

**ASSESSMENT OF IN VITRO ANTHELMINTIC ACTIVITY OF EPIPHYLLUM OXYPETALUM**

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**ABSTRACT:**

**Epiphyllum Oxypetalum.** Cactaceae is the family that includes among the most popularly grown genus and its species. This is a kind of night blooming cereus that has been used medicinally in the past. Folklore suggests that the plant may be used to treat a wide range of disorders, including cough, uterine bleeding, discomfort, shortness of breath, and bloody phlegm. Various chemical classes, including glycosides, saponins, steroids, phenols, proteins, resins, tannins, and terpenoids, are apparently existing in the plant. with pharmacology features of this plant, including its antioxidant, anti-inflammatory, and antibacterial activity, they have mentioned in a few papers. Current details about the pharmaceutical, dietary, and therapeutic advantages on Epiphyllum Oxypetalum is covered in this paper.

**Keywords:** Epiphyllum Oxypetalum, Traditional uses, Pharmacological properties.

**INTRODUCTION**

Medicinal plants are used as a form of healthcare in almost every culture. A large range of settings and a shoddy creation of plant species may be found in the Indian Landmark. Over 3.3 billion people in underdeveloped countries frequently utilize medicinal herbs since they are a crucial part of traditional medicine. Recent estimates show that a disproportionate percentage of people in a number of traditional healers and medicinal herbs are frequently utilized in poor nations to take care of their fundamental medical requirements. Additionally, in industrialized societies, the extraction and development of many medicines have changed to depend more and more on the utilization of medicinal plants. A succulent, *Epiphyllum oxypetalum* is among the greatest popularly grown species in the genus. It is a form of the cereus featuring at night blooms. The Greek word for "on the leaf" is epiphyllum, which has 19 different species. They get their name because the blooms grow right on the leaves. They live in the rainforests of Mexico, Central America, and South America. True cacti of the genus *Epiphyllum* go by the names "jungle cacti" or "epicacti" to distinguish them from the closely related desert plants. The *Epiphyllum* are not coated in spines, but rather

contain hair spines or areolas with a few tiny spines, whereas the jungle Cactus species have structures like leaves that resemble thicker stems and possess projecting spines on them.

One of the most well-known species in the genus is *Epiphyllum Oxypetalum*, a Cactaceae plant with rapid growth. It is regarded as a divine plant in India and is known by the name Brahma Kamalam. "Pain in the Heart" represents the way the Shoshone Indian tribe refers to it. uses it to treat heart problems. It is also known as the Dutchman's Pipe Cactus, The Night's Queen, Nishagandhi, Lady of the Night, and other names. Hindu mythology states that the flower bearing Brahma's name only blooms once a year for one night. There is only a brief blooming period.

This plant is associated with the belief that Brahma appeared as a lotus bloom arising from Vishnu's navel. It is regarded as a heavenly blossom that does not grow in every house. It has to be believed that staying where the flower is blooming is a lucky person and Those who pray to God when the flower is in bloom will have their requests fulfilled, according to a sign of wealth.

## MATERIALS AND METHODOLOGY

### Plant collection and authentication

In March 2023, *Epiphyllum Oxypetalum* leaves had been collected in Pandharpur, Solapur Dist., Maharashtra, India. Uttreshwar R. Mundhe, M.Sc., B.Ed., Botany Plant Physiology, verified the authenticity of the plant. With tap water, the leaves were cleaned, then air dried in the shade.



**Fig.1: Epiphyllum Oxypetalum**

### Preparation of ethanolic extracts

Under running water, the fresh stem and leaves were washed, dried, and crushed to a coarse powder in a mechanical grinder.

The extraction preparation methods were a little different from those described in. The leaf sample was cleaned with regular water, allowed to dry, and then put in a blender to be ground into powder. For the Soxhlet extraction process, ethanol is utilized as a solvent in a variety of ratios. Filter the extract through a muslin cloth, transfer it to 50 ml tubes, then centrifuge the tubes for 15 minutes at 4,000 rpm at 25 °C after collecting the extract for 6 to 8 hours. The supernatant was removed after collection and set aside for drying.

### Phytochemical Analysis

We include chemical tests that use traditional methods for screening and detecting chemical compounds in plant extracts. For each test, 100 l of each extract from a solvent were examined.

### Detecting saponins:

Extract was taken out, and violently shaken Using a tube. It was considered that the appearance of stable foam was evidence of the presence of saponins.

### Detecting Phenols:

2% solution of FeCl<sub>3</sub> in 2 ml of extract was added. The presence of phenols had been detected by the blue/green shade.

### Detecting Tannins:

2% solution of FeCl<sub>3</sub> in 2 ml of extract was added. Tannins were present, as indicated by the color black.

### Detecting Terpenoids:

2 ml of chloroform was added with the extract. After that, 2 cc of concentrated sulfuric acid was cautiously added and gently shaken. Terpenoids are present when reddish brown shades appear in the interphase.

### Detecting Flavonoids:

When extract was treated with some drops of the sodium hydroxide solution, a bright yellow color formed. which, after diluted acid is added, becomes colourless, indicating the presence of flavonoids.

### Detecting Glycosides:

The sample was combined with 2 ml of glacial acetic acid that also included a few drops of 2% FeCl<sub>3</sub>, and the resulting combination was then placed into a separate tube that had 2 ml of concentrated sulfuric acids. Glycosides are usually identified by a brown ring near the interphase.

### Detecting Protein:

The development of yellow color in the extract after treatment with a few drops of strong nitric acid denotes the presence of proteins.

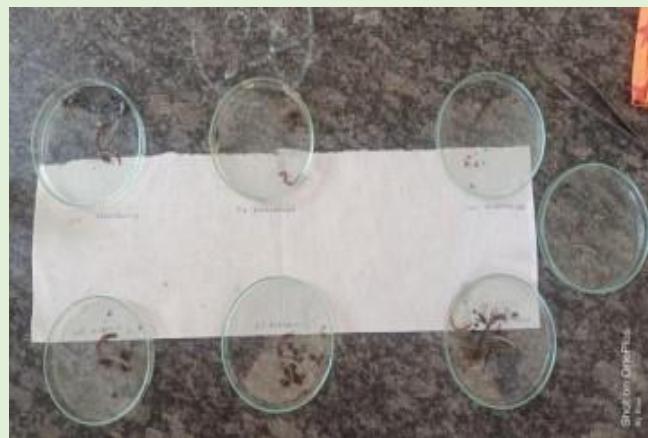
### Detecting Alkaloids:

Individually dissolving the extracts in diluted HCl and filtering them through saturated picric acids caused the production of a brown precipitate, which is an indication of the presence of alkaloids.

### Assessment of In vitro Anthelmintic Activity of *Epiphyllum Oxypetalum*

Anthelmintics were used to treat Pheritima posthuma, an adult Indian earthworm. Standard drug albendazole was put into Petri plates after being diluted with sterile saline to produce at 25, 50, and 100 milligrammes per milliliter concentrations. Leaves ethanolic extracts were combined with regular saline to make concentrations of 25, 50, and 100 mg/ml.

The negative control was the solution of saline. Therefore, each of these dilutions was put to the Petri dishes. Earthworms were divided into six groups ( $n = 6$ ) for the experiment. Earthworms of approximately identical size were maintained in each Petri dish at the same temperature. The period as a result of disability is measured as the point at which no movement of any type was seen other than when the worms were strongly disoriented. The moment of death for each individual worm was noted once it was established that the worms did not move when violently shook or when submerged in 50°C with water that was warm. Both the paralysis and the death times were expressed in minutes.



**Fig. 2: Anthelmintic activity**

## RESULT

An evaluation of the in vitro anthelmintic activity and associated fatal and paralyzing times were noted. According to the present study's findings, *Epiphyllum oxypetalum* leaves have varied degrees of anthelmintic activity. Standardization is important for dose and administration methods, though.

According to these findings, extracts from the leaves of *Epiphyllum oxypetalum* show anthelmintic action, and plant extracts may be a significant source of anthelmintics to treat helminth disease.

**Table No. 1: Results of Preliminary Phytochemical Screening of *Epiphyllum Oxypetalum***

| Sr No | Constituents | Observation |
|-------|--------------|-------------|
| 1.    | Saponins     | +           |
| 2.    | Phenols      | +           |
| 3.    | Tannins      | -           |
| 4.    | Terpenoids   | +           |
| 5.    | Flavonoids   | +           |
| 6.    | Glycosides   | +           |
| 7.    | Proteins     | -           |
| 8.    | Alkaloids    | +           |

(-) signifies the absence of a compound.  
(+) signifies the presence of a compound.

**Table no 2: Results of In vitro Anthelmintic activity of Epiphyllum Oxypetalum**

| Name of Drug      | Concentrations | Paralysis Time (min) | Death Time (min) |
|-------------------|----------------|----------------------|------------------|
| Albendazole       | 25 mg/ml       | 30 min 9 sec         | 40 min 11 sec    |
|                   | 50 mg/ml       | 19 min 40 sec        | 24 min 35 sec    |
|                   | 100mg/ml       | 17 min 37 sec        | 20 min 10 sec    |
| Ethanolic Extract | 25 mg/ml       | 24 min 32 sec        | 21 min 36 sec    |
|                   | 50 mg/ml       | 15 min 23 sec        | 17 min 25 sec    |
|                   | 100 mg/ml      | 11 min 23 sec        | 12 min 25 sec    |

## CONCLUSION

The leaves of *Epiphyllum Oxypetalum* have a wide range of medicinal advantages, which is proof that they contain a number of bioactive compounds. Researchers are still unconcerned about the plant, though, because there isn't much information about it in the literature. If the plant has any more medicinal applications, more research must be done.

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