

Pharmacological over review on medicinal plant in *Pterolobium hexapetalum* (Roth.) sant and wagh.

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Abstract

The plants are being used as medicine to heal various disorders from the earliest starting point of the progress. *Pterolobium hexapetalum* belonging to the family of *fabaceae* is distributed in some hills station of India and other region in the world. The different part of the *pterolobium hexapetalum* is used traditionally in treatment of fever, chest pain, cough, dog bite, ulcer, diarrhea, constipation, jaundice, labor pain, and also skin infections. *P. hexapetalum* has been investigated by researches for its biological activities and therapeutic potentials such as an antimicrobial, antifungal, antiulcer, antipyretic, antidiarrheal activities

Keywords: *Pterolobium hexapetalum*, antimicrobial, antifungal, antipyretics, antiulcer, fabaceae

Introduction

Shervarayan hills are enriched with a broad diversity of medicinal plants in tamilnadu¹. The local Malayali tribes^[2]; and the herbalists are used *pterolobium hexapetalum* (all parts against a large number of therapeutic activities. Stem bark used for fever, cough, toothache, chest pain, dog bite (rabies), vomits, heat boils; diarrhoea, constipation and, piles, bone fracture, jaundice, ulcer, skin infection, wound healing; flowers against venereal diseases, skin infections^[3]; fruit and seed to cure with diarrhea, constipation and piles, cough and cold, treating ulcer^[4]; leaves against childbirth pains^[5-6]. Stem bark decoction in case of whooping cough in case of infants and bark extract in case of dyspepsia in cattle^[7]. It is a characteristic dry deciduous straggling shrub on forest tree canopy with mass flowering known as “*Karu Inthu*” in Tamil, commonly known as Indian red wing. It is also a major source of nectar and pollen for honey bees which yield very sweet pleasant aroma honey^[8].

Ethno therapeutic noteworthy of the family *cesalpiniaceae* is settled chiefly with the types of bauhinia, cassia, caesalpinia, saraca, sophora and, tamarindus. *B. vahli* against bone breaks, bauhinia variegata an astringent, carminative, anthelmintic, remedy to wind venum, diuretic against loose bowels, the runs, skin infections, ulcers, heaps and, uncleanliness^[9]. Noteworthy cell reinforcement action was seen with *b. Variegata* alcoholic and fluid concentrates with a $p < 0.01$ lessening power and $p < 0.001$ for rummaging dpph, super oxide, nitric oxide and hydrogen peroxide revolutionaries. And furthermore the concentrates indicated critical decrease in plasma cholesterol, fatty oil, LDL and VLDL and increment plasma HDL levels and shows antihyperlipidemic activity^[10]. *B. Purpurea* bark with underlying foundations of *ziziphus mauritiana* utilized for looseness of the bowels, blossoms for heaps and diarrhea. *B. racemosa* leaf decoction to treat intestinal sickness; root bark concentrate to fix the runs; stem bark extricate blended in with goat milk against epilepsy. *B. Purpurea* stem ethanolic removes against diabetic movement and

androgenic property^[11]. *B. vahli* bark and leaf squeeze remotely applied on wounds to check extreme dying; pull remove for dysentery^[7].

Plant Discription^[12-15]

Taxonomy

Kingdom: Plantae
Class: Eudicots
Order: Fabales
Family: Fabaceae
Subfamily: Caesalpinioideae
Genus: *Pterolopium*
Species: *p. hexapetalum*.

Vernacular names

Tamil: Karu Indu
Telugu: Walekadooda
Kannada: Baadu bakka
Malayalam: Endam
Others: Indian Redwing.





Fig 1: pterolopium hexapetalum.

Histochemical analysis

Sum of 12 flavonoid mixes in Leaf myricetin, quercetin, vitexin ^[19]; Stem Bark contain luteolin, vitexin ^[18]; Flower contains Myricetin, kaempferol, orientin ^[19] in Fruit contains Myricetin, quercetin, luteolin, vitexin ^[20]. Regular compound myricetin present in leaf, Blossom and natural product; Quercetin in leaf and, natural product; Vitexin in leaf, stem bark and natural product; Luteolin In stem bark and, natural product. Huge mixes Present in roses are Kaempferol and Orientin. In 38 Phenols and 10 anthocyanidins compounds present in all part of the pterolopium species ^[21].

Antimicrobial activity

Leaf and Stem bark separate in all solvents (Hot water, Methanol, Ethanol, Ethyl acetic acid derivation, Benzene and, Chloroform) were tried on chosen microorganisms (Bacillus subtilis, Staphylococcus aureus, Escherichia coli, Pseudomonas aeruginosa). Viable restraint was seen against all microbes with heated water concentrates of leaf and stem bark at 10mg/circle followed by methanol extricates at 20mg/circle. What's more, MIC esteems likewise runs between 0.312mg to 1.25 mg S.aureus (0.312), B. subtilis (0.312), P. aeruginosa (0.625) and E.coli (1.25) with leaf and bark removes (Graph-1, 2). It additionally demonstrated that P. hexapetalum removes are more potential when contrasted with that of control drug Gentamycin at 10mg/circle against all microorganisms ^[22].

Anti-ulcer activity

Antiulcer activity of P. hexapetalum leaf methanol and organic product watery concentrates likewise related to the other Caesalpiniaceae individual's antiulcer movement. Caesalpinia bonducella leaf methanol separate in ibuprofen in addition to pylorus ligation instigated ulcerous rodents at 100, 200mg/kg b. wt demonstrated 2.10, 1.26 ulcer file and 53.33, 72% of insurance separately contrasted and standard medication Omeprazole at 20mg/kg b. wt ulcer record 1.10 and 75.55% of security; In HCl in addition to ethanol instigated ulcer model, the plant remove at the dosages of 100 and 200mg/kg b. wt indicated noteworthy gastro defensive movement 55.9% and 82.36% separately ^[23]. In

water submersion stress, the plant separate at the portions 100 and 200 mg/kg indicated critical gastro defensive movement with 84.29 and 92.14% individually ^[24].

Antifungal activity

Antifungal activity against *A. niger* and *C. Albicans* with leaf aqueous, methanol, benzene, alcohol, 1 and ethyl acetate extracts at 10mg/ml showed, the highest activity was observed than the control drug *Nystatin* as 35.60, 35.50, 29.75, 17.75, 13.0 mm Zone of Inhibition respectively ^[25]. Stem bark aqueous, methanol, and chloroform extracts showed effective activity ranging from 27.25 to 29.50 mm. Flower aqueous, alcohol and methanol ranging from 20.75 to 31.25 mm, fruit aqueous, methanol and benzene extracts ranging from 34.50 to 36.00 mm showed most effective on both the selected pathogens than the control drug. Overall leaf and fruit extracts showed the highest activity on both the strains with 35.75 and 36.00 mm diameter zone of inhibition than the control drug *Nystatin* 10.20 to 12.10 mm respectively ^[26].

Anti-diarrheal

The watery and methanolic extract of P. hexapetalum leaf and organic product at the dosages of 50, 100mg/kg indicated huge decrease up to 70% in the recurrence of defecation, number of fecal droppings and mean load of stool. These outcomes are intently contrasted and the antidiarrhoeal action of *Saraca asoca* stem bark hydro liquor removes 200mg/kg b. wt with 56.77% of inhibition ^[33]. The starter phytochemical examination of the watery and methanolic extract of P. hexapetalum leaf and natural product indicated the presence of tannins and flavonoids which might be answerable for the huge antidiarrhoeal activity ^[18, 21, 27, 28-32].

Anti-pyretic activity

The methanolic leaf extract of pterolopium hexapetalum at a dose of 400mg/kg weight showed maximum antipyretic effects. They keep up typical internal heat level and lessen bubbled milk actuated raised rectal temperature in rodents and their impact is equivalent to that of standard antipyretic medication paracetamol. Antipyretic action is regularly referenced as an attribute of medications or mixes which inhibitorily affect prostaglandin-biosynthesis ^[34].

Conclusion

Pterolopium hexapetalum is used by malayali tribes of western ghats to cure many ailments, which forms a basis to carry out the research activities. Different part of p. hexapetalum are being used in the traditional system of medicine to cure various disease of human kind. Researchers are confirmed and reported in few pharmacological activities of p.hexapetalum and proved to be safe. In future attempt has to be done to prove all the traditional significance of P. hexapetalum.

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