

A Short review on Ethnomedicinal uses, phytochemistry and pharmacology of *Begonia malabarica* Lam

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Abstract

Herbs have always been the principal form of medicine in India. Medicinal plants have curative properties due to the presence of various complex chemical substances of different composition, which are found as secondary plant metabolites in one or more parts of these plants. *Begonia malabarica* Lam belonging to the family Begoniaceae, is used traditionally as anti hypoglycemic activity, antimicrobial, Wound healing activity, in the treatment of anemia. The present review aims to update information on its phytochemistry and pharmacological activities.

Keywords: *Begonia malabarica* Lam, Ethno botany, Antihypoglycemic activity, antimicrobial, wound healing activity, pharmacological activities, phytochemistry

1. Introduction

The genus name *Begonia* is coined by Charles Plumier, a French plant collector and botanist. The species are terrestrial under shrubs, and occur in subtropical and tropical moist climates, in south and Central America, Africa, and Southern Asian. The study of plant *Begonia* Lam. of Begoniaceae has about 900 species found in tropical and subtropical regions of the world wherein 45 species are present in India [1]. The herb, *Begonia malabarica* Lam., known as Rathasoori in Tamil is found in the hilly regions of Southern India and Sri Lanka [2]. The tribal name of the plant is "NarayanaSanjeevi". The name itself indicates that this herb is having miraculous powers. This plant is commonly found in Nilgiris, Anamalais and Pulney hills upto an attitude of 6000 feet. In the moist area [3]. They named this plant after Lord Vishnu because they believe that the consumption of

the plant juice gives high disease resistance power and protect the body like the Lord protect the living being in the Universe. The medicinal herb *Begonia malabarica* is used by *Malasar* and Malai *Malasar* tribal community of Pollachi to cure arthritis and common joint pains [4].

2. Morphological characters

Begonia malabarica was belonging to family Begoniaceae. Leaves are 2-4 inches, heart-shaped, pointed, and very unequal at the base, with toothed margin. Flowers are rose colored, not very many on a peduncle. Males flowers have 2 sepals, about 1.5 cm, round, hairless, no petals, stamens 40. Female flowers have perianth nearly as in male flowers, styles 3, each dividing into two curved and twisted branches. Capsule is 1.8 x 1.8 cm, including the wings.

3. Systematic position

Kingdom	Plantae
Division	Angiosperm
Class	Dicotyledons
Order	Cucurbitales
Family	Begoniaceae
Genus	<i>Begonia</i>
Species	<i>malabarica</i>

Botanical name: *Begonia malabarica* Lam.

4. Ethno botany

Dried aerial parts of plants is made paste with coconut oil is taken to rheumatic pain [5]. This plant juice along with honey for blood purification. It is given in for fever to reduce the body temperature and it is taken as a general health tonic. The leaf juice mixed with ginger is taken for treating anemia [6]. *Kanikkar* tribals of Agasthiarmalai Biosphere Reserve, Tamil Nadu, used the fresh leaf juice of *B. malabarica* with salt to treat giddiness [7]. The fresh leaf juice is taken orally in empty stomach to relieve a stomach pain by the *Kanikkar*

tribals of Agasthiarmalaimalai Biosphere Reserve, Tamil nadu [8]. Leaf juice used for head ache and to cure wounds [9].

5. Phytochemistry

The *B. malabarica* are reported important secondary metabolites and nutrients. The main important secondary metabolites are luteolin, quercetin and β -sitosterol [10]. The secondary phytoconstituent from the leaves of *B. malabarica* revealed Friedelin, epi-friedelinol, -sitosterol, luteolin,

quercetin and -sitosterol-3-d-glucopyranoside ^[11]. The decoction of *Begonia malabarica* stem is taken internally stamina and methanolic extract of *B. malabarica* had shown a significant hypoglycemic effect in normal rats at third and fourth hour after treatment ^[12]. Stem contain Flavanoids, Carbohydrates, Proteins, Steroids, Resins, Tannins and Thiols ^[13]. Leaves and fruits contain flavonoids, alkaloids, phenols, saponins and tannins ^[14].

The whole plant methanolic extract of *B. malabarica* contained appreciable amounts of total phenolic contents, total flavonoid and revealed significant amount of percent inhibition responsible to DPPH, Hydroxyl radical, superoxide anion, ABTS scavenging activity and reducing power assay ^[15].

6. Antimicrobial activity

Aqueous extracts of *B. malabarica* leaves showed antimicrobial activity is more against fungal strains than the bacterial strains. The maximum activity was observed against *Vibrio cholerae*, the maximum among the fungal strains was observed against *Aspergillus Niger* ^[6]. In another study, aqueous leaves extract showed anti-microbial activity against the Gram-negative bacteria except *Vibrio parahaemolyticus*. The chloroform and methanol extracts showed minimum activity against all the tested bacteria ^[16].

7. Pharmacological activity

Oral administrations of *B. malabarica* extract at the doses of 100, and 200mg/kg was studied in, glucose level and STZ (streptozotocin) diabetic rats. The 100 and 200 mg/kg extract produced significant reduction in blood glucose levels in the models. *B. malabarica* also showed significant increase in serum insulin, liver glycogen level of STZ-induced diabetic rats, while the serum triglyceride and total cholesterol there is no affected treatment with *B. malabarica* methanol extract in the treatment. The urea creatinine and Serum Glutamic-Pyruvic Transaminase (SGPT) levels were reduced by the treatment with the plant extract. The results indicate that methanol extract of *B. malabarica* possesses significant hypoglycemic activity ^[12]. *B. Malabarica* which is abundantly grown and used as medicinal plant may have a protective role in organ toxicities induced by different chemicals and environmental challenges.

8. References

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