

## Phytochemistry and Medicinal attributes of *Passiflora foetida* Linn.

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### Abstract

*Passiflora foetida* Linn commonly known as rakhi plant is widely used in ayurveda and folk lore India traditional medicine. The various part of the plant is extensively used in the treatment of several disease and disorders of the human. The present review highlighted the phyto-chemistry, medicinal uses and some recent research done in the plant.

**Keywords:** Traditional, Phytochemistry, *Passiflora foetida*

### Introduction

#### *Passiflora foetida* Linn.

It is also known as the passion flower (E) or the rakhi flower (H). The plant is a twining, thin herb.<sup>1-6</sup>

**Family:** Passifloraceae

#### Habitat

It is Native to North America, also it can be found in its natural habitat in Uttar Pradesh, Madhya Pradesh, Karnataka, and Tamil Nadu.

#### Phytochemistry

Alkaloids, phenols, glycosides, flavonoids, and cyanogen compounds are this plant's main phytochemicals. There are other C-glycosyl flavonoids derived from luteolin and apigenin. There have also been reports of chrysoeriol, kaempferol, isoschaftoside, isovitexin, and vitexin in *P. foetida*. When mechanically wound, aromatic metabolites such coumarin, phenolic volatiles, and compounds associated to esters demonstrate antibacterial activity. Vitexin had anti-inflammatory and antispasmodic properties. Fatty acids, linoleic acid, the alpha-pyrone

passifloricin, the cyanohydrin glycosides tetraphyllin A, tetraphyllin B, tetraphyllin B sulphate, deidaclin, and volkenin are among the other phytoconstituents present in *P. foetida*. The formation of advanced glycation end products (AGEs), which have been connected to diabetes issues, has reportedly been shown to be blocked by vitexin and isovitexin in recent studies.

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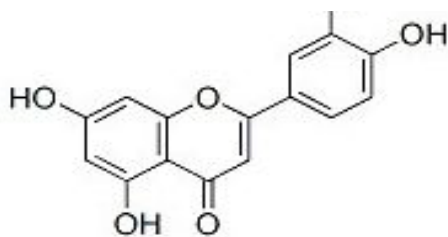


Fig. 1: Structure of Luteolin

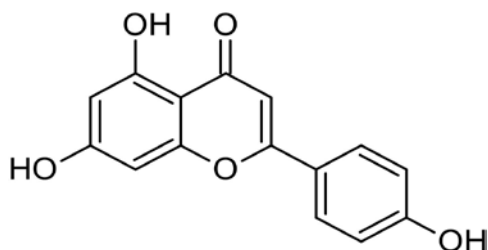


Fig. 2: Structure of Apigenin

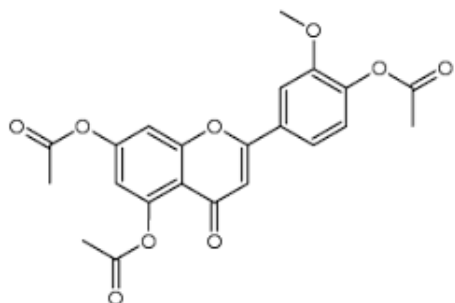


Fig. 3: Structure of Chysoeriol

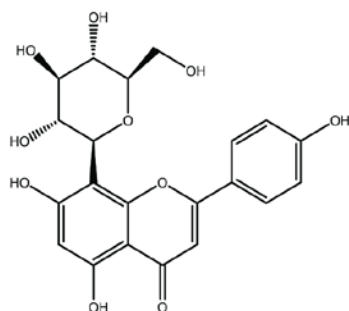


Fig. 4: Structure of Vitexin

### Medicinal uses

All parts of the plant can be used medicinally. There are claims that the plant can be used as a contraceptive, to treat inflammation, microbial infections, vaginal infections, and monthly abnormalities. Roots and leaves have emmenagogue and antihysterical effects. Fruits having emetic properties. A decoction is used to treat asthma (which causes bile to cough up) and biliousness.

### Research

The *Passiflora foetida* Linn. plant, which belongs to the Passifloraceae family, is well known for its ability to reduce apprehension and frustration.<sup>7</sup> As a result, the genus is critical for the creation of innovative treatments.<sup>8</sup> The biological effects of several herbal remedies along with various natural products are directly tied to the bioactive chemicals typically possess.<sup>9</sup>

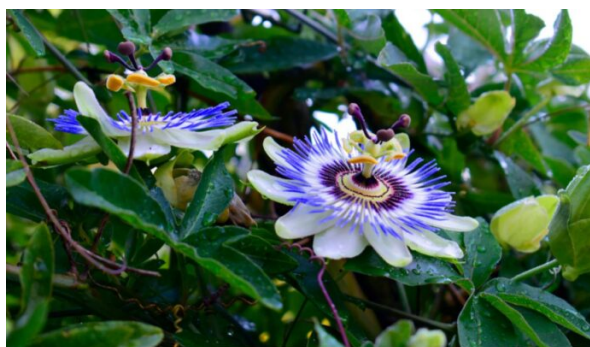
Numerous research have focused on phytochemical analysis as a result, leading to the discovery of alkaloids, phenols, glycosyl flavonoids, and cyanogenic chemicals.<sup>10</sup> Previously discovered phytochemicals in this group of plants included coumarins, maltol, carbolines, phytosterols, harmala alkaloids, and cyanogenic glycosides.

These are also high in phenolic compounds, alanine, organic fatty acids such as formic, linoleic, linolenic, myristic, oleic, malic, butyric, and palmitic acid, and sugars d-fructose, d-glucose, and raffinose.<sup>11-12</sup>

*Passiflora foetida* L., sometimes referred to as beautiful passion flower<sup>13</sup>, is a well-known species in the genus *Passiflora* having a number of ethnobotanical uses. For instance, *P. foetida*'s fruits and leaves have been used to treat asthma and biliousness, while the decoction of the plant's leaves and roots has been used to treat hysteria and as an emmenagogue.<sup>14</sup> Additionally, dizziness and migraines are treated by applying leaf paste to the head. To treat erysipelas and other inflammatory skin disorders, the herb is also used to prepare poultices or lotions. The treatment of cancer, epilepsy, anxiety, insomnia, and sexual dysfunction have also been accomplished with *P. foetida*.<sup>15</sup>

Research on *P. foetida* has also revealed that the extracts of the plant have a variety of intriguing biological properties, such as those that are

depressive, anticancer, anti-hypertensive, antibacterial, antidiarrheal, antiulcerogenic, anti-inflammatory, analgesic, hepatoprotective, and antinociceptive.<sup>16-23</sup> Furthermore, numerous pharmacological components that have been extracted from *P. foetida*, particularly flavonoids, have shown notable pharmacological benefits. Luteolin and chrysoeriol are two such substances that have been found to have potent anti-inflammatory properties.<sup>24</sup>



**Fig. 5: *Passiflora foetida* Linn.: A Flowering Twing**

### Conclusion

*Passiflora foetida* is well known for its used in medicinal purpose it is used as surface covering for smothering weed and to enhance organic matter production. The leaves are employed in baths for skin affections. Raw fruits are directly eaten in Thailand. Fruits are used for preparation of refreshment in Venezuela. Common disease in chickens such as Newcastle disease is treated with different preparations of the fruits, leaves, stem and seeds. *Passiflora foetida* organ's parts have various medicinal values for treating chronic pain, cough, asthma, insomnia, hysteria, emmenagogue, biliousness, digestive problems, including dyspepsia. *P. foetida* shows fungicidal activity Leaf extracts of *P. foetida* show antibacterial properties against four human pathogenic bacteria, *i.e.* *Pseudomonas putida*, *Vibrio cholerae*, *Shigella flexneri* and *Streptococcus pyogenes*. Leaf extracted in methanol shows fungicidal and against bacteria with presence of cyclopropane, triterpene and glycoside

compounds. Expectorant for nervous conditions, spasms and anti inflammatory activity was observed in mice study. A research suggests that *P. foetida* extracts possess antidepressant effects that could be used in the treatment of patients with depressive disorders. Vitexin could be anti-inflammatory and Kaempferol, Apigenin and luteolin may lead to anti-allergic drug development for compensation of excessive steroidal drugs usage has been observed confirmed anti-ulcer and antioxidant activity of *P. foetida* in gastric tissue of ulcer rat's models and concluded antiulcerogenic effect is related to antioxidant activity.<sup>25-37</sup>

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