

Pistia stratiotes (Jalkumbhi)

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ABSTRACT

Pistia stratiotes (Family: Araceae) is commonly used in Ayurvedic medicine. This review article is a compilation of all the updated information on its phytochemical and pharmacological activities, which were performed by different methods. Studies indicate that *P. stratiotes* possesses diuretic, antidiabetic, antidermatophytic, antifungal, and antimicrobial properties. These results are very encouraging and indicate that this plant should be studied more extensively to confirm the reproducibility of these results and also to reveal other potential therapeutic effects, along with some "leads" with possible isolation of active biomolecules and their mechanism of action.

Key words: Pharmacological activities, phytochemistry, *pistia stratiotes*

INTRODUCTION

Pistia stratiotes, also known as Jalkumbhi, is an aquatic plant, stoloniferous, floating on lakes, streams, and stagnant water ponds and in lime-rich water, throughout India. It is distributed in the tropical and subtropical region of Asia, Africa, and America. Four varieties are distinguished. The Indian variety is known as var. *cuneta*. It is propagated by seeds or more rapidly by stolons. It forms a dense mat on the water surface and causes serious clogging on water ways. It is also responsible for harboring mosquito larvae, which carry the filarial parasites. It flowers in hot season and fruits appear after the rain.^[1]

TAXONOMICAL CLASSIFICATION

Kingdom: Plantae
Division: Magnoliophyta
Class: Liliopsida
Order: Alismatales
Family: Araceae
Genus: *Pistia* L.
Species: *P. stratiotes*

BOTANICAL DESCRIPTION

P. stratiotes is a floating, stoloniferous herb found in ponds and streams almost throughout India upto a height of 1000 m. Leaves

are green in color, odorless, and bitter in taste. The leaves are approximately 13cm long and 17cm wide and of fan-shaped having parallel venation, blunt apex, and entire margin.

A large number of medicinal properties are attributed to the plant, particularly the leaves. The plant is considered antiseptic, antitubercular, and antidyenteric. In Gambia, the plant is used as an anodyne for eyewash. Juice of plant is used by Mundas in ear complaints. The ash of plant is applied to the ringworm of the scalp. Leaves are used in eczema, leprosy, ulcers, piles, and syphilis. Juice of leaves boiled in coconut oil is applied externally in chronic skin diseases.^[2]

The Plant is bitter, pungent flavored having cooling, laxative property. It is useful in "Tridosha," fever, and diseases of blood. The root is laxative, emollient, and diuretic. Leaves infusions have been mentioned in the folklore to be used for dropsy, bladder complaints, kidney afflictions, hematuria, dysentery, and anemia.

Part used
Whole plant

Synonyms

Hindi, Jalkumbhi; English, Sheilflower; water cabbage; Bengali, Takapana; Gujrati, Jalashamkhala; Tamil, Akasatamari; and Oriya, Borajhanji.

PHYTOCHEMISTRY

The biologically active chemical constituents of *P. stratiotes* are alkaloids, glycosides, flavonoids, and steroids. An analysis of leaves and stems revealed the following: moisture 92.9%, protein 1.4%, fat 0.3%, carbohydrate 2.6%, fibers 0.9%, ash 1.9%, calcium 0.2%, phosphorus 0.06%. Leaves are rich in vitamin A

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