



Ficus religiosa: A beneficial medicinal plant

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Abstract



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In India, herbs have been the primary means of treatment. The existence of secondary plant metabolites, which are combinations of chemical substances with different amalgams, in one or more sections of medicinal plants confers therapeutic qualities. *Ficus religiosa*, sometimes known as peepal, belongs to the Moraceae family of plants. The Bo tree, *Ficus religiosa*, provided shelter to the Buddha as he divined the "Truths." In *Ficus religiosa*, phenolic components, hydrocarbons, aliphatic alcohols, volatile components, phytosterols, amino acids, furanocoumarins, and a few more types of secondary metabolites have been isolated by phytochemical studies. Both (In vitro and in vivo) pharmacological activities of *Ficus religiosa* crude extracts and isolated components included anti-inflammatory, analgesic, antimicrobial, antiviral, hypolipidemic, antioxidant, immunomodulatory, antiasthmatic, parasympathetic modulator, estrogenic, anticancer, antiulcer, antianxiety, anthelmintic, endothelial receptor antagonistic, apoptosis inducer, and hypotensive activities.

Keywords: *Ficus religiosa*, phytoconstituents, pharmacology, toxicity

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1. Introduction

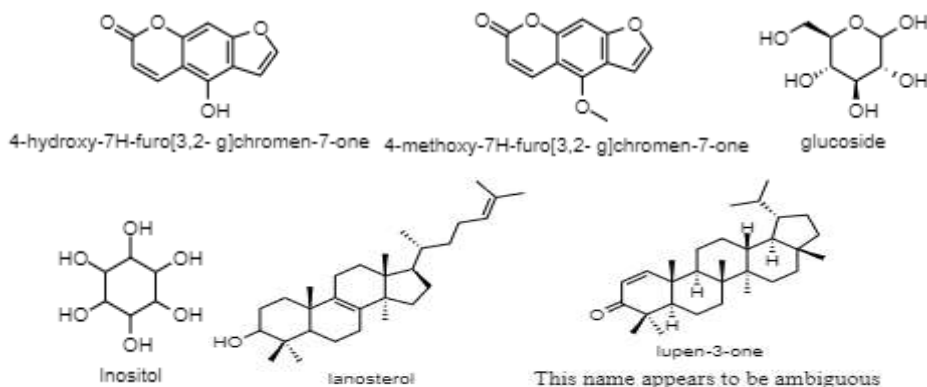
The ficus is one of the largest angiosperm genera, with over 800 species of shrubs, trees, and epiphytes found in both sub-tropical and tropical climates around the world. In the Asian-Australasian region, about 500 ficus species are found. Around 110 to 130 ficus species can be found in Africa. The taxonomical classification of *Ficus religiosa* is listed in Table No. 1^{1,2}. *Ficus religiosa*, or sacred fig, is the most well-known ficus genus, with over 150 different names. The regional name of *Ficus religiosa* is given in Table No.2, and Table No.3 shows the *Ficus religiosa* name in different countries. *Ficus religiosa* may be found throughout the Continent of Asia, covering India, Nepal, Pakistan, and Bangladesh, as well as the Assam area,

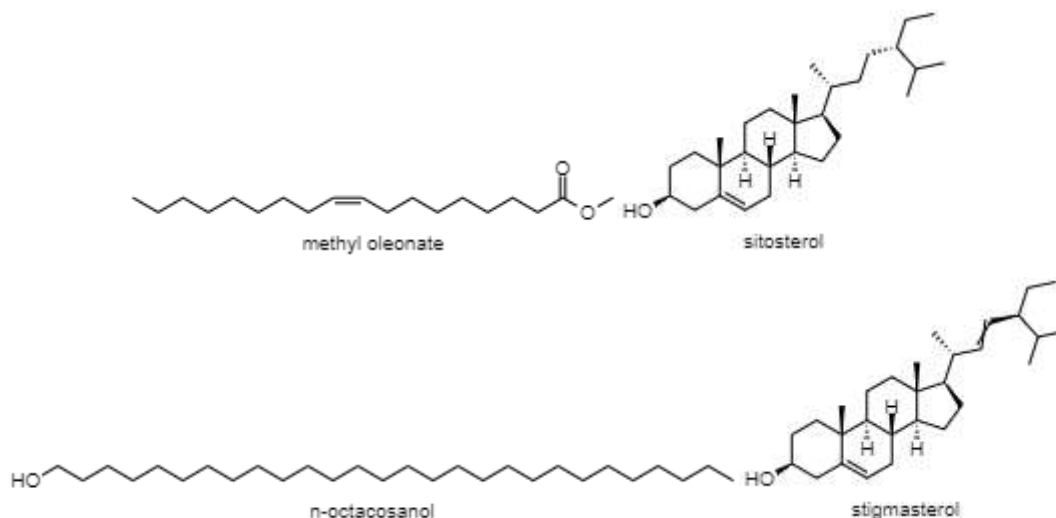
the Eastern Himalaya, and the Nicobar Islands, and sections of Indochina, such as the Andaman Islands, Thailand, Myanmar, and Peninsular Malaysia. It is also found spread across Florida, Venezuela, and Iran, as well as the region of tropical Asia^{3,4}.

2. Phytochemistry

Phytoconstituents research on *Ficus religiosa* has resulted in the extraction of amino acids, furanocoumarins, phenolic components, hydrocarbons, aliphatic alcohols, volatile components, phytosterols, and several families of secondary metabolites from various portions of the plant⁵. Phenolic compounds are tannins and flavonoids, and carbonic acids are found in all portions of *Ficus religiosa*. Polyphenol is reported in roots⁶.

2.1. Bark constituents

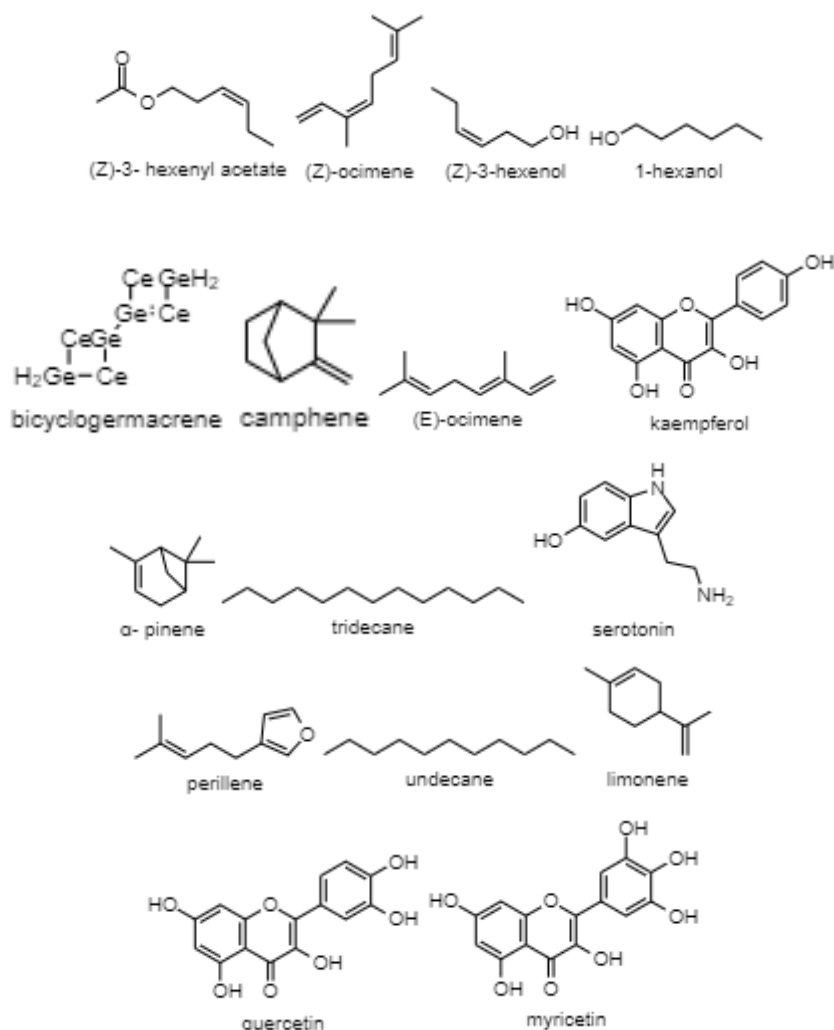




Petroleum ether and alcoholic solvents are used to extract phytosterols such as lanosterol, -sitosterol and its glucoside (-sitosteryl-d-glucoside), and stigmasterol from the bark of *Ficus religiosa*. This is a common misunderstanding⁷. 4-methoxy-7H-furo [3,2-g] chromen-7-one (Bergapten) and 4-hydroxy-7H-furo [3,2-g] chromen-7-one (Bergapten) are two substituted furanocoumarins (Bergaptol), are extracted from the bark of *Ficus religiosa* using benzene as a solvent⁸. The

tannin content in the bark of *Ficus religiosa* is 8.7%⁹. Using petroleum ether as a solvent, Vitamin K1, methyl oleonate, lupen-3-one and n-octacosanol, are extracted from the bark. Inositol is extracted from bark using an alcoholic solvent⁸. The inner bark of *Ficus religiosa* contains acid detergent fibre, neutral detergent fibre, saponins and acid detergent lignin are all phenolic component¹⁰.

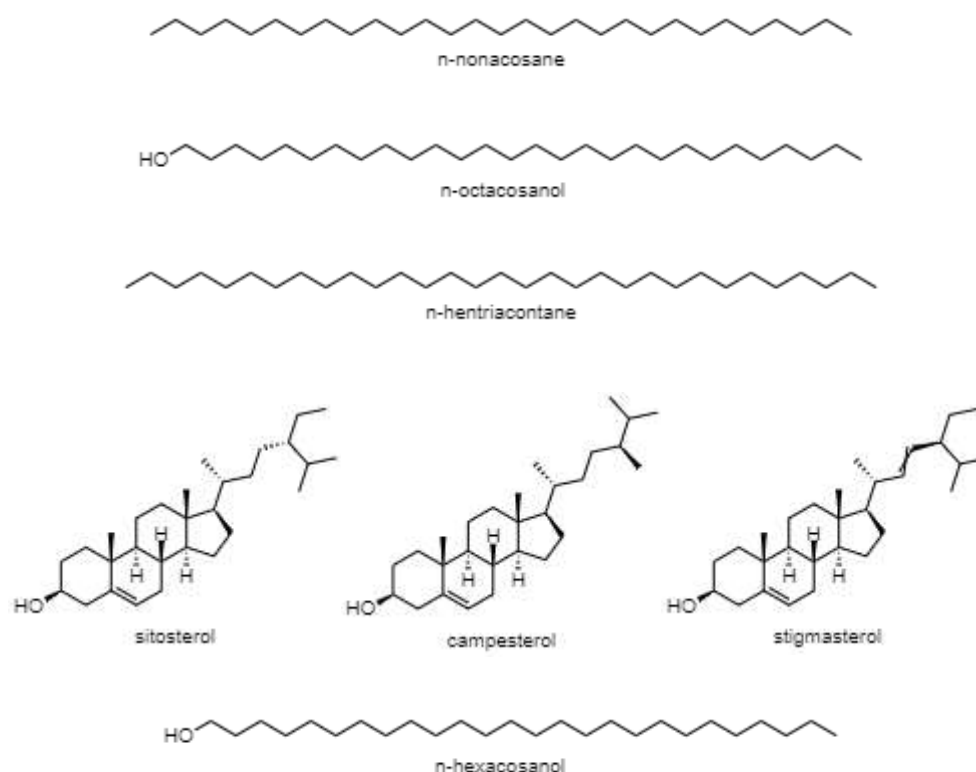
2.2. Fruit constituents:



Tyrosine and asparagine are amino acids mostly found in the fruit of *Ficus religiosa*. In fruit pulp, aspartic acid, threonine, norvaline, alanine, threonine, norleucine, and glycine are present in a free state. Serine, cysteine, phenylalanine, and isoleucine are protein hydrolysates^{11,12}. Flavonoids are a significant class of metabolites found in the *ficus religiosa*^{10,12}. *Ficus religiosa* contains large amounts of flavonoids and phenolic content in its fruits¹⁰. Myricetin (694 mg/kg), kaempferol (160.8 mg/kg), and quercetin (256.3mg/kg) were all tested¹³. In the immature fruits of *Ficus religiosa*, condensed tannins are found¹⁰. The yield of phenolic and flavonoids compounds depends on the extraction technique and solvent used. Flavonoids and phenolic components give less yield in 80% hydro ethanol as compared to 80% hydro

methanol and shaking gives more yield as compared to reflux¹³. In *Ficus religiosa*, the following volatile components are, sesquiterpenes [α -cubebene, α -ylangene (α -copaene, β -bourbonene, β -caryophyllene, α -bergamotene, aromadendrene, α -humulene, germacrene D, bicyclogermacrene, gamma-cadinene, and delta-cadinene)] and cyclic monoterpenes [α -pinene, β -pinene, camphene, α -terpinene, limonene] simple aliphatics [undecane, tridecane, tetradecane, (Z)-3-hexenol, 1-hexanol, and (Z)-3-hexenyl acetate], acyclic monoterpenes [(Z)-ocimene, (E)-ocimene and perillene]¹⁴. Hemicellulose 19 %, lignin 34.9%, cellulose 40.3% and pectin 5.8% are the total fibres present in *ficus religiosa*. Serotonin is also found in the fruits of *ficus religiosa*¹⁵.

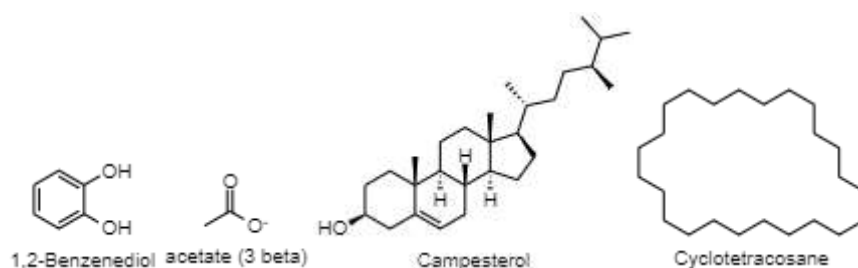
2.3. Leaves constituents

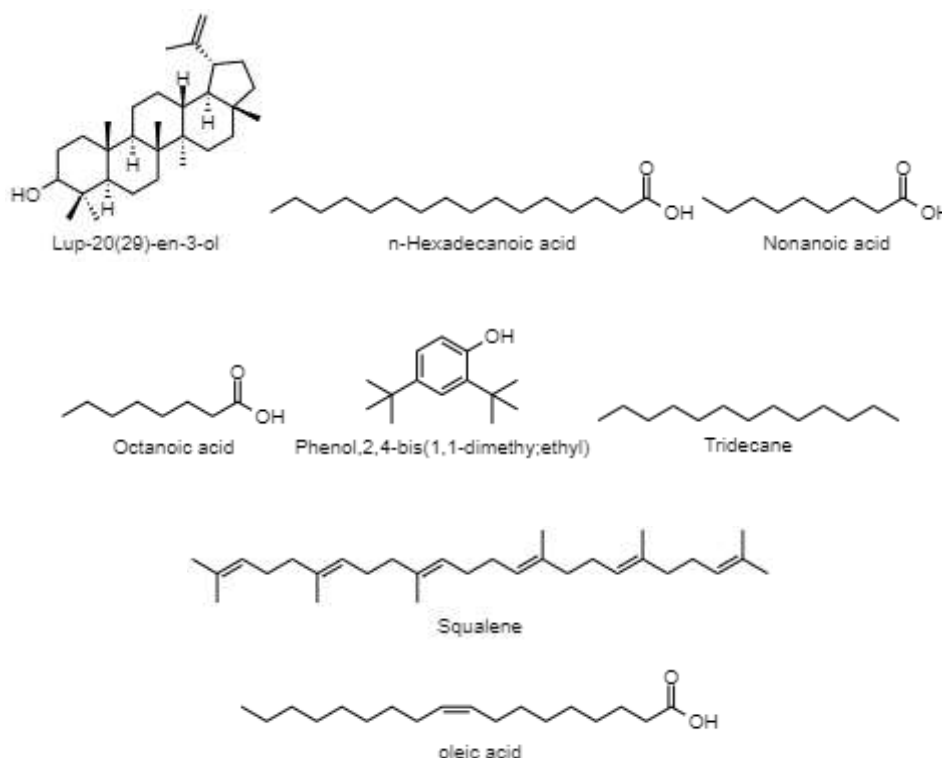


Stigmasterol, campesterol, 28-isofucosterol and sitosterol, are phytosterols (2.8%) and lupeol alpha-amyrin, and beta-amyrin are triterpene alcohols. 28.5% of this total is extracted from the leaves of *ficus religiosa* using pet ether as a solvent. 7.9% of aliphatic alcohols [n-hexacosanol and n-octacosanol] and 7.1% of long-chain hydrocarbons [n-nonacosane and n-hentriacontane] are also extracted using the same solvent¹⁶. Arginine, aspartic acid, alanine, cysteine, lysine, methionine, serine, glycine, threonine, proline, isoleucine, tryptophan,

tyrosine, valine, and leucine are also present in the leaves of *ficus religiosa*. Neutral Detergent Fiber, Acidic Detergent Fiber and ADL are also present in the leaf of *Ficus religiosa*. 1.5% of tannin are present in leaves in both condensed tannins and tannic acids. Copper (Cu), Calcium (Ca), iron (Fe), manganese (MnO₂), sodium (Na), magnesium (Mg), potassium (K), phosphorous (P), and zinc (Zn) are minerals which are also found in leaf extract. Carbohydrates and Proteins are also reported in the leaves of *ficus religiosa* extract¹.

2.4. Steam constituents





Acetate (3 beta), and Lup-20(29) -en-3-ol (C₃₀H₅₀O) are found in steam, with petroleum ether providing the highest yield. Chloroform extract gave gamma-sitosterol in high quantities. In methanolic extracts, 1,2-benzenediol was found in the highest concentration. Other constituents reported in ficus religiosa steam extract include, 2,4-bis (1,1-dimethylethyl), Octanoic acid, Nonanoic acid, 2,4-Decadiene, Tridecane, Hexadecane, Phenol (C₆H₆O), Pentadecane, Octadecane, n-Hexadecanoic acid, 9-Octadecanoic acid (z)¹⁷.

3. Cultivation

Ficus religiosa is grown in the plant nursery as this tree is used as a decorative tree in parks and gardens in both climates (sub-tropical and tropical). In hot, humid climates, peepal trees are endemic to the Indian sub-continent. Sunlight is required and can be grown in any type of soil, but the soil pH must be 7 or below it. The plant is also grown by seed propagation or by vegetative methods. Seeds are planted from March to July, and germination of seeds takes about one week to one month. Plants are nurtured for a year in a nursery before being planted during the monsoon season in June and July. The plant is protected from weeds. It is best planted as an avenue or road verge tree in the Middle East. The plant grows in parks as well as along highways and pavements in the Philippines and Nicaragua, whereas it grows wild in lower-elevation forests in Paraguay¹⁸.

4. Traditional uses

For many years, *Ficus religiosa* has been widely utilised as a traditional medicine. Many illnesses are cured using bark, fruits, roots, seeds, and leaves. It is also used in combination form with other herbs. The inflamed ulcer is covered with *Ficus religiosa* leaves and butter fat. For asthma therapy, the dried and powdered fruits are consumed with water for 14 days. Fishula is treated with powdered bark. Ruksha dry, Veerya: shitacold, Guna: guru heavy, Rasa: kashaya astringent, and Vipaka: katu pungent are all Ayurvedic terms for *Ficus religiosa*. *Ficus religiosa* is used to treat more than 50 different conditions, including asthma, diabetes, epilepsy, stomach issues, inflammatory diseases, infections, and sexual difficulties. Traditional uses of *Ficus religiosa* are listed in Table No. 4¹.

5. Mythology

Many ancient cultural scriptures, such as the Arthashastra, Bhagavad-Gita, Mahabharata, Puranas, Ramayana, Upanishads, and Buddhist literature, mention *Ficus religiosa*. The *Ficus religiosa* is a representation of Lord Vishnu, according to Vedic writings described in the Brahma Purana, Skanda Purana and Padma Purana. This tree is also said to be the birthplace of all Trimurti. The Bodhi Puja is also carried on plant *Ficus religiosa*, which, meaning "the veneration of the Bodhi-tree", is the ritual to worship the Bodhi tree and the deity residing on it (Pali: rukkhadevata; Sanskrit: vrikshadevata). It really is done by making different gifts, like as meals, water, milk, candles, perfume, and so on, as well as singing the Pali poems about the Bodhi tree's glory. "Ime ete mahabodhi lokanathena pujita ahampi te namassami bodhi raja namatthu te," has been the most prevalent verse¹⁹.

6. Scientific claim

6.1. Antibacterial activity

Ficus leaves were found to have antimicrobial properties against *Salmonella typhi*, *Shigella dysenteriae*, and *Salmonella typhimurium*, *Typhimurium*, *P.Aeruginosa*, *E.Coli*, *Bacillus subtilis*, *S. Aureus*, *S.Typhimurium*, *S.Staph aureus*, and *Staphylococcus*, areas type utilising aqueous leaf extracts²⁰. There is also an antimicrobial effect against *Obacter chroococcum*, *B.cereus*, *Streptococcus faecalis*, *Bacillus megaterium*, and *Klebsiella pneumonia*, *Streptomycin lactis* by using chloroform extract of fruit²¹. The antifungal action of ethanolic leaf extracts against *Candida albicans* was identified²².

6.2. Anthelmintic activity

Methanolic extract of *Ficus religiosa* bark showed good damage to *Haemonchus contortus* worms. In an in-vivo study, *Ascaridia galli* was damaged by steam and bark extract of *Ficus religiosa*²³.

6.3. Antidiabetic activity

Using a valid experimental study, many different cultures demonstrated the use of the *Ficus religiosa* in diabetic

treatment. The first hypoglycemic effect was carried out on albino rabbits using aqueous bark and root extract. This experiment demonstrated that blood sugar levels in normal rabbits were reduced by 2.5 gm/kg after 18 hours of fasting, and sugar was loaded at 1 gm/kg 1 hour before the experiment. As a standard, the tolbutamide dose is given as 0.5 gm/kg. This experiment showed a low blood sugar effect of bark extract, but there is no proper mechanism of bioactive metabolites²⁴. In 1967, phytosterolin beta-sitosterol-d-glucoside was extracted from the bark of *figus religiosa*. Using the soxhlet technique and 95% ethanol as the solvent, the bark was extracted. After 48 hours, it is further diluted with water, and extraction is carried out using ether as a solvent. The ether extract is removed by washing with water and 5% HCL before drying. The obtained product was washed with petroleum ether and recrystallized with acetone until pure phytosterolin was obtained. Fasting rabbits (weight 2.3kg to 3 kg) were given 5 mg/kg, 7.5mg/kg in intravenous, and 25mg/kg in PO doses of phytosterolin. A significant reduction in blood sugar level was noticed after 2 hours in 5mg/kg and 7.5mg/kg, and a 25mg/kg PO reduction was observed after 4 hours. Therefore, this experiment proved that phytosterolin obtained from the bark is behind the hypoglycemic activity⁷. Alcoholic extract of leaves of *figus religiosa* showed an antidiabetic effect. 100mg/kg, 200mg/kg, and 400mg/kg showed a reduction in blood sugar levels. But in this experiment, the weight loss of the mice was also observed. Therefore, all the above experiments show that the alcoholic as well as an aqueous extract of the bark shows an antidiabetic effect, but the exact mechanism is still unrevealed²⁵.

6.4. Antiasthmatic activity

In 1960, the first study was carried out on asthma treatment using *figus religiosa* extract. By using an alcoholic solvent, the bark of the *figus religiosa* is extracted. 300mg/kg 375mg/kg and 400mg/kg intraperitoneal and 75mg/kg intravenous dose is prevented in experiment to produce by 5% of each aerosol in guinea pigs. 1.5% histamine at a dose of 450mg/kg intraperitoneal Acetylcholine showed more effects than histamine did against asthma. To suppress all the effects of asthma, the interior bark extract is mixed with rice pudding (milk, sugar, rice, and cardamom)²⁶.

6.5. Analgesic and Anti-inflammatory activities

The alcoholic extract of steam and bark has given anti-inflammatory activity. Carrageenan to produce paw edema for anti-inflammatory activity and analgesic activity is studied by acetic acid to produce a writhing test. Paw volume was lowered by the extract. The 250mg per kg dose of extract has the same effect as that of indomethacin (5mg/kg) and aspirin (100mg/kg). In other enquiries, the anti-inflammatory activity was produced for both models (acute and chronic) of aqueous bark extract²⁸.

6.6. Anti-oxidant activity

Experiments were carried out in various solvents using an extract of *figus religiosa* fruit and bark to demonstrate antioxidant activity, which was assessed using the oil stability index as well as radical scavenging capacity against DPPH¹³. Diseases like diabetes, atherosclerosis, and rheumatoid arthritis are chronic diseases that show oxidative stress and damage to the tissues. An experiment on type 2 diabetes rats reduced the oxidative stress with an aqueous extract of *figus religiosa*. Therefore, as compared to normal rats, type 2 diabetes rats gained less weight. Diabetes results in weight loss due to reduction in glucose uptake and removal of free fatty acid from circulation, and accelerated oxidation in adipose tissue. Diabetic rats' body weight was enhanced of this²⁹. The alcoholic extract of *figus religiosa* has been shown to have anti-ACh and neurotrophic properties³⁰.

6.7. Anti-convulsant activity

Pentylnetetrazol is used to produce the convulsion model. The leaf extract was given to the animal 30 minutes before PTZ 60mg/kg i.p showed 80 to 100% seizure protection. A limited study was carried out, so the exact potential of a leaf extract as an anti-convulsant has not been verified. So, more studies should be carried out on leaf extracts of *figus religiosa*. Many studies have shown that serotonergic neurotransmission in the brain generates seizures. Therefore, the serotonin level rises and its consumption reduces the epilepsy seizures¹. The fruit of *figus religiosa* contains serotonin. So, on different animal models, the fruit extract was studied to get anti-convulsant activity. But the extract failed to show the anti-convulsant activity³¹.

6.8. Hypolipidemic activity

Figus religiosa contains dietary fibers such as peepalbanti cellulose and lignin, which produce better resistance to hyperlipidemia in rats when fed at a 10% dietary level. Dietary hemicellulose has a negative effect on liver cholesterol and serum and has a positive effect on faecal bile acids. Total lipids, cholesterol, phospholipids and triglycerides affect dietary fibers to various extents¹⁵.

6.9. Immunomodulatory activity

An immunomodulatory activity was seen in mice with an alcoholic extract of *figus religiosa* bark. Hematological and serological tests were carried out and showed both cellular and humoral antibody responses. To sensitize mice, the red blood cells of sheep were injected. Vitamin E played the role of standard (150mg/kg). The effects of a 100mg/kg dose of the bark extract on the humoral and cell-mediated responses were demonstrated. Therefore, for conclusive evidence to not be found, more

studies on preclinical trial and clinical trials are required³².

6.10 Smart drug or Nootropic effect

Amnesia or Memory loss is a cognitive disorder. The person finds it hard to learn new things and fails to recapture past memories³³. The serotonergic system operated by the brain plays a major role in this disorder. A high quantity of serotonin is present in the fruits of *figus religiosa*. Therefore, the fruit extract is used to carry out further studies³¹.

6.11. Parasympathetic modulatory effects

Figus religiosa bark extract showed parasympathetic activity. The alcoholic extract of bark reduces the tone and amplitude shrinkage in the rat ileum, guinea pig ileum, and rabbit uterus. The arterial blood pressure was reduced by 25 mg/kg of extract dose and blocked cardio inhibitory effects in dogs with 35 to 75 mg/kg of dose. Studies showed that there was an effect of the bark extract on parasympathetic modulator effect³⁴. The alcoholic bark extract shows obstructing activity against acetylcholinesterase, which indicates the parasympathetic property of bark³⁰.

6.12. Wound healing activity

A formulation of leaf extract was prepared in emulsifying ointment at 5% and 10% concentrations and applied to wounds. An animal model was used to check for wound healing activity. Therefore, there is a decrease in the period of epithelization in excision wounds, incision wounds, and burn wound models³⁵. Semisolid extract is obtained from the leaf powder of *figus religiosa* using 70% hydroalcoholic solvents. Glycosides and tannins are found in leaf extracts. A rat model is used to find out the healing effect of the extract. Therefore, wound healing activity is reported in alcoholic extract³⁶. Wound healing activity is also reported using different herb

extracts combined with ficus religiosa. C.longa (rhizome), Ficus religiosa (bark-steam), Tamarindus indica L. (leaves) and Ageratum conyzoides L. (root) are extracted with ethanol (95%). The extract obtained is dried and formulated into ointment. The ointment is formulated by using polyethylene glycol 4000 and polyethylene glycol 600 in 3:7 and 10% methanolic extract. Using a rat model, the wound healing activity is reported. Wound healing can be delayed by edema, ischemia, hypoxia, and infections. So to get wound healing action, this factor should be monitored first. Ficus religiosa leaves and steam show a wide range of antibacterial spectrum, so wound healing takes place. More studies are required to ensure the mechanism of wound healing by ficus religiosa extract¹.

6.13. Miscellaneous activities

Ficus religiosa showed many other activities on the basis of ancient or traditional reports. But still, the exact mechanism or the study is not carried out. Some of these studies are currently underway, and include anti-tumor, anti-ulcer, anti-anxiety, and astringent effects¹.

7. Patent

1}Cosmetic composition comprising ficus fraction and methods to reduce the appearance of skin hyperpigmentation.

Inventor:-

Cheri Lynn Swanson Michael Koganov Shane Whitaker II Leo Timothy Laughlin Tomohiro Hakozaiki Larry Richard Robinson Kurt Glen Kronholm

2} A herbal composition having potent antimicrobial and wound healing properties

Inventor:-

Dilip Sukhlal Mehta Rama Ashok Vaidya Ashok Babubhai Vaidya Anselm De Souza

3} Asthma treatment

Inventor:-

Jitendra Rambhai Patel Devendra Rambhai Patel

4} Ficus extracts having angiogenesis inhibiting activity and methods of isolating and using the same

Inventor:-

Zhijun Liu, Eugene A. Woltering

8. Marketed product

1} **Product name:** -SBL Ficus Religiosa Mother Tincture Q

{Homeopathic medicine}

2} **Product name:** Dr. Willmar Schwabe India Ficus Religiosa MT

{Homeopathic medicine}

Information

Both SBL mother tincture and Dr. Willmar Schwabe India mother tincture are both used to treat various types of hemorrhages. It aids in the regulation of women's menstrual flow. Breathlessness and chronic cough, as well as body odor, are symptoms of a respiratory illness. It can also aid with nausea and hematemeses. It is safe to use based on the homeopathic formulation.

Key ingredient

Ficus religiosa

Key benefits

- Assists in the reduction of abdominal pain.
- Can be used to treat dysentery that is accompanied by abnormal menstrual discharge.
- Effectively relieves breathing problems and chronic coughing.
- Aids in the treatment of many forms of hemorrhages.
- Effective in treating headaches that are accompanied by vertigo.
- Helps with epistaxis therapy.
- Beneficial in cases of blood in the urine or stool.

Direction to use

The dosage should be determined by the doctor.

Safety information

- Before using, read the label carefully.
- Keep out of children's reach.
- Only use if you have a doctor's permission.
- Do not exceed the recommended dosage.
- Wait at least half an hour between eating, drinking, and using other homeopathic drugs.
- When taking medicine, avoid any harsh odor in your mouth.
- Keep in a cool, dry location.

9. Toxicology

Ficus religiosa is safe to use because there have been no reported side effects from ancient times till now. Methanolic extract was tested for acute toxicity in swiss albino mice and found to be safe. No neurotoxicity was reported in the mice³⁷. OECD guidelines were used to test an aqueous bark extract of ficus religiosa in female Swiss albino mice and there was no toxicity reported. Oral toxicity was also found to be safe by using the alcoholic leaf extract of ficus religiosa³⁸. Few studies have reported the toxicity of ficus religiosa. The high dose of the aqueous extract of bark has reported allergies³⁹. Brine shrimp toxicity test, chloroform (CHCl₃) extract of fruit showed toxicity with a lethal Concentration 50 of 400 gm/ml. But alcoholic and aqueous extracts of leaves are reported as safe⁴⁰.

10. Conclusion and future perspectives

Herbal plants are a local treasure with worldwide significance. The Earth is blessed with an abundance of therapeutic herb, plants, and trees. Medicinal plants are also important in the lives of rural people, specifically in remote areas of developing nations where health care facilities are scarce. Traditional medicine has utilized Ficus religiosa to treat asthma, blood sugar level, diarrhea, brain disorder, gastrointestinal troubles, anti-inflammatory activity, infectious activity, and sexual concerns. Despite the fact that the majority of the experimental research confirmed its traditional therapeutic properties, they used unidentified crude preparations. As a result, phytochemical standardization and bioactivity-guided bioactive metabolite identification are required. The findings of these investigations will add to the existing therapeutic possibilities of this compound and prepare compelling evidence for its upcoming clinical application in contemporary medicine.

Table 1: Taxonomical classification of *Ficus religiosa* ⁴¹⁻⁴³

Sr. No	Kingdom	Plantae
1	Domain	Eukaryota
2	Phylum	Tracheophyta
3	Class	Magnoliopsida
4	Sub-Kindom	Viridaeplantae
5	Sub-phylum	Euphyllipsida
6	Sub-class	Dilleniidae
7	Botanical name	<i>Ficus religiosa</i>
8	Family	Moraceae
9	Order	Urticales
10	Specific epithet	<i>Religiosa</i> Linnaeus
11	Genus	Focus
12	Tribe	Ficeae

Table 2: *Ficus religiosa* is known by various names in different countries. ^{44,45}

Sr. No	Countries	Names
1	Arab	Teen-mukadas,
2	China	Putishu
3	Germany	Bobaum, Pepulbaum
4	India	Peepal
5	Italy	Fico del diavolo
6	Spain	Higuera de agva
7	Sweden	Tempelfikus
8	Srilanka	Bodhi tree

Table 3: Regional names for *Ficus religiosa* in India ⁴⁶

Sr. no	Regional languages	Names
1	Sanskrit	Bodhivriksha
2	Hindi	Pipar , Pipal
3	Marathi	Pimpal
4	Gujrathi	Piplo , Jari
5	Bengali	Aswantha , Asud
6	Kannada	Arali, Aswaththa, basari
7	Assami	Ahant
8	Nepali	Pipal
9	Kashmiri	Bad
10	Punjabi	Pipal
11	English	<i>Ficus religiosa</i>
12	Malayalam	Arasu, Arrayal, Thullal
13	Sanskrit	Bodhivriksha
14	Telgu	Ravichettu
15	Oriya	Jari, Aswatha
16	Urdu	Peepal

Table 4: Traditional uses of *Ficus religiosa*.

Sr.No.	Uses	Part/ Preparation
1	Anti-cancer	Powdered bark & liquid extract.
2	Anti -epileptic	Mixture of root powder & honey.
3	Anti –diabetic	Bark extract
4	Anti –diarrhoeal	Leaf liquid + honey
5	Anti –emetic	Leaf soaked in water
6	Anti – helmintic	Leaf as feedstuff
7	Anti –inflammatory	Latex
8	Anti –sptic	Steam& bark
9	Astringent	Root & bark
10	Asthma	Fruit powder
11	Burns	Paste of bark powder
12	Cardiac diseases	Ripe fruits
13	Chicken pox	Root powder + sugar with water.
14	Toothache	Leaves juice with honey
15	Fever	Dry fruits of FC
16	Fistula	Powdered bark
17	Gastric problems	Leaf juice with honey
18	Gonorrhea & scabies	Bark extract
19	Gouty arthritis	Bark extract with honey
20	Hemorrhage	Latex
21	Hiccup	Burnt bark
22	Menorrhagia	Bark extract
23	Laxative	Leaves
24	Leprosy	Root juice
25	Liver diseases	Bark juice
26	Malarial fever	Root with jaggery
27	Migraine	Leaf juice +honey
28	Paralysis	Steam & bark
29	Skin diseases	Dried fruits.
30	Skin allergies	Bark with c.longa
31	Snake bite	Paste of bark
32	Bone fracture	Steam & bark +clove + animal fat
33	Tuberculosis	New bark +dry fruits
34	Wound healing	Leaves & tender shoot

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Conflict of Interest

The authors declare that they have no conflict of interest.

Authors' Contributions

All the authors approved the manuscript for final submission.

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