



## A Fantastic Indian Medicine: [Pergularia Daemia]: An Overview

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**Abstract:** Pergularia Daemia trellis vine is a hispid perennial vine in the family asclepiadaceae with an extensive range in old world tropic and subtropics. Traditionally the plant *P. daemia* was used as an anthelmintic and laxative, antipyretic and expectorant. It also used to treat infantile diarrhoea and malarial intermittent fever and possesses stomachic, laxative and diuretic properties useful in cough, biliousness and sore eyes. The herbs used in different forms such as juice extracted. The leaves of *Pergularia extensa* used as expectorant in diarrhoea and other digestion-related problems. The swelling, inflammation and pain in the joints, all parts of the herbs provide relief from bleeding piles and intestinal worms.

**Habit:** - a perennial twiner with milky juice, foetid, hairy.

**Leaves:** - Ovate, cordate, thin inflorescence: Lateral cymes. Medicinal plants are gifts to human beings to lead a disease-free, healthy life. *Pergularia daemia* is a tropical & subtropical medicinal plant. It is a perennial herb belonging to the Asclepiadaceae family and is distributed in tropical and sub-tropical regions. The whole plant is used in the treatment of jaundice since ancient times. It shows anthelmintic, laxative and anti-pyretic properties. It has been used to treat jaundice, anthelmintic, antipyretic, expectorant and also in infantile diarrhoea. Phytochemically used to treat various ailments in human beings. Phytochemically, plants have been investigated for cardenolides, alkaloids, triterpenes and saponins. Anti-inflammatory, hepatoprotective, anticancer, anti-diabetic, antioxidant, antibacterial, antifungal, analgesic, antifertility and central nervous system activity. Preliminary phytochemical analysis conducted on the different extracts, i.e. alcoholic 50%, petroleum ether, ethyl acetate and *n*-butanol extract. *Pergularia daemia* indicates the presence of flavonoids, steroids, alkaloids, triterpenes and saponin. Family: Asclepiadaceae was extracted with 50% alcohol and a fresh batch of the plant material was successively extracted with petroleum ether, ethyl acetate and *n*-butanol to determine its diuretic activity. *Pergularia daemia* is a vine-trellis hispid perennial vine in the family Asclepiadaceae, with an extensive range on old tropics & subtropics. It has been used traditionally for a number of ailments and is sometimes called 'winning herb'. It grows widely along the roadsides of India and also in the tropical and subtropical regions. The whole plant possesses high medicinal value and is traditionally used in treating various ailments.

**Keywords:** - Antifertility; analgesic; antifungal; anti-oxidant; anti-inflammatory.

**Introduction:** -

Nature has been an important source of medical products since ancient times. It is estimated that there are more than 45,000 species of medicinal plants present in the country. Of these, only 60% of plants are officially used by the population, 40% of plants are used traditionally. According to the World Health Organization, approximately 80% of the world's population uses herbal medicine. The medicinal plant sector is a part of a time-honoured tradition in our country. One such medicinal plant, *Pergularia daemia*, which is used to treat various ailments. The liver is an organ of metabolism and excretion that has an immense task of detoxification of xenobiotics, environmental pollutants, and chemotherapeutic agents. Hence, the organ is subjected to a variety of diseases and disorders. At present, despite the increasing need for agents to protect the liver from damage, modern medicine lacks a reliable liver-protective drug. Therefore, a number of natural substances have been studied to evaluate the hepatoprotective activity.

**Habit Of Pergularia daemia ;-**

The plant is widely distributed in the tropical or subtropical area in India. *Pergularia daemia* is commonly found throughout the country. The altitude is about 1000m in the Himalayas and 900m in southern India. It is widely distributed in tropical Africa, extending to the Arabia Area.

**Identification Of pergularia daemia:-**

PergulariaDaemia are identify in heart like shape in laves . pergulariadaemia are hairy and milky juice form. Milky weed family ,pergulariadaemia are also known as pergulariaextensa or Daemia extensa. Therefore pergulariadaemia are dried roots are used an abortifacient, emetic, bronchitis used for cough, asthma or constipation .the fruits are digestive and thermogenic, they also useful plants in environment plants extract is uterine and menstrual disorders in facilitating parturition .

Pergulariadaemia are properties in leaves :-

- 1] Anti-inflammatory
- 2] Hepatoprotective
- 3] Anticancer
- 4] Antidiabetics
- 5] Antioxidant
- 6] Antibacterial
- 7] Antifungal
- 8] Analgesic
- 9] Anti infertility
- 10] Central nervous system.

**Classification of pergularia daemia:-**

kingdom	Plantae
Subkingdom	Tracheobionta
Super division	Spermatohyeta
Division	Magnoliophyta
Class	Magnoliopsida
Subclass	Asteridae
Order	Gentianales
Family	Asclepiadaceae
Tribe	Asclepiadine
Subtripe	Asclepiadinae
Genus	Pergularia
Species	Daemia

**Need of pergularia daemia:-**

Pergularia daemia is having manyapplication in between folk medicine an even in a Ayurveda or belived to is increase defense against various diseases, The whole plant is used an anthelminitic, antiseptic, antivenin, emmenagogue, emetic, expectorant or expectorant. The pergularia daemiaextract orally is gastric ulcers, uterine, about menstrualcomplaints, the leaves used in leprosy or haemorrhoids .the pergularia daemia are leaf juice is used amenorrhea, demenorrheal, bronchitis,whooming of cough, heals and wounds. The pergularia daemia are plant boils and sores.

Pergularia daemia are fresh root is inabortifacient used in gonorrhoea treatment.pergularia daemia are species is widley disturbeted. The pergularia daemia are ayurvedic medicine, also used of more dangoures dieases.

The qualitative analysis of the leaves showed the presence of alkaloids, steroids, terpenoids, flavanoids, saponins, phenols, tannins, aminoacids, cardiac glycosides, carbohydrates and proteins. The quantification of the compounds like alkaloids, flavanoids and phenols were done.

Pergularia Daemia are identify in heart like shape in laves. pergularia daemia are hairy and milky juice form. Milky weed family, pergularia daemia are also known as pergularia extensa or Daemiaextensa. Therefore pergularia daemia are dried roots are used an abortifacient, emetic, bronchitis used for cough, asthma or constipation. The fruits are digestive and thermo genic, they also useful plants in environment plants extract is uterine and menstrual disorders in facilitating. The plant is widely distributed the tropical or subtropical area in India. The pergularia daemia are commonly found in through of countries. The altitude about 1000m and Himalayas is 900m southern India. Thewidely are distributed are tropical Africa, extending is Arabia Area.

Pergularia daemia are species :- pergularia daemia are more than 45000 species, are present in India. Pergularia daemia are only used in 60% plants officially used in separation or 40% is plants. As used in traditionally. They also world health organization absolutely 80% world population as Indian medicine.

### 3.1 Population and Sample



Fig: Leaves of Pergularia Daemia



Fig: Fruit of Pergularia Daemia

### METHODOLOGY:

**1] Test of flavonoids:** - A few drops of 2% ammonia solution to added in Methanolic Extract of plants Leaves in test tube. The yellow coloration is observed in flavonoids compounds present.

**2] Test of Carbohydrates:** - the 0.6ml of powdered sample extract, 10ml of Benedict reagent is added and boiled for 10 minutes. The color formation in bluish green color observed in carbohydrate solution was boiled in few minutes. The presence of flavonoids, reddish pink dirty brown color was observed.

**3] Test of tannins:** - the 0.6 g of powdered sample was plant leaves is boiled 25ml of distilled water. A test tube and filtered, a filtration method used in a normal method. A includes conical flask or filtered paper. A 0.2%  $FeCl_3$  was added in filtered sample and product. Brownish green and blue black coloration. This shows the presence of tannins.

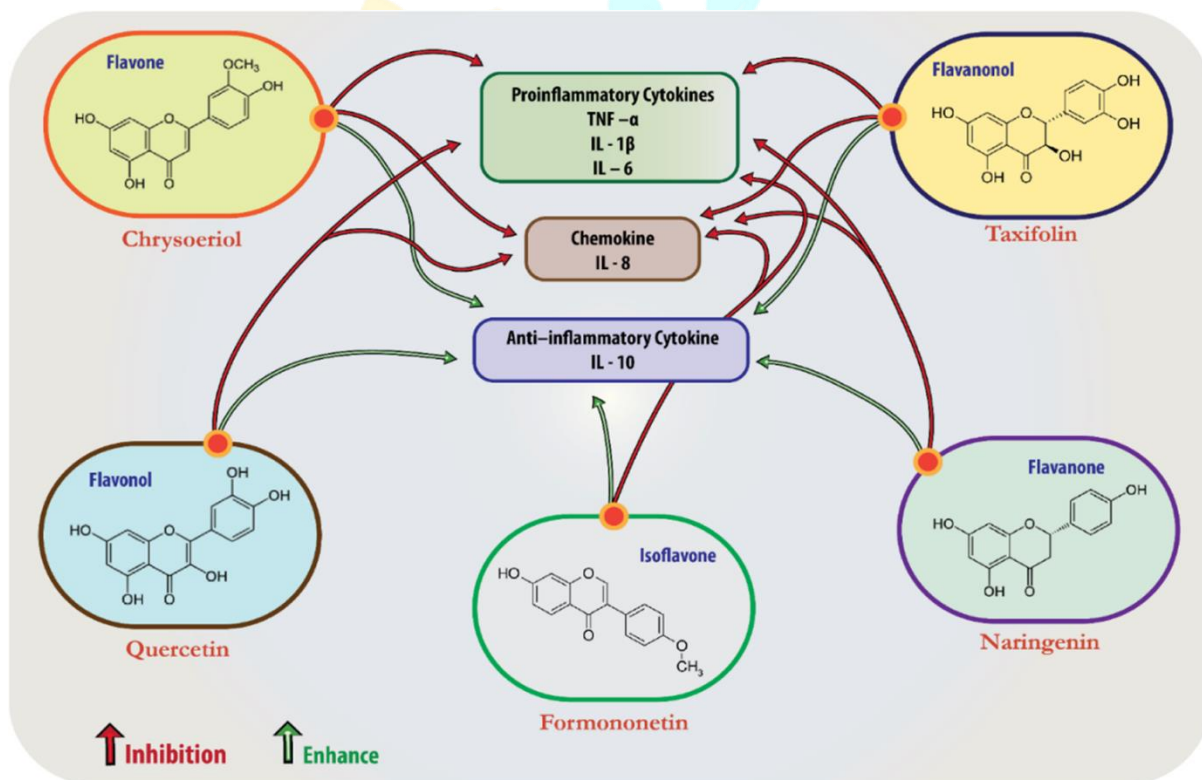


**4] Test of alkaloids:** - 10ml was extract in an added 4nl of HCL. This acidic medium, 2 ml of Dragendroff's reagent in added. The Orange and red colour produced immediately, the observed are alkaloids.

**5] Test of proteins :-**a small amount of methanollic extract,7-8 drops in million's reagents in added .the white precipitate colour or turns red the heating a formed, they also are indicates presence of proteins are present.

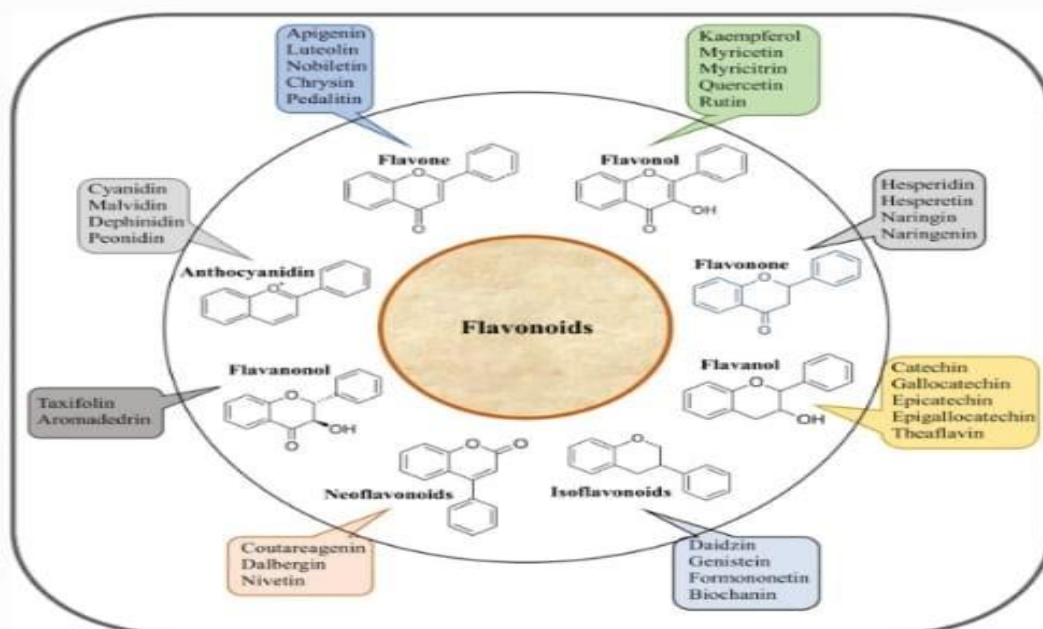
**6] Test of steroids:** - 2 ml of a plant extract has dissolved in 20ml of chloroform and same concentrated of a H2SO4 the added by a sides the test tube. Upper part red or H2SO4 layer as showed yellow with green fluorescence, as observed .the indicates are show present of steroids.

**7] Test of terpenoids:** - 5 ml of methanollic extract a mixed with 2ml of chcl3 a test tube. 4 ml of concentration of a H2SO4 was added carefully. The indicates reddish brown colour is formed they also present in terpenoids phytochemical are present.



**Possible anti- inflammatory inhibition mechanism of flavonoids group**

Research Through Innovation



Basic skeleton of flavonoids and its subgroups

*Pergularia daemia* are also used in various disease:-

### 1] Antifertility:-

The ethanol extract of *Pergularia daemia* and steroidal fraction are reported have antifertility activity. This study the alkaloidal fractions of ethanol extract was observed for antifertility activity. Oral administration of alkaloidal fraction a dose of 100mg kg b. wt. showed a significant activity in preimplantation stage of female mice. The activity of the alkaloidal fraction, when compared with the steroidal fraction, was found a pronounced since the former inhibited not only the fertility of female mice but also took short period to return the oestrous cycle to normal, with in 5 to 7 days of drug treatment while steroidal fraction treated mice returned to a normal within 6 to 7 treatment.

TREATMENT	DOSE (MG/KG)	PERCENTAGE OF SALINE LOAD EXCRETED	DIURETIC ACTION
Normal saline	25 ml/kg	38.44+4.36	1
Standard (furosemide)	100	84.22+6.78	219
Alcoholic extract	400	78.44+7.36	2.04
Pet ether extract	400	42+4.63	1.09
Ethyl acetate extract	400	63.77+5.94	1.66
n-butanol extract	400	66.44+5.52	1.73

**2] Anticancer:** - the anticancer was *Pergularia daemia* a cancer of again 60 human cancer cell lines. Organized therefore sub panels are Leukemia, melanoma and cancer of lungs, colon, kidney, ovary and central nervous system. This are result, the found that  $\alpha$ -amyrin exhibited anticancer activity in low. Triterpenoids play a vital role as anti-cancer agents and structural classification was compound of modification by result establishment is innovative drug are cancer treatment. The anticancer was *Pergularia daemia* a cancer of again 60 human cancer cell lines. Organized therefore sub panels are Laukaemia, melanoma and cancer of lungs, colon, kidney, ovary and central nervous system. This are result, the found that  $\alpha$ -amyrin exhibited anticancer activity in low. Triterpenoids play a vital role as anti-cancer agents and structural classification was compound of modification by result establishment is innovative drug are cancer treatment.

**3] Anti-Oxidant:** -the vitro screen of antioxidant activity. A *Pergularia daemia* are root extract. The preliminary phytochemical test, with aqueous or ethanolic extract, they are indicated is presence of compound is present *Pergularia daemia* are antioxidant activity are present. Polypphenolic and phytochemical constituents.

**4] Anti-inflammatory:** - Crude ethanol extract of *Pergularia daemia* leaves it's successively fractionated as petroleum ether, solvent ether, ethyl acetate, butanol and butanone. The ethanolic extract and various fractions were investigated for anti-inflammatory activity in rats at a dose of 100 mg kg<sup>-1</sup> via intraperitoneally. Ethanol extract and its butanol fraction exhibited significant anti-inflammatory activity when compared with respective controls and were comparable with standard drug aspirin. Study was also demonstrate one the anti-inflammatory activity of *Pergularia daemia* by using various solvent extracts. In the result they found that alcohol extract of *P. daemia* showed significant reduction in swelling of paw at a dose of 300 mg kg<sup>-1</sup> b.wt.

**5) Skin disease:** - Pergularia daemia are ayurveda medicine plant. They also pergularia daemia are steam are milky juice. Fresh plant are pergularia daemia are leaf treat skin disease. Skin worm are preventing of milk juice apply to skin, Skin disease are cure. They also pergularia daemia are plant is used full medicine.

Definition:-

Pergularia Daemia:-

The Ayurveda is natural and holistic medicinal system that is originated in India, prescribes treatment regimen in many parts of the world. Ayurveda mostly relies on plant based drugs and phytochemicals have been the basis for development of many therapeutic molecules in modern medicine.

#### **Pergularia daemia are health benefits:-**

- The leaves of pergularia daemia herb contain great therapeutic activities they are useful the treatment is respiratory ailments such as a cough, asthma, which bronchitis.
- Pergularian daemia anthelmintic property herb helps kill the intestinal worms which are responsible causing various digestion problems.
- Pergularia daemia is also used for the treatment especially rheumatoid arthritis.

#### **DISCUSSION:-**

Thus, the plant Pergularia daemia has a wide range of pharmacological activities. It has been used since centuries as an analgesic, antipyretic and anti-inflammatory, abortifacient, in treatment of diarrhoea and malarial intermittent fever. Recent research carried out suggested that it has various phytochemicals, and pharmacological activities. Hence, it is proved that Pergularia daemia is an important source of various types of compounds with diverse chemical structures as well as pharmacological activities. However, very less work has been done on this plant and there is a wide scope for a pergularia daemia. Analgesic, antipyretic or anti-inflammatory, abortifacient, treatment of diarrhea and fever. Pytochemistry or pharmacological profile of pergularia daemia various disease of phytochemical as like as flavonoids alkaloids, terpenoid tannins or steroids. P. daemia is established in new therapeutic drug mankind. The pergularia daemia are used in ayurveda medicine. Pergularia daemia are used in ayurvedic medicine. As seen throughout this review, we have focused on botanical description, ethnomedicinal uses Phytochemistry and pharmacological profile of Pergularia daemia. Various phytochemicals such as flavonoid, alkaloid, terpenoid, tannin and steroid have been reported to be present in this plant. The plant also exhibits several pharmacological properties such as anti-inflammatory, analgesic, antipyretic, antioxidant, Anticancer, antidiabetic, hepatoprotective, antibacterial, antifungal and central nervous system depressant Activity.

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The preferred spelling of the word "acknowledgment" in America is without an "e" after the "g". Avoid the stilted expression, "One of us (R.B.G.) thanks..." Instead, try "R.B.G. thanks". Put applicable sponsor acknowledgment here; DONOT place them on the first page of your paper or as a footnote.

#### **REFERENCES**

1. Golam sadik, M.A.G., bhuiyan, M.S.A., Khurshid Alam, A.H.M., Biswas, M.H.U., Hassan, P., 2001. Antifertility activity of pergularia daemia journal of medical sciences, 1: 22- 24.
2. Farnsworth, N.R., 1990. The Role of Ethnopharmacology in drug development. In: Bioactive Compounds Form Plants ( Ciba foundation Symposium 154), Chadwick D.J and J. Marsh (Eds). Wiley, Chichester, UK., pp :2-21.

3. Prajapati, D. N., Kumar, T., purohit, S.S Sharma , A.K.,A Handbok of Medicinal plant, A Completes SourcesBook (2003).
4. pankaj, O.R., 2003. Doomer or gular (ficus glomerata ) as medicinal herbs in chattisgarth, india, [http:// botanical.com/site/column\\_podhia/127\\_doomar.html](http://botanical.com/site/column_podhia/127_doomar.html).
5. Parrotta A john, 2001. Healing plants of peninslar India. Wallingford, U.K: CABI publishing, p 131-132.
6. Mohammed Rageeb Mohammed Usman, Anti-inflammatory activity of whole plant of Pergularia daemia linn. IJPSR, 2012, 3(1), 262-67.
7. Haerdi, f., 1964. Afrikamsche heilpflanzen die eingeborenen –heilpflazen des ulangadistriktestanganjikas (Ostfrika). Verlag fur recht und gesellschaft (Basel ), Acta Tropical Supplies, 8 : 1-278.
8. karthishwaran, K., Mirunalin, S ., 2010. Therapeutic potential of pergulariadaemia (forsk) : the Ayurvedic Wnder. International journal of pharmacology, 6 (6): 836-843.
9. Karuppusamy, s., karmegam, N., and Rajasekaran, K.M ., 2001. Antimicrobial screening of asclepiadacean medicnl plants of dindigul district, tamilnadu, South India. Journal of Ecotoxicology and Environmental Monitoring, 11: 47-51.
10. VH Bhaskr et al: Phram Biol. 2010 Nov.
11. Pandey M, Rastogi S, Rawat A. Indian traditional ayurvedic system of medicine and nutritional supplementation. Evid-Based Complement Altern Med. 2013;2013:376327
12. Subhose V, Srinivas P, Narayana A. Basic principles of pharmaceutical science in Ayurvēda. Bull Indian Inst Hist Med Hyderabad. 2005;35(2):83–92.
13. Thirumurugan A, Neethu, Anns Kumar prakash p (2011) Formulation and In Vitro Evaluation of Stavdine loaded human serum albumin nanoparticles. International journal of Nonmaterial's and Biostructures 373: 139. 3. Sivakumar J, Premkumar C, Santhanam (2014) Biosynthesis of sil.
14. WHO, IUCN, WWF. Guidelines on the conversion of medicinal plants. Switzerland: ICUN Gland ; 1993
15. Arachna Sharma, sharma, R.A., Hemlatha singh, 2013. Phytochemical and pharmacological profile of abutilon indicum L. Sweet: a revivew. International journal of Pharmaceutical Sciences Review and Research, 20[1]: 120-127
16. Dokosi OB. Herbs of Ghana. Accra : Ghana Universities press; 1998.
17. Jain C, Khatana S, Vijayvergia R. Bioactivity of secondary metabolites of various plants : a review. IJPSR. 2019;10(2):494–504.
18. Prajapati, D. N., Kumar, T., purohit, S.S Sharma , A.K.,A Handbok of Medicinal plant, A Completes SourcesBook (2003).
19. Farnsworth, N.R., 1990. The Role of Ethnopharmacology in drug development. In: Bioactive Compounds Form Plants ( Ciba foundation Symposium !54), Chadwick D.J and J. Marsh (Eds). Wiley, Chichester, UK., pp :2-21.
20. John Xavier R, Arumugam M, R Bhuvaneswari (2015) Bio-Fabrication, Characterization of Silver Nanoparticles and their Evaluation of Catalytic, Antioxidant and Antimicrobial Efficacy. IOSR Journal of Applied Physics (IOSR-JAP) 7(3): P. 76-81.



21. Devala Rao G., Inhibitory potential of important phytochemicals from *Pergularia daemia* (Forsk.) chiov., on snake venom (*Naja naja*) *J Genet Eng Biotechnol.* 2016 Jun; 14(1):211-217.
22. Khorombi, T.E.G. fouche and F.R .van Heerden, 2006. Phytochemical investigation and the anticancer properties of *purgularia daemia* and *phylicapaniculata*. CSIR. [http:// researchspace. Csir. Co.za/ dspace/bitstream/ 102004/ Khorombi-2006 D. pdf.](http://researchspace.Csir.Co.za/dspace/bitstream/102004/Khorombi-2006D.pdf)

