

PHARMACOGNOSTICAL AND PHYTOCHEMICALS EVALUATION OF EUPHORBIA PROSTRATA AITAswar Pritee Shantilal^{1*}, Khedkar Vidhya Digambar² and Sole Prashant Pandurang³

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The plant Choti Dugdika belongs to the family Euphorbeaceae. It is found all over the india, once in a year. It is also used in the treatment of the fever, abdominal disorder, blood purifier, anti inflammatory, analgesic, Haemostatic, antidiabetic, antidiarroheal, antiasthamatic, and various skin disease. The microscopy of Euphorbia Prostrata of: A) Root: root shows the presence of cork cells, cortex, endodermis, pholem, xxylem. B) Stem: display the presence of multicellular trichome, cuticle, epidermis, cortex, endodermis, pericyclepholem. C) Leaves: reveal the presence of multicellular, multiseriate, glandular hairs, epidermis, vascular bundals, stomata. Chotidugdika display the presence of alkaloids, terpenoid, saponins, tannins, steroids, and glycosides, carbohydrates, monosacharide, combined reducing sugar and soluble starch. The water soluble, alcohol soluble, and petroleum ether, extarctivevalue, are determined. The total ash value, water soluble ash, acid insoluble ash, and sulphated ash is seen.

KEYWORDS: Euphorbia prostrata Ait., Euphorbiaceae, Pharmacognostic, Phytochemical evaluation.**INTRODUCTION****Pharmacognostical Study Of Euphorbia Prostrata****Fig. 1: Euphorbia Prostrata Plant.**

Euphorbia Prostrata is a medical plant which is use for the various types of disease.

It is belong into the family Euphorbeaceae.

Synonyms**Marathi:** Choti Dugdika.**Hindi:** Laldudhi.**English:** Equirity.**Sanskrit:** Nagarjuni, Pusitao.**Scientific classification**

Kingdom: Plantae

Clade: Rosids

Order: Malpighiales

Family: Euphorbeaceae

Genus: Euphorbia

Species: E. Prostrata

Binomial name**Euphorbia Prostrata**

The genus euphoria is the largest genus of Medical plant widely distributed in South America, westindies, china and Pakistan.

The family Euphorbeaceae comprises of 2000 species

Two varieties are found:-1) Red 2) Green.^[1]

It is used in treatment of many disease of skin,^[3,4] digestive system,^[5] antiasthamatic,^[6] antidiabetic,^[7] cardiovascular disease, cancer, athrosclerosis and inflammatory disease.^[3]

It is also used traditionally as snake bite remedy.^[9]

The various types of phytoconstituents reported in Euphorbia Prostrata, like glycosides, galaxtoside, β -sitosterol, compesterol, stigmaterol, cholesterol, apigenin, luteolin, apiginin-7-glucoside, luteoline-7-glucoside, gallicacid, ellagic acid and tannins.^[2,10]

Cultivation and propagation

Propagation: propagation of the Euphorbia Prostrata plant is by the seed.

Cultivation

The plant of euphoria Prostrata is fruitful seed producer. Most of the seed of euphoria Prostrata germinate at the time when natural condition are favourable specially in rainy season.

It is a weed and that causes inconvenience to the crops due to larger number of seeding. The plant is grows rapidly flowering and producing fruits just 12-14weeks after germination.

Plant study



Fig. 2:

Root

The roots of euphoria Prostrata plant shows the presence of cork cells, cortex endodermis, phloem, xylem.

Stem

The stem display the presence of multicellular trichome, cuticle, epidermis, cortex, endodermis, pericyclephloem. The stem is cylindrical type. And redish pink colour.



Fig. 3:

Leaves

Reveal the presence of multicellular, multiseriate glandular hairs, epidermis, vascular bundals, stomata.



Fig. 4:

The leaves of euphoria Prostrata plant is circular in shape. and the leaves of euphoria Prostrata show the red pinkish colour border.

Microscopical Study

Microscopical Study of Root

Condition: The root system of euphoria Prostrata is cylindrical in shape.

Length: The length of euphoria Prostrataroot is 8to 12cm.

Breadth: The breadth of root is 0.2 to 0.4cm

Colour: Pink at base pale yellowish at downward.

Branching: Branching of euphoria Prostrata is at steam base.

Microscopical Study of Steam

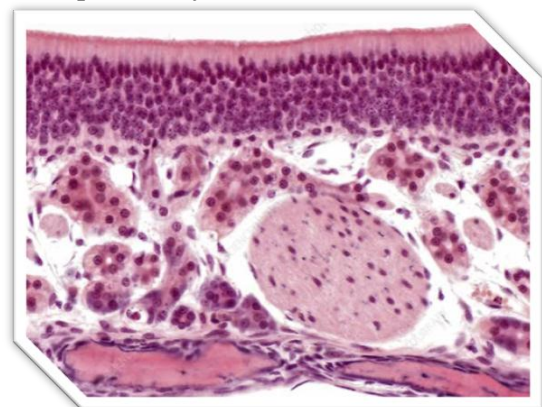


Fig. 5:

Condition: cylindrical internode.

Length: The length of steam is 17 to 20cm.

Breadth: The breadth of steam is 0.3 to 0.5 cm.

Colour: The colour of steam is green or purple tint.

Branching: Branched.

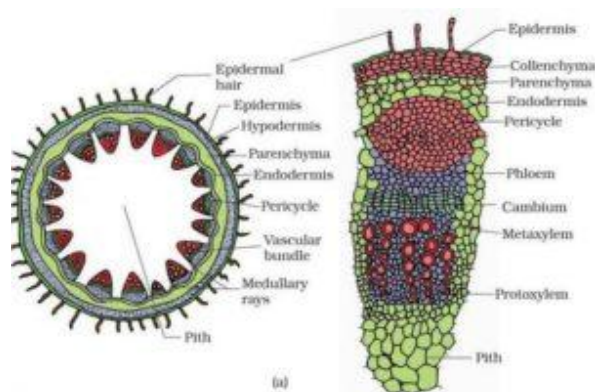
Microscopical Study of leaves

Condition: The leaves of euphoria Prostrata is Broad and oblong.

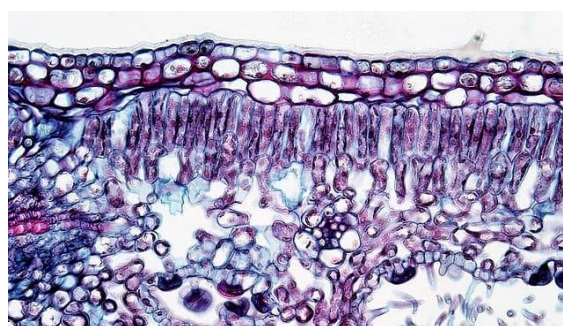
Length: The length of leaves is 2.5 to 5mm

Breadth: 2 to 4 mm broad.

Colour: Green, purplish red.



TS of Leaf



Phytochemical Study of Euphorbia Prostrata

Identification Test.^[11]

Table 1: Test for Alkoids.

| Test | Observation | Inference |
|---------------------|---|--------------------|
| Test for alkaloids | | |
| 1. Dragandroff test | 2-3 Filtrate + few drops dagandroff reagent | Orange brown ppt. |
| 2. Mayer's test | 2-3 ml filtrate + few drops M. Reagent | Gives ppt |
| 3. Hager's test | 2-3 ml filtrate + hager's reagent | Yellow |
| 4. Wagner's test | 2-3 ml filtrate + few drops of reagent | Reddish brown ppt. |

Table 2: Test for anthrquinoneglycoside.

| Test | Observations | Inference |
|--|---|------------------------------------|
| 1. Borntragers test. | 3ml extract+ dil.H ₂ SO ₄ + boil and filter+coldfiltrate + equal vol.benzene or chloroform+separate organic solvent+Ammonia. | Ammonical layer turns pink or red. |
| 2. ModifiedBorntrager's test for C-glycosides. | 5ml extract+5ml 5% fecl ₃ and 5ml dilhcl+Heat for 5min.in boiling water bath+cool+add benzene/any organic solvent+ shake well.seprate organic layer. | Pinkish red colour is formed |

Table 3: Test for reducing sugar.

| Test | Observations | Inference |
|-------------------|---|---|
| 1. Fehlings test. | Mix 1mlfehlings A+ 1ml Fehlings B solution+boil 1min.+ Add equal vol.testssolutions+heat in boiling water bath for 5-10min. | 1 st yellow then break red ppt is formed. |
| 2. Binedict test. | Mix equal Vol.benedict reagent and test solutions in test tube+heat in water bath for 5min. | Green, yellow or red colour is formed. (depends on amount of reducing sugar present in test solutions.) |

Table 4: Test for steroids.

| Test | Observations | Inference |
|-----------------------|--|---|
| Steroids test. | Extract+2ml of acetic anhydride was added to the mixture of 0.5gm of each extract and H ₂ SO ₄ (2ml) | Violet to Blue or green colour is formed. |

Table 5: Test for cardiac glycosides.

| Test | Observations | Inference |
|--|--|--------------------------------|
| 1. baljet's test | A section shows yellow to orange colour with sodium picrate | - |
| 2. Test for deoxysugarskeller- killiani) | 2ml. of plant extracts+ 1ml glacial acetic acid and 5% ferric chloride was add.+few drops of concentrated H ₂ SO ₄ added | Greenish blue colour indicate. |

Table 6: Test for Carbohydrates.

| Test | Observations | Inference |
|----------------------------|--|---|
| Carbohydrates test. | 2-3ml aqueousextract+add few drops of alpha- naphtholsoln in alcohol+ shake and add conc.H ₂ SO ₄ from sides of the test tube. | Violet ring is formed at the junction of two liquids. |

CONCLUSION

It is concluded that *E. Prostrate* are the rich sources of antioxidant molecules and these plants are recommended to use as antioxidant for the management of various disease/disorder.

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