

Review on Ficus Racemosa's Phytocostituent, Phytonutrient & Traditional Uses

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Abstract

In world, number of medicinal plant are used for treatment of several ailment, disease or body disorders. India, Australia, and Southeast Asian countries are the countries where species of plant Ficus Racemosa are found. Ficus Racemosa have great importance in traditional system of ayurveda. Ficus Racemosa is one of the popular medicinal plant which belongs from family moraceae. Fruits, leaves, stem bark, roots are the parts of Ficus Racemosa used to treat ailments. Ficus Racemosa contains various phytoconstituents which is necessary for treatment of diseases. Ficus Racemosa show various pharmacological activities including antibacterial activity, anti-inflammatory activity, antitussive activity, antidiuretic activity, antiulcer activity, antioxidant activity, anticancer activity, antipyretic activity, antihyperglycemic activity. In this review, emphasis on detailed information of Ficus Racemosa therapeutic activities as well as plant description.

Keywords: Ficus Racemosa, Taxonomy, Phytoconstituents, Phytonutrients, Traditional Uses, Pharmacological Potential



Figure 1. Ficus Racemosa Fruits

Introduction

The Moraceae family is prominent group of plants which has contain medicinal properties. Ficus Racemosa has many vernacular names in local languages such as Gular and Umar in hindi, Umbar in marathi, Umar and gular in gujrati, Athi in telangana and kannada language and other so as. It is also called

as Cluster fig and *Ficus glomerata* as well as Udumbara^[1]. Fruits, leaves, stem bark, roots, latex, seed of *Ficus Racemosa* are used for therapeutic effect. *Ficus Racemosa* has Astringent taste and Aromatic, Pleasant odour^[2]. *Ficus Racemosa* (Udumbara) is one the of the plant which is considered as lord Dattguru in Hinduism. This plant contains various phytoconstituents such as β -sitosterols, α -amyrin, flavonoids, tannins, glauanol, etc are useful for treatment of several diseases. This plant is used in following disorders such as haemorrhoids, diarrhoea, diabetes, menorrhagia, gonorrhoea, mumps, small pox, etc^[3].

Taxonomical Classification^[1,2]

- Kingdom – Plantae
- Sub-kingdom – Tracheobionta
- Clade – Angiosperms
- Division – Magnoliophyta
- Superdivision – Spermatophyta
- Class – Equisetopsida
- Subclass – Hamamelididae
- Order – Rosales, Urticales
- Family – Moraceae
- Genus – *Ficus*
- Species – *Ficus Racemosa* Linn



Figure 2. *Ficus Racemosa* Tree

Phytoconstituents^[4,5]

Plant Part	Chemical Constituent
Root	Cycloartenol, Euphorbol, Steroids, Saponins, Alkaloids, Tannins, Flavonoids, Taraxerone, Tinyatoxin.
Stem	Campetsterols, Hentriacontane, Hentriacontanol, β -Sitosterol, Kaempferol,

	α -Amyrin acetate, Glauanol acetate, Stigmasterols, Lupeolacetate, Methyl ellagic acid.
Leaves	Tetra triterpene, Tannins, Alkaloids, Flavonoids, Racemosic acid, Phenolic compound, Glaunolacetate.
Fruits	Alkaloids, Flavanoids, Steroids, Tannins, Phytosterol, Tiglic acid, Lupeolacetate, Glauanol, Glauanolacetate, β -Sitosterol Friedelin.
Latex	α -Amyrin, β -Sitosterol, Euphorbinol, Isoeuphorbinol, Cycloartenol, Palmitic acid, Taraxerol, Tinyatoxin, Trimethylellagic acid.

Table 1. Phytoconstituents

Phytonutrients^[6]

Phytonutrient (per 100 gm of fresh tissue)	Content weight
Moisture Content	80.2 gm
Crude Fibre	0.5gm
Protein	28.12gm
Fat	1.0 gm
Mineral	2.0gm
Carbohydrate	15.84 gm
Carotene	200 μ g
Iron	250 mg
Ascorbic acid	5.3 mg
Calcium	30.5 gm
Phosphorus	103 mg

Table 2. Phytonutrients

Traditional Uses^[4,7]

1. Leaves are useful to treat diarrhoea, dysentery, bilious infection, dysmenorrhea, chronic wounds and hemoptysis.
2. Fruits are act as astringent, stimulant tonic, stomachic. Fruits are useful to treat dry cough, menorrhagia and hemoptysis.
3. Bark is useful in mouth wash of spongy gum condition, dysentery, menorrhagia and diabetes. It is also useful in washing of wounds, burns.
4. Latex useful to treat diabetes, hemorrhoids, traumatic pain and inflammatory enlargements. It act as curing agent in the stomach, cholera and mumps.
5. Roots and Root sap are also useful to treat diabetes, gonorrhoea, diarrhoea, mumps, smallpox, menorrhagia.

Pharmacological Potential

1. Antibacterial activity ^[8]
2. Antifungal activity ^[8]
3. Anti-inflammatory activity ^[9]
4. Antidiabetic activity ^[10]
5. Antitussive activity
6. Antidiarrheal activity
7. Antipyretic activity
8. Gastroprotective activity
9. Wound Healing activity
10. Hepatoprotective activity

References

1. Satish A Bhalerao, Deepa R Verma, Nikhil C Teli, Vinodkumar S Didwana and Saurabh S Thakur, "Ficus racemosa Linn. : A Comprehensive Review", Journal of Applicable Chemistry, June 2014, 3(4), 1423-1431.
2. Kajal V. Kosankar, Dr. A.N. Aher, "The Phytoconstituents and Pharmacological Actions of Ficus Racemosa Linn. Family: Moraceae an Updated Review", PharmaTutor, December 2018, 6(12), 55-63.
3. Rajnish kumar Yadav, Bankim Chandra Nandy, Siddhartha Maity, Srimanta Sarkar, Sudipta Saha, "Phytochemistry, pharmacology, toxicology, and clinical trial of Ficus Racemosa", Pharmacogn Rev., Jan-Jun 2015, 9(17), 73-80.
4. Gitesh Kishor Chaware, Vikas Kumar, Satish kumar and Pankanj Kumar, "Bioactive Compounds, Pharmacological Activity and Food Application of Ficus racemosa: A Critical Review", International Journal of Fruit Science, Jun 2020.
5. Nilanjan Pahari, Subhabrota Majumdar, Dipanjan Karati, Rana Mazumdar, "Exploring the pharmacognostic properties and pharmacological activities of phytocompounds present in Ficus racemosa linn.: A concise review", Pharmacological Research – Modern Chinese Medicine, July 2022, 4(3), 2667-1425.
6. Bhogaonkar P Y, Chavan V N and Kanerkar U R, "Nutritional potential of Ficus racemosa L. Fruits", Bioscience Discovery, July-2014, 5(2), 150-153.
7. Himanshu Sharma, Rashmi Pathak, Siddharth Jain, Maulshree Bhandari, Riya Mishra, Km Reena, Prakhar Varshney, "Ficus Racemosa L: A Review on its Important Medicinal Uses, Phytochemicals and Biological Activities", Journal of Population Therapeutics & Clinical Pharmacology, Jan-2023, 30(17), 213-227.
8. Tanvi Pingale, Pallavi Duse, Sunita Ogale, "Antibacterial and Antifungal Approaches of Ficus racemosa", Pharmacognosy Journal, Feb-2019, 11(2), 355-357.
9. Priya Mohan B.N, Suma Jayaram, Sanitha Kuriachan, "Study of anti-inflammatory activity of Ficus racemosa linn stem bark extract in albino rats", International Journal of Basic & Clinical Pharmacology, March-2021, 10(3), 231-237.
10. Mr. Kalpeshkumar S Wagh, Dr. Mohd Ruman Khan, Shagufta khan, Mr. Ravi Mallikarjun Rajurkar, Miss. Jhama lhamo, Mr. Lalit Sharma, Dr. Sri Lakshmi Darbhamulla, Dr. Ujash kumar Shah,

“Investigation of Antioxidants, Antidiabetic and Antihyperlipidemic Activity of Ficus Racemosa leaves”, European Chemical Bulletin, May-2023, 12(4), 5742-5750.