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A Brife Rview on Euphorbia Hirta

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ABSTRACT
Euphorbia hirta, a traditional medicinal plant, has been extensively studied for its phytochemical and pharmacological properties. This review aims to summarize the current knowledge on the plant's chemical constituents, biological activities, and therapeutic applications. The plant's alkaloids, flavonoids, terpenoids, and phenolic acids have been identified as key bioactive compounds responsible for its antimicrobial, anti-inflammatory, antioxidant, and anticancer. Anti dengue is also pollution indicator Euphorbia hirta
Keywords :- anti-inflammatory, anti –dengue antioxidant, anti microbial ,anti-cancer pollution indicator.

I. INTRODUCTION :-

It also know as Asthma plant (India southeast asia),Tawa-Tawa(Philippines) Snake wood in(Africa) a medicinal plant find in surrounding environment in farm, garden,hill. The asthma weed is easly recognized.
Traditional it used as respiratory disorder,asthma leaves decoction or infusion to relief from symptoms.in fever condition tea is made.
This article provide or exploration of plant potential in trearting spefic diseases.[1]

I. Scientific classification [2,3,5]
1. Kingdom: Planate
2. Division: Magnoliophyta
3. Class: Magnoliopsida
4. Subclass: Rosidae
5. Order: Malpighiales
6. Family: Euphorbiaceae
7. Subfamily: Euphorbioideae
8. Tribe: Euphorbieae
9. Genus: Euphorbia
10. Species: E. hirta

II. PHYSICAL CHARACTERISTICS OF EUPHORBIA

Leaves: the leaves islong, The leaves with the margins and purplish tints.it the 3 cm long the hair are present on the surface is Leaves are green but tOburn red in nutrient-poor soil.[6]

Fig no 1-euphorbia hirta leaves

Flowers: The flower is produced in leaf axils. It is tiny in shape it greenish to brownish in colour .[7]


Fig no 2 – euphorbia hirta flower

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ROOT :-

Fig no 3 euphorbia hirta root

1. Shape: Taproot, cylindrical or slightly tapering
2. Size: 5-15 cm long, 0.5-1.5 cm in diameter[8]

III. PHARMACOLOGICAL USES :

Antibacterial

It to be effective against both gram-positive and gram–negative bacteria .it act against pseudomonas pseudoalcaligenes ,E-coli bacteria tannins, gallic acid shows antibacterial activity. [9]

Antioxidant:-

The chemical constituent present is favonoid and phenol responsible for the anti-oxidant properties. [9]

Anticancer

Inhibits cancer cell proliferation and induces apoptosis .The dichloromethane extract inhibit effect of cancer cell.[10][11]

Pollution Indicator :-This herb not grow in pollunt area.

OTHER USES:

1. Skin infections
2. Respiratory issues
3. Fever
4. Pain relief
5. Cancer treatment
6. Diabetes management
7. Hypertension management
8. Wound care
9. Immune system support

1.5)Phytochemical Constituents: [6,7,8]

Alkaloids:-

1. Euphorbonine –Present in (Roots, Seeds)
2. Euphorbine - Present in (Roots, Seeds)
3. Euphorbinol -Present in (Roots)
4. N-Methyltyramine -Present in (Roots)
5. Tyramine - Present in (Roots)

Flavonoids

1. Quercetin - Present in (Leaves, Flowers, Stem)
2. Kaempferol -Present in (Leaves, Flowers, Stem)
3. Isorhapontigenin Present in (Leaves)
4. Rhamnetin Present in (Leaves)
5. Lute olin Present in (Leaves)

Terpenoids

1. α-Pinene (Roots, Leaves)
2. β-Pinene (Roots, Leaves)

Chemical test:,

Alkaloids :

1 Mayer’s test: white or yellow precipitate
2 Wagner’s test : brown or precipitate
3 Dragendorff’s Test :reddish orange precipitate
4 HCL : white or yellowish precipitate [9,10]

Flavonoids

1 Shinoda Test : yellow or orange red color
2 Ferric Choloride Test :geen,blue, or purple color
3 Lead Aceated Test : yellow or orange precipitate
4 Alkaline Reagent Test : yellow,orange,red color [8]

Tannins:-

1 Ferric chloride test :- blue, green or purple color
2 Gelatin Test :- precipitate or gelation indicates the presence of tannin[11,12,13

IV. CONCLUSION :

Euphorbia hirta is a valuable medicinal plant and easily available with a rich phytochemical profile and diverse pharmacological activities. Further research is necessary to fully explore its therapeutic pote

Future Consideration :-

1. Cancer research: Investigate the anticancer properties of Euphorbia hirta's bioactive compounds.
2. Antimicrobial resistance: Study the plant's antimicrobial activity against antibiotic-resistant bacteria.
3. Wound healing: Explore the plant's potential in wound healing and tissue repair.
4.Neuroprotective effects: Investigate the plant's neuroprotective properties and potential in neurodegenerative diseases land ensure safe usage.

REFERENCES :

[1]. Evans, W. C. (2002). Pharmacognosy.
[2]. Kokate, C. K., & Purohit**, A. P. (2013).** Marina Silalahi prodi pendidikanBiologi, Fakultas keguruandan pendidikan ,universitas Kristen Indonesia.ji Mayjen sutayo no 2 cawang ,Jakarta Timur.

[3]. The Plant List (2013). Version 1.1.
[4]. IPNI (2019). The International Plant Names Index.
[5]. USDA (2020). Germplasm Resources Information Network.
[6]. Kew Royal Botanic Gardens (2020). Plants of the World Online.
[7]. Kumar et al. (2018). Ethnopharmacological survey of Euphorbia hirta L. in India.
[8]. Singh et al. (2019). Phytochemical analysis and antimicrobial activity of Euphorbia hirta L.
[9]. Zhang et al. (2020). Euphorbia hirta L.: A review of its phytochemistry, pharmacology, and traditional uses.
[10]. Singh et al. (2019). Phytochemical analysis and antimicrobial activity of Euphorbia hirta L. Journal of Pharmacy and Pharmacology, 71(8), 1240-1248.
[11]. Kumar et al. (2020). Cytotoxic and apoptotic effects of Euphorbia hirta L. on human cancer cells. Journal of Cancer Research, 76(2), 153-162.
[12]. Sharma et al. (2018). Wound healing potential of Euphorbia hirta Journal of Wound Care, 27(6), 251-2
[13]. Harborne, J. B. (1998). Phytochemical Methods: A Guide to Modern Techniques of Plant Analysis.
[14]. Trease, G. E., &Pharmacognosy and Pharmacology.58.