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Evaluation of Physiological Properties of "*Tridaxprocumbens* L."L. Plant and its Potential Medicinal Value: A Critical Analysis

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ABSTRACT

The plant *"Tridaxprocumbens*L."***is a very common species, it produces variety of medicinal and physiological properties. It is used as anti- anemic, anti- diabetic, anto-inflammatory and anesthetic purposes. It has a multi- purpose uses as it is has ancestral use of different communities. This article underlies the evaluation of physiological properties of*** *"Tridaxprocumbens*L."* **plant and its potential medicinal value.** *"Tridaxprocumbens*L."***is a member of the*** *Asteraceae* ***family, mainly originated in tropical region of America. It is commonly known for pest and weed plant in native region of America. Because of its medicinal healing properties for wound, the anti- coagulant, anti-fungal uses helps in making traditional medicine.***

The aim of this article is to critically analyze and highlight the importance of the plant species as a valuable medicinal plant. The connection between traditional and scientific knowledge is vital for future studies on plant Tridaxprocumbenslinn.

The structures information of the plant draws the reasons for medicinal properties discoveries across the world. It shows the relevance of the treatment of various diseases.

Lastly, it shows the link of relative significance in the biological advance uses in the future. It is a broader scope topic of research for future scientists all over the world.

Keywords: $\boldsymbol{Tridax\ procumbens,\ Anti-inflammatory, Hepatoprotectionanti-diabetic, immunomodulatory, Antimicrobial, , Anti-hypertensive}$

1. INTRODUCTION

Tridax procumbens L. is also named as "coat button", it is perennial plant came from the *Asteraceae* family. It is widely found and grown in the region of central and South America, Asia and tropicalof Africa. It is recommended as common herb, which has medicinal and biological properties, which is mainly used for the treatment of skin diseases. The plant extract

shows rich anti-fungal activity against primarily the skin pathogens such as Microsporum,*Microsporumfulvum*, *Microsporumgypseum*, *Trichophyton mentagrophytes*, *Trichophyton rubrum.etc*. It is also widely used in the Indian Ayurvedic system of medicine for the treatment of Diarrohea. Presently is used as insect repellent and hair growth or nourshisng tonic.*T. procumbens*containsalkaloids, carotenoids, saponins, flavonoids, flavones, glycosides and tannins from the leaves of this plant. The powder extract from the *"Tridaxprocumbens*L."showed anti-fungal activity against dermatophytes.

A weed identified "*TridaxprocumbensL."* (compositae) present everywhere India and is employed as indigenous medicine for a variety of ailments, including jaundice disease. It is usually identified as 'Ghamra' because of the presence of its flowers.*"TridaxprocumbensL."*is also dispensed as 'Bhringraj,' which is well known Ayurvedic medicine for liver disorders.Antioxidant properties have also been demonstrated. The present study talks about the alpha-amylase percent inhibition activity of extract of *Tridaxprocumbens.[1]*

The classification: [2]

Taxonomic	*Classification*
Kingdom	Plantae
Subkingdom	Tracheobionta
Division	Magnoliophyta
Class	Magnoliopsida
Subclass	Asteridae
Clade	Angiosperms
Order	Asterales
Clade	Eudicots
Family	Asteraceae
Tribe	Heliantheae
Genus	Tridax
Species	T. procumbens
Binomial name	*Tridaxprocumbens* L.

2. Physiological PropertiesPharmacological review of "*Tridaxprocumbens* L."L. Plant and its Potential Medicinal Value

- **HEPATOPROTECTIVE ACTIVITY**

The process of hepatoprotective activity involves the role of metabolism, storage secretion, and detoxification. For this, the aerial parts and insoluble chloroform fraction from the ethanolic extract of "*Tridaxprocumbens* Linn." states against D-galactosamine/ Lipopolysaccharide (D-GalN/LPS) induced hepatocellular injury of liver cells. The plant "*Tridaxprocumbens*L."L. displays a positive effect and can produce or regenerate liver cells**.** In the human body, the lesion of viral hepatitis is similar to the multifocal necrosis produced by DGaIN. The process of recovery takes the amino sugar separately blocks the transcription. The above process of hepatic protein synthesis can be achieved as a result of endotoxin toxicity.

- **IMMUNOMODULATORY ACTIVITY**

The "*Tridaxprocumbens* L." has shown the immunomodulatory activity from the insoluble ethanol fraction of aqueous extract. It is immediately high the phagocytic indez, splenic antibody-secreting cells, and leukocyte count. The activity, as mentioned earlier of ethanolic extracts of plant leaves has been studied in Albino rats with Pseudomonas aeruginosa, this can inhibit the proliferation of the microorganism.

- **Injury Healing Activity**

The method of injury healing is fragile but is a complex and dynamic way of healing activity. It is the process of restoring the cellular structures and tissue layers, again the aqueous extract of the full plant can heal the wound in rats. The injury healing process of the plant material includes a composite and distinct interaction between dermal cells, the extracellular matrix, controlled angiogenesis, plasma-derived proteins, and epidermal cells. These are well coordinated by an array of cytokines and growth factors.

- **Anti-Diabetic Activity**

Diabetes is a well-considered disease all the world, but diabetes is India; it is prime on the level. If we consider the significant features of *Tridaxprocumbens* L. in anti-diabetic activity, particularly in animals like rats, the aqueous and alcoholic extract of leaves is used to decrease the blood glucose level. Therefore, it is considered the anti-diabetic activity in alloxan-induced rats. It is mainly useful in the blood glucose level, not at the sugar level in rats.

Moreover, it is used for remedial measures as a supplement of other therapy. The plant-based medicines and drugs are used against many diseases, the human uses this herb as medicinal agents, and it can show remedial fast. The Tridax procumbent L. has the medicinal virtues of controlling diabetes. [3]

3. THE GROWING USE OF HERBAL MEDICINES, ISSUES RELATED TO REACTIONS

According to the "World Health Organization" (WHO), the use of traditional medicine is recognized as approaches in healthcare in many developing countries. $Tridax\ procumbens\ L.$ is widely found in majorly part of the world. It can cure anemia, inflammation, cold, and hepatopathies in Central America. The result has shown a vital effect on healthcare — the leaves used as juice for curing injuries and stop bleeding. The researchers have established a result of reducing the anemia in pregnant women. This species of plant is used in the cure ness of gastrointestinal, high blood pressure, and respiratory infection. In various countries' research, it is visible in the outcome that the entire plant of $Tridax\ procumbens\ L.$ is used for the treatment of protozoal infections like malaria and dysentery. Moreover, it is observed that aqueous extracts of *Tridaxprocumbens* L. have the best rapid anti- plasmodia activity against chloroquine-resistant P. falciparum parasites. [4]

4. THERAPEUTIC VALUE OF TRIDAX PROCUMBEN L.

- **Analgesic And Anti-Inflammatory Activity**

The Analgesic term is described as a medicine taking in insensibility to pain; it is without the loss of consciousness. Therefore,"$Tridax\ procumbens\ L.$" extract is known to be a potent analgesic. It is recommended best results against the pain related problem. The presence of Flavonoid and sterols is attributed to strong protective action. It is further determined that the use of medicine, to establish the exact mechanism of action and elaborative phytochemical investigations. It can be used to find the active constituents responsible for analgesic activity.

- **Anti-Oxidant Activity**

It is defined as compounds that inhibit or delay the oxidation of other molecules by inhibiting the initiation or propagation of oxidizing chain reactions. The plant extracts of"$Tridax\ procumbens\ L.$"are evaluated for in vitro antioxidant activities.The$Ethyl\ acetate$,and $n-Butanol$ fractions from methanolic extract has represented the significant activity, It is declared comparable to the activity. Fractionation of the parent

extract reduced the complexity of the material and provided a more accurate idea related to the Phytochemicals, responsible for antioxidant activity of $Tridax\ procumbens\ L.$

- **Anti-Bacterial Activity**

The "*Tridaxprocumbens* L." can be considered as an herb, discovered generally growing in Amazonian countries, and is enriched with antibacterial qualities. They analyze and research in recent years has shown the connected with the ethanolic extract, including was prominently observed against Pseudomonas aeruginosa strains. The Multidrug-resistant nosocomial strains of Pseudomonas isolated from ventilator-associated pneumonia, urinary tract infection, as well as bloodstream infection, showed notable sensitivity to *Tridax* extracts. It is found that it proves the efficacy of *Tridax* as an Antipseudomonal agent and its suitability as a source of formulations for the therapy of nosocomial diseases affected by Pseudomonas aeruginosa.

- **Anti-Cancer Activity**

"$Tridax\ procumbens\ L.$" is called semi prostrate annual or short-lived perennial herb. The comprehensive nature and enrichment of the plant in medicine have been found. The phytochemicals in dehydrated leaves of "$Tridax\ procumbens\ L.$" have compounds experimented for cytotoxicity against person lung cancer. The compound of Rf value 0.66 recorded 90% reduced cell viability. NMR, MS, and IR spectra showed the compound as Lupeol. The anticancer potential of the Lupeol suffering human lung cancer has been evaluated by clonogenic survival determination, cell cycle control, Cell-based assay for inhibition of $COX-2$ activity and DNA fragmentation analysis, an amount of 320 g/ml concentration of Lupeol compound displayed potential anticancer feature.

- **Anti-Fungal Activity**

"$Tridax\ procumbens\ L.$" Disc diffusion assay was examined against two pathogenic fungal strains ($Aspergillus\ flavus$and $Aspergillus\ niger$). The minimum inhibitory concentrations (MIC), minimum fungicidal concentrations (MFC), and total activity find out and determined the antifungal potential of the respectively potent extract. The flavonoid extracts demonstrated exceptional action on A. niger, whereas alkaloid extracts obtained upon the test fungi. The best antifungal potential was determined by flavonoid of the stem and bound flavonoid of stem and flower A. niger. It is indicated that $Tridax.\ Procumbens\ L.$ could be beneficial in producing the antifungal drug for the treatment of diseases caused by A. niger

5. CONCLUSION

"*Tridax procumbens Linn.*" is widely distributed weed found around the world. It is mainly found in countries and continents like India, America, Tropical Africa, Asia, and Australia. It is gathered from the earlier research that every part of Plant *Tridax Procumben L.* has noble pharmacological, psychological, and medicinal activities for the cure. Various activities have been recorded, which earlier mentioned above. The plant is beneficial for the treatment of activities like hepatoprotective effect, immunomodulating property, and promising wound healing activity, anti-diabetic, hypotensive effect, anti-microbial, insect repellent activity, anti-inflammatory, and anti-oxidant, bronchial catarrh, dysentery, and diarrhea. The flower also prevented falling of hairs and used as a hair growth promoter. *Tridax procumbens L.* are used as bio adsorbent for the discharge of harmful Cr(VI) from the industrial wastewater. It is a necessary ingredient of "Bhringraj" in Ayurveda. In the future, there is broad scope in the investigation for this plant.

Conclusion review and investigation shows that the *Tridax procumbens* Linn. is a precious medicinal plant. Phytochemically, pharmacologically as well as traditional medicinal systems, also proves this. Every part of the plant & histopathological, phytochemical study reveals the presence of site and sources of Phyto molecules. "*Tridaxprocumbens* L."shows the presence of several valuable constituents such as flavone glycoside, glycoside, bithiophene, flavonoid (Procumbenetin), sterols, terpenoids, lipids and polysaccharides with significant pharmacological activities such as antimicrobial, wound healing, *cardiovascular, anti − diabetic* activity, *hepatoprotective, anti − inflammatory, anti − oxidant, anti − diarrhoeal, insecticidal.* It also possesses anticancer, immunomodulatory action, and antitubercular activity, which provides the basis for isolation & development of new phytochemical useful to treat the acute and chronic disease as a rational problem worldwide. It is compare to synthetic molecule, phyto molecule are less toxic. This is the advantage that we get new research areas to develop new active phyto molecules.

REFERENCES

1) Beck. Samantha. Etal.,(2018). A Review of Medicinal Uses and Pharmacological Activities of *TridaxProcumbens. Journal of Plant Studies*. Vol. 7. No. 1. ISSN 1927-0461 E-ISSN 1927-047X. Published by Canadian Center of Science and Education (L.).
2) Classification taxonomy. *TridaxProcumbers L.*United States Department ofAgriculture. Natural Resources Conservation Service. Available at

:https://plants.usda.gov/java/ClassificationServlet?source=display&classid=TRPR 5.

3) Nazeruddin. G. M., Pingale. Shirish S &Shaikh. Samir S., (2011). Pharmacological review of "*Tridaxprocumbens* L."L.Pelagia Research Library Der Pharmacia Sinica, 2011, 2 (4): 172-175. ISSN: 0976-8688.

4) Ekor. Martins., (2014).The Growing Use Of Herbal Medicines: Issues Relating To Adverse Reactions And Challenges In Monitoring Safety.*Department of Pharmacology. School of Medical Sciences.*DOI:10.3389/PHAR.2013.00177.

5) Kale. Sujit S. And. Deshmukh. Amol S.,(2014). *Tridaxprocumbens*: A Medicinal Gift of Nature. Asian Journal of Research in Biological and Pharmaceutical Sciences. 2(4), 2014, 159 - 162. ISSN: 2349 – 4492.

6) Sonawane. Abhijit, Srivastava. Rashmi S. et al.,(2014).Anti-diabetic activity of *Tridaxprocumbens*.*Journal of Scientific and Innovative Research.*ISSN 2320-4818 JSIR 2014; 3(2): 221-226.

7) Wagh. S.Shardul.,(2010). Antioxidant and Hepatoprotective Activity of *"TridaxprocumbensL."*Linn, against Paracetamolinduced Hepatotoxicity in Male Albino Rats.***A****dvanced Studies in Biology*. Vol. 2. No. 3. 105 – 112.