in the Philippines, Fiji, and South Africa, the roots are used as a poultice and decoction to treat ulcers, wounds, and diarrhea.

**Bark:** In the Philippines, the bark is applied topically and as a decoction to treat diarrhea, ulcers, and wounds. In Panama, Bolivia, and Venezuela, the bark is applied topically to treat skin conditions and dysentery. It is used in the form of decoction and poultice to help expel the placenta following childbirth and to treat skin infections, wounds from vaginal hemorrhage, fever, dehydration, and respiratory disorders.

**Whole plant:** The entire plant or its shoots are used as a skin tonic, analgesic for painful periods, miscarriages, uterine bleeding, early labor, and wounds. They are also used as an infusion, decoction, and paste.

**Microscopy:** Numerous unicellular trichomes, paracytic stomata, xylem vessels, calcium crystals, and a few crystal sheaths are visible under the microscope. For mature leaves, the average stomatal index is greater on the upper epidermis than on the lower epidermis; however, this is not the case for young leaves. Younger leaves have higher moisture content, and both young and mature leaves have almost the same amount of water- and alcohol-soluble chemical content. The midrib transverse section displays gutter-shaped xylem and phloem, as well as a collenchymatous cell-containing pericycle beneath the phloem.

### Medicinal properties

**Antidiabetic:** The medicinal research laboratory in Allahabad carried out a study on mice that demonstrated the ability of guava fruits and leaves to reduce blood sugar levels when the fruit was consumed skinless. Numerous researchers have examined the impact of *Psidium guajava* leaves on intestinal glycosidase inhibition in relation to postprandial hyperglycemia, which may represent a breakthrough in the management of type II diabetes. Moreover, the high fiber content of guavas reduces the rate at which glucose is absorbed from the stomach, preventing a sharp spike in blood sugar levels immediately following a meal. In one experiment, those who drank guava tea instead of plain water as a control experienced a significantly lower rise in blood sugar after consuming white rice.

**Antibacterial:** The antibacterial compounds of *Psidium guajava* have been isolated from guava leaves and found to be present in aqueous bark and methanolic extracts. For *Salmonella enteritidis*, the minimum inhibition concentrations of morin-3- $\alpha$ -L-lyxopyranoside and morin-3-O- $\alpha$ -L-arabopyranoside were 200 micro g/ml and 250 micron/ml, respectively, for *Bacillus cereus*. High activity was demonstrated by hot water extract and *Psidium guajava* methanol extract against strains of *Chromium funicola* and *arthrinium sacchari*.

**Anti-diarrheal activity:** The leaves of *P. guajava* L. The observed activity can be attributed to its spasmolytic, antibacterial, and anti-amoebic properties. Additionally, phytochemicals like flavonoids and tannins have been shown to have anti-diarrheal properties through

protein denaturation, which results in protein-tannate interactions that reduce the intestinal mucosa's permeability. Furthermore, this popular herbal remedy's soasmolytic effect is explained by the biologically active drug quercetin's calcium-antagonistic qualities.

**Antiulcer activity:** Prostaglandins mediate *P. guajava*'s acid secretion inhibitory effect of antiulcer activity in the aspirin-induced gastric ulcer model.

**Guava to Treat Cough and Cold:** It has been discovered that guava leaves can effectively treat coughs and colds. Guavas are abundant in iron and ascorbic acid, by virtue of which it lessens mucus production and lung congestion while also keeping the respiratory tract clear of any harmful pathogens. According to reports, these guava components work like a miracle to treat influenza. Fruit, especially raw fruit, or a decoction made from tender, immature leaves, can be very beneficial in treating coughs and colds. It functions by breaking down mucus polymers, which eases coughing and stops more mucus from forming, keeps the throat, lungs, and respiratory tract clear of bacteria, and because of its astringent characteristics, inhibits current microbial activity. Guavas contain a good amount of vitamin C, which has been shown to be very beneficial in treating coughs and colds brought on by bacteria or viruses. Roasted juicy, in many Indian villages, guava is used as a home remedy for severe cases of cold, congestion, and cough.

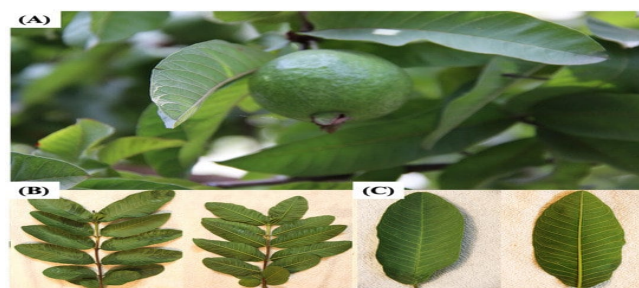
**Anticancer Activity:** The powerful antioxidant lycopene, found in large amounts in guavas, is essential for both preventing and treating cancer. Of all the cancers, prostate and breast cancer respond the finest. When guavas are dissected, the red flesh has a higher lycopene content than the other types. Lycopene works by both scavenging existing free radicals and preventing new ones from forming. Aqueous extract of guava budding leaves has been shown in numerous studies to exhibit anti-prostate cancer activity in a cell line model, indicating that it may be a promising agent for treating androgen-sensitive prostate cancer. Furthermore, guavas have a high concentration of carotene, which is also known to prevent oral and lung cancer.

**Healing of Wounds:** Guava leaves have been used extensively for wound healing throughout human history since the beginning of time. Guava foliage were ground into a paste with a small amount of water or oil, and the ancient Chinese and Indians applied the paste directly to the surface of their wounds. When an application of guava leaf methanolic extract was made twice a day, the experimental wound healed more quickly thanks to the presence of tannins and flavonoids. Numerous studies have shown that guava leaf ointment heals wounds much more quickly than products found in stores. After the leaves are cleaned, ground, and extracted with oil, a vehicle—mostly melted candle wax—is added to the extract to aid in absorption. After that, the last compound is applied directly to the wound twice a day for four days.

**Benefits for skin:** Reduces oily skin, may help lower blood sugar, may improve heart health, may ease painful menstrual symptoms, may be beneficial to your digestive system, may help you lose weight, may have an anticancer effect, may increase immunity, and eating guavas may be good for your skin.

### Plant profile

#### *Psidium guajava* (guava leaves)



Synonym: Guajava pyrifera

Biological source: Psidium guajava L. known as guava is a medicinal plant.

Family: Myrtaceae

Use: it is used as antimicrobial, antibacterial, antioxidant and anti-inflammatory agent to treat acne.

Guava leaves have excellent medicinal properties for treating inflammatory acne, scars, age spots, pigmentation and uneven skin tone. The important constituents of guava leaf are tannins, flavonoids, triterpenoids, oils, lipids, glycosides, alkaloids. It is used as antibacterial antioxidant, anti-inflammatory activity, anticancer activity. Herbal medicine has economic value and medical value.

## CONCLUSION

The tropical plant guava (*Psidium guajava*) has been used medicinally for a very long time. Studies have demonstrated the potential health benefits of extracts derived from its leaves and fruits, which include wound healing, antibacterial, anti-diarrheal, and antidiabetic effects. Although further studies are required to validate these advantages for people, guava exhibits potential as a useful medicinal herb.

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