IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 8, May 2023

A Review Article on "Pharmacognostical and Pharmacological Review on *Bryophyllumpinnatum*"

Sumedha Sanap[1], Gadge Shubham[2], Nikita Supe[3], Kishori Shingote[4], Samiksha Kadam[5], Akshada Arote[6]
Samarth Institute of Pharmacy, Belhe, Maharashtra, India
Department of Pharmaceutical Chemistry, Samarth Institute of Pharmacy, Belhe, Maharashtra, India

Abstract: *Bryophyllum pinnatum is usually known as Panphuti which belong to family Crassulaceae growing widely in tropical Africa, tropical America,India, China, and Australia. It is a perennial herb grows 3–5 feet tall, fleshy dark green leaves that are distinctively scalloped and trimmed in red, and bell-like pendulous flowers. The plant contains various active compounds such as alkaloids, triterpenes, glycosides, flavonoids, steroids, bufadienolides, lipids, and organic acids. The pharmacological studies are reviewed and discussed, focusing on that different extracts from this plant have anti-inflammatory, antiallergic, antianaphylactic, antileishmanial, antitumorous,antiulcerous, antibacterial, gastroprotective, immunosuppressive, insecticidal, muscle relaxant, sedative, central nervous system depressant, and analgesic. Conventionally, it is used for the treatment of fever, constipation, nourishment of the hair and treating grey hair, intestinal disorder, and leucorrhea. The current review is created with an intended to focus on the numerous ethnobotanical and traditional use as well as the phytochemical and pharmacological report on B. pinnatum.*

Keywords: Bryophyllumpinnata, pharmacological study, antibacterial.

I. INTRODUCTION

Medicinal plants have been known for times and are extremely Respected worldwide as a rich home of helpful agents for the Inhibition of diseases and illnesses [1].Pan phuti plant native to Madagascar. This Wonder plant or Divine plant [2].plant native to Madagascar. This Wonder plant or Divine plant [2]. Leaf, stem, and Root portions and its chemicals have great index in therapeutic [3].Bryophyllum pinnatum (Lam.) Kurz. (Crassulaceae) is a Perennial herb growing widely and used in folkloric Medicine in tropical Africa, tropical America, India, China, And Australia. The divine herb contains a wide range Of active compounds, including alkaloids, triterpenes, Glycosides, flavonoid, steroids, bufadienolides, lipids And organic acids, have been isolated from this species. The plant Have been found to possess pharmacological activities as Immunomodulator, central nervous system depressant, Analgesic, antimicrobial, anti-inflammatory, antiallergic, Antianaphylactic, antileishmanial, antitumorous, antiulcer, Antibacterial, antifungal, antihistamine, antiviral, febrifuge, Gastroprotective, immunosuppressive, insecticidal, muscle Relaxant, sedative.[2]. Macroscopic identification of herbal materials Is based on shape, size, color, surface characteristics, texture, Fracture characteristics and appearance of the cut surface[1]Additional farming of these rough therapeutically significant plants lacks satisfactory illness free Elite implanting resources due to great vulnerability of the crop for rhizome rot, leaf spot, and microbial wilt [7].

Synonyms :-
Bryophyllum calycinum Salisb.
Kalanchoe pinnata (Lam.)
Cotyledon pinnata Lam
Sedum madagascaricum Clus.

DOI: 10.48175/568

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 8, May 2023

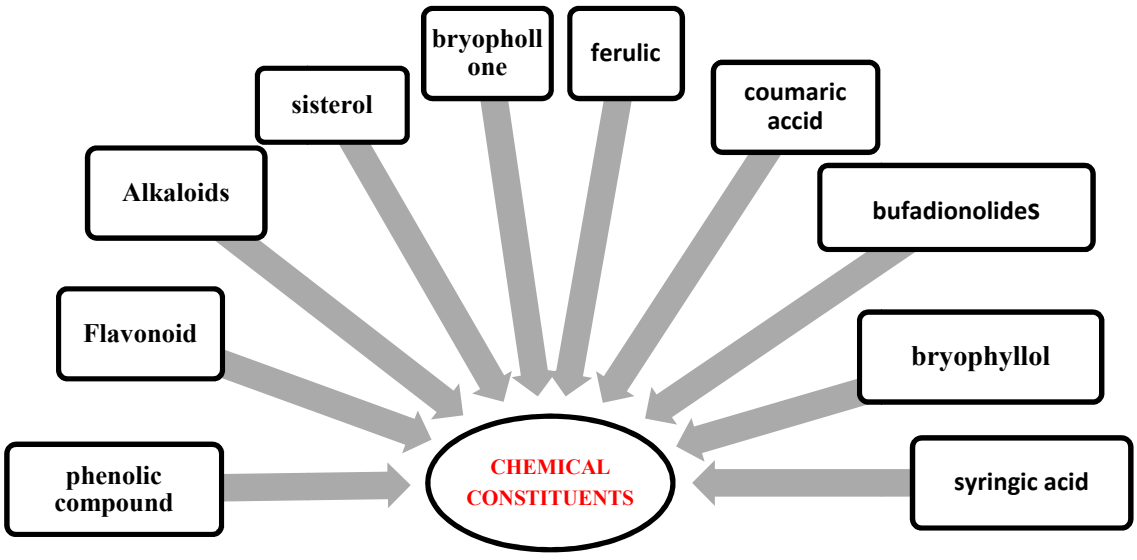
Common name:-

Cathedral bells, curtain plant, floppers, good luck leaf, green mother of millions, leaf of life, Mexican love plant, miracle leaf, resurrection plant, and sprouting leaf.

Plant profile :-

Taxonomical Classification :-

Kingdom: Plantae – plants
Subkingdom: Tracheobionta – vascular plants
Division: Spermatophyta – seed plants
Subdivision: Magnoliophyta – flowering plants
Class: Ganglioside – dicotyledons
Subclass: Rosidae
Order: Rosales
Family: Crassulaceae – stonecrop
Genus: Bryophyllum
Species: B. pinnatum (Lam.)



Macroscopical studies

The roots were simple, tap root, greenish brown in color when young and light brown when old. Root was 7-10 cm in length . Root powder had a pleasant odor and was sweet in taste. Stem of B. pinnatum (Lam.) Kurz. was light green in color when young and light brown in color when old . Old stem was rough and had lenticels on surface. Stem powder

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 8, May 2023

had a pleasant odor and slightly bitter in taste. The leaves were opposite, decussate, succulent, 10-20 cm in length. The lower leaf were simple, whereas, the upper leaf is 3-4 foliate with long petiole with dark green in color and fleshy, which are distinctively scalloped and trimmed in red.

Microscopical studies :-

The tiny character displays a skinny sheet is existing on abaxial side And curved surface on the adaxial side. It has a shrill and adaxial Epidermal film is of slight, less protuberant compartments. The Stranded tissue of midrib is parenchymatous. The cells are round, Pointed, and compressed.

The vascular strand is solitary, minor, and semicircular in form. It Contains dense parallel orchestra of xylem and comprehensive band Of phloem.

Xylem component is tapered, pointed, tinny wall. The vascular packs are in upright and parallel plane. The lamina is smooth, the mesophyll Is discriminated into palisade and squishy parenchyma. The stomata Are anisocytic type, which are established in rich form.

The longitudinal segment of greeneries shows occurrence of coiled Vessels. The trichomes are lacking on abaxial cross and axial.

Pharmacological Activity:-

Pharmacological activity:-

Wound healing property:-

The occurrence of wound curative action of Panphuti sheet. Removes from (petroleum ether, water, and alcohol) All the four abstracts, i.e., alcohol and waste petroleum ether displayed Important upturn in the infringement power of opening wound When related to control group. Granuloma flouting strength and Hydroxyproline contented of granulation tissue in deceased planetary Wound model were meaningfully improved when associated to control Group. (50-100 mg/kg) Water quotation displayed major rise in wound shrinkage and Development of marks on the 17th post-wounding day in excision Wound model. Uniform topical solicitation of aquatic extract speeded The curing procedure in removal wound mode.

Antiulcer activity:-

A methanolic fraction of leaves was established to Retain important antiulcer activity. Premedication experiments in rats Shown that the quotation possessed major shielding accomplishment in Contradiction of the abdominal cuts tempted by aspirin, indomethacin, Serotonin, reserpine, stress, and ethanol; also important shelter On behalf of aspirin-induced ulcer in pylorus-ligated rats and for Histamine-induced gastric lesions in guinea pigs; and also significant Improvement of the curing method was also establish to occur in acetic Acid-induced chronic gastric lesions in rats. (100-500 mg/kg)

Hepatoprotective and Nephroprotective

Liquid of the new leaves is recycled very efficiently for the management Of jaundice in Bundelkhand area of India. Yadav et al. planned that The liquid of greeneries was originate additional active than ethanolic Excerpt as showed by in vivo and in vitro histopathological studies for Hepatoprotective activity of herbal and validates the usage of liquid Of plant leaves in folk drug for jaundice.(50-300mg/kg) . The protective effect On gentamicin-induced nephrotoxicity in rats which may involve its Antioxidant and oxidative radical scavenging activities .

Neuropharmacological:-

Parnabeeja has been used since 1921 in predictable treatment as An antipsychotic mediator . Salahdeen et al. showed that The aqueous leaf mine possesses depressant action on central Nervous system (CNS). The animals CNS treat with 50–200 mg/kg Was established to create rather important reduce in locomotor's Movement in dose needy way, with no ptosis at these doses. Likewise In chimney, climbing and inclined screen tests, there was an important Defeat of management and reduces muscle tone in animal treated Intraperitoneally with aqueous extract in a dose reliant manner

Immunosuppressive:-

The oily acids existing in Panphuti might be answerable at least in part, For its immunosuppressive result in vivo .50-500 mg/kg drug are used .Rossi Bergmann et al.Displayed the aqueous extract of grasses origin significant reserve of Cell-mediated and humoral immune reactions in mice. The spleen Cells of animals pre-treated with herbal abstract exhibited a compact Capability to multiply in retort to equally mitogen and antigen in vitro. The in vitro and topical

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 8, May 2023

methods of direction were the most operative By nearly totally eliminating the Ddelayed-type hypersensitivity Response.

Cytotoxic activity :-

The study revealed the cytotoxic effect of ethanolic extract of leaf of B**.** Pinnatum on cells of rat's testis in two different doses (100 mg/kg and 200 mg/kg) orally for a period of 8 weeks. At the dose of 100 mg/kg, The seminiferous tubules were shrunken and intracellular spaces were Seen within the epithelium and higher dose (200 mg/kg) showed Marked increase in intracellular spaces within the germinal epithelium And reduction of spermatozoa when compared with the control group Which showed intact normal histological features of the testes.

II. OTHER ACTIVITY

It is used against dysentery, fever , Rhizome powdered is used for the treatment of constipation, treatment of boil, wound, soar, or Cuts, roundworms (clotrimazole)., antipyretic Activity., ear paindiuretic. Hence, it cures difficult urination.

III. CONCLUSION

B. pinnatum is very useful plant for treating various diseases Such as kidney stones, wound healing, antiulcer, ant diabetic, anti-inflammatory, Antinociceptive, and antibacterial, the chemical constituents flavonoid, Alkaloid, saponin, and triterpenoid are responsible for this activity.

REFERENCES

[1]. Sharma A, Shanker C, Tyagi LK, Singh M, Rao CV. Herbal medicine for Market potential in India: An overview. Acad J Plant Sci 2008;1:26‑36.

[2]. Kane SG. Extracts from Plant and Non‑plant Biomass and Uses Thereof. US Application Publication, Publication No. US2004/0156920 A1; 2004.

[3]. Simões‑Wüst AP, Grãos M, Duarte CB, Brenneisen R, Hamburger M, Mennet M, et al. Juice of Bryophyllum pinnatum (Lam.) inhibits Oxytocin‑induced increase of the intracellular calcium concentration in Human myometrial cells. Phytomedicine 2010;17:980‑6.

[4]. Mohanty S, Parida R, Sandeep IS, Sahoo S, Nayak S. Evaluation of Drug yielding potential of micropropagated Curcuma aromatica. Int J Pharm Pharm Sci 2015;7:975‑1491.

[5]. Abhishek J. Sharma*, Chandra NareshPharmacognostical Studies of Bryophyllumpinnatum (Lam.) Kurz.september 2014Pharmacognosy Journal 6(6):20-26DOI:10.5530/pj.2014.6.5

[6]. Chaithra SR*, BijeshVatakkeel, Siju EN A Review On Pharmacological Activities of BryophyllumPinnatum. Lin 2020, Volume 8, Issue 2 ISSN: 2321–3647.