



Phytochemical Constituent in *Eleocharis dulci*, Ethnomedicinal Plant from Bhandara District Maharashtra

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Abstract:

Phytochemical investigation of traditionally used Medicinal Plant is Thus Valuable on two levels, Firstly as a source of potential chemotherapeutic drug and secondly as a measure of safety for the continued use of medicinal plant. The rhizomes of *Eleocharis dulci* are used as traditional folk medicine for the treatment of stomach, bowel disorder and inflammatory diseases. *Eleocharis dulci* contain, alkaloid, Steroids, Flavonoids, terpenes, which includes sesquiterpene hydrocarbons. This work explain the evidence based information regarding the pharmacological activity of this plant. It has many ethanobotanical uses and is medicinally used in traditional Ayurvedic system.

Keyword:

Ethanomedicine, Ayurveda, pharmacological action, Photochemistry, *Eleocharis dulci*.

Introduction:

The gens *Eleocharis* R.Br. (Cyperaceae, Cyperoideae, Scirpeae) include about 200 species occurring in wet environments like swamps, Lakes and river margins. *Eleocharis dulci* have arial part are formed by simple not ramified stalks that ends in a spiciform inflorescences formed by nut like fruit and inconspicuous flower. Their subterraneous part are formed by root and stem (Called rhizome or stolon) *Eleocharis dulci* in occur in worldwide in distribution in tropical and temperate zone.

In India *Eleocharis dulci* found in Bhandara district in lake of swamp soil in September 2012 at tehsil place in Lakhani of Purakabodi Village, such a plant from wet environments like swamp, Lakes and river margins. The *Eleocharis dulci* had been subjected to phytochemical analysis for their medical purposes which are used as traditional folk medicine for their treatment of stomach disorder and inflammatory diseases have been investigated by tribal people called vaidu. The rhizome of *Eleocharis dulci* used for the treatment of dysmenorrheal irregularities. Infusion of hurb has been used in pain, fever, diarrhea, dysentery and other inflammatory problem.

Material and methods:

Collection and identification of plant materials:

The whole plant of *Eleocharis dulci* where collected from uncultivated farmland located near wet environment of lake at Purkabodi Lake of Lakhani

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Tehsil. The plant sample identified by authors. The voucher specimen where deposited. The plant samples were air dried and ground into uniform powder. The aqueous extract of sample prepared by soaking 100g of dried powder sample in 200 of distilled water for 12 h. The extract were filtered using whatman's filter paper no. 42 (125m.m.)

Phytochemical Screening:

Chemical test were carried out on the aqueous extract using standard procedure to identify the constitute as described by Harborne 1973, kokate 1994, Ablude 1995.

Alkaloid Determination:

5g of sample was weighed into a 250 ml beaker and 200 ml of 10% acetic acid in ethanol was added and covered and allowed to stand for 4 h. This was filtered and the extract was concentrated on a water bath to one-quarter of original volume. Con. Ammonium hydroxide was added drop wise to the extract until the precipitation was completed. The whole solution was allowed to settle and the precipitated was collected and washed with dilute Ammonium hydroxide and then filtered. The residue is the alkaloid which was dried and weighed.

Steroids Determination:

Two ml of acetic anhydride was added to 0.5g ethanolic extract of sample with 2 ml H₂SO₄. The colour changed from violet to blue or green in some sample indicating the presence of steroids.

Flavonoids Determination:

5 ml of dilute ammonia solution where added to a portion of the aqueous filtrate of plant rhizome extract followed by addition of conc. H₂SO₄. A yellow colour observed in extract indicated the presence of flavonoids. The yellow colouration disappeared on standing then add few drop of 1% aluminum solution of filtrate further yellow colour obtained indicating the presence of flavonoids.

Terpenoids Determination:

Five ml of each extract was mixed in 2ml of chloroform and conc. H₂SO₄ (3ml) was carefully added to form a layer. A reddish brown colouration of the inter face was formed to show positive result for the presence of terpenoids.

Result and Discussion:

The present study carried out on the plant samples *Eleocharis dulci* revealed the presence of medicinally active constituents like Alkaloids steroids, flavonoids, and terpens. The phytochemical analysis showed that the plant rich with chemical constituents. They were known to show medical activity as well as exhibiting physiological activity and also important to pharmacy. Alkaloids and steroids used as a purgative also used in treatment of cough, fever also used as in poultry feeds.

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Flavonoids and terpenoids chemicals are also used to cure a diarrhea, dysentery and other inflammatory problem and body aches. The antimicrobial activities of plant for the treatment of the diseases as claimed by traditional healers are also being investigated so the use of this plant for medical purposes is to understand by our civilized society.

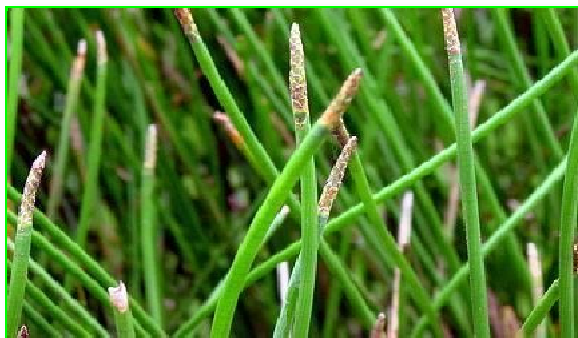


Figure 1- Medicinal plant **Eleocharis (dulci)** from Bhandara district.

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