TRADITIONAL USES OF *AGERATUM CONYZOIDES* AND ITS BIOACTIVITIES - A SHORT REVIEW

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ABSTRACT

Among the weeds, members of Ageratum seem to be the most commonly spreading in agricultural areas throughout the world. *Ageratum conyzoides* Linn is commonly known as Appa grass and goat weed belongs to the family Asteraceae tribe Eupatoriae.Ageratum conyzoides Linn.(Family Asteraceae) which is widely spread all over the world, especially in the tropical and subtropical region. There are many reports on folk and traditional uses that include gynecological diseases, sleeping sickness, mouthwash, anti-inflammatory, insecticides, wound dressing, skin diseases, ophthalmic, colic, ulcers treatment, diarrhoea, dysentery, fever, etc and the plant has been well documented major pharmacological activities that includes anti-inflammatory activity, spasmolytic effects, gamma radiation effects, anti cancer analgesic activity, antimicrobial activity, and radical scavenging activity, antimalarial activity and others activities. In the present review, an attempt has been made to congregate the traditional uses, and bioactivities done on *Ageratum conyzoides* Linn.

Keywords: *Ageratum conyzoides*, Traditional uses, Bioactivities, Asteraceae

INTRODUCTION

Ageratum conyzoides [1-6] is a tropical plant that is very common in West Africa and some parts of Asia and South America. It is an annual branching herb which grows to approximately 1 m in height. The stems and leaves are covered with fine white hairs, the leaves are ovate and up to 7.5 cm long. The flowers are purple to white, less than 6 mm across and arranged in close terminal inflorescences. The fruits are achene and are easily dispersed while the seeds are photoblastic and often lost within 12 months. The plant grows commonly in the proximity of habitation, thrives in any garden soil and is very common in waste places and on ruined sites. It has a peculiar odor likened in Australia to that of a male goat and hence its name 'goat weed' or 'billy goat weed.'

The toxicity of this plant has not been well studied; however; the essential oil obtained by steam distillation has been reported to have a powerful nauseating odor. The plant has also been found to be poisonous to Rabbits due to the presence of HCN and coumarin. *A. conyzoides* is not eaten by humans except when taken for medicinal purposes, but in some cultures, it is a delicacy for domestic guinea-pigs, horses and cattle.

PLANT PROFILE

Taxonomical Classification [7]:

Kingdom : Plantae
Subkingdom : Angiosperm
Class : Eudicots
Order : Asterales
Family : Asteraceae
Genus : *Ageratum*

Species : *conyzoides*
Binomial name: *Ageratum conyzoides* Linn.

Vernacular Names [8]:

Tamil : Pumpillu, Sinnapoompillu, Vadaichedi
Sanskrit : Visamustih
Malayalam : Muryampacha, (Kattappa, Appa, MuriyanPacca)
Kannada : Uralgidda (Nayitulasi)
Hindi : Visadodi
English : Goa weed, Appa Grass.

TRADITIONAL USES

Traditionally, *Ageratum conyzoides* has been used in various parts of the world like Africa, Asia and South America as folk medicine. The whole plant produces volatile strong smelled oil which also possesses various biological activities. It is used for wound dressing, curing various skin diseases, ophthalmic, colic, ulcers treatment, as purgative and febrifuge [9]. The decoction or infusion of the herb is given in stomach ailments such asdiarrhoea, dysentery, intestinal colic, flatulence, rheumatism fever [10], and gynaecological diseases [11]. Other folk remedies include anti-itch, sleeping sickness, and mouthwash for toothache, antitussive, vermifuge, tonic and killing lice [12]. The leaves are used for application on cuts, sores [13-15], anti-inflammatory agent, haemostatic [16-17], insecticide, skin diseases [18], ringworm infection [19], antidote to snake poison [20],malarial fever, antitetanus, uterine problems [21], prolaps of anus [22], swollen piles [23], throat infection, painful gums, abscess for early suppuration, wound healing and leucorrhoea [24-25] and infant diarrhoea [26]. It has been reported to have nematocidal activity and potential used in controlling pests [27]. The plant has an antienteralgic and antipyretic, for cuts as a wound dressing. In India, it is used for leprosy treatment and as an oil lotion for purulent opthalmia. Besides these, it is used for preparing local hair lotion in Manipur, India for treating dandruffs. In some parts of Africa, the plant is used for headaches, dyspnoea, mental and infectious diseases. The leaves crushed in water are applied intravaginally for uterine troubles and also given as emetic. In Central Africa, the plant is applied for treating burnt wounds, while in Kenya it is used as antiasthmatic, antispasmodic and for haemostatic effects traditionally. In Brazil, the leaves of this plant are servedas anti-inflammatory, analgesic and anti-diarrhoeic. The plant is also particularly used for treatment of gynecological diseases in Vietnam [28]. The plant also has a number of magical and superstitious attributes, like against snake bites. In western part of Nigeria, it is believed that incantations help against witches and bad medicine. In Congo, the leaf sap is believed to improve luck of card players [29]. The leaf of the plant is reported to have hematopoietic potentials which could possibly cure anaemia and further reported to have gastroprotective activity. The plant is reported to be one among the selective weeds which can be used successfully as substrate for oyster mushroom cultivation and also helps to increase its protein content and production time [30]. It was further reported to yield high value of improved vegetative growth and numerous open flowers when Ageratum was grown for a time period of 28 days under a radiation mixture of blue, red or far-red light and within a controlled closed system which is very helpful in field of horticulture for higher profit.

Table 1. Bioactivities of *Ageratum conyzoides* Linn

S.NO	EXTRACT	SOURCE	BIOACTIVITY
1	Alcoholic extract	Leaves	Scavenging reactive radicals of oxygen
2	Alcoholic extract	Whole plant	Protection effects against gamma radiation[31]
3	Aqueous	Leaves	Analgesic activity, Prevent coagulation of whole blood [32], Treatment in chronic pain in osteoarthrotic Patients [33]
4	Aqueous	Root	Anti-tumour activity [34]
5	Aqueous	Whole plant	Active against certain selected microorganisms [35], Dermatological remedy[36], Prostate problems[37].
6	Ethanol	Leaf	Haematopoitic properties (remedy anaemia)[38].
7	Ethanol	Whole plant	Gastro-protection in rats [39], Acts against Staphylococcus aureus [40], Anti-coccidial effects[41].
8	Hydroalcoholic	Whole plant	Anti-inflammatory activity[42]
9	Lyophilized Powder	Leaves Juice	Precocious ataxia, Sedation and Slight ptosis
10	Methanol	Whole plant	Wound healing [43], Antiprotozoal and Cytotoxic [44].
11	Methanol	Aerial parts and Roots	Broncho-dilating and Uterine activities
12	Petroleum ether	Whole Plant	Acts against S. aureus [45], Active against against the mosquito Culex quinquefasciatus larvae[46].
13	Water	Leaves	Induced quietness and reduced the spontaneous motility in rats and mice
14	Water	Whole plant	Tonic contractions of the smooth muscles[47]and Acts against Staphylococcus aureus
15	Water Soluble Fraction	Whole plant	Spasmolytic medicine[48]

CONCLUSION

In recent years, ethnomedicinal studies received much attention as this brings to light the numerous little known and unknown medicinal virtues especially of plant origin which needs evaluation on modern scientific lines such as phytochemical analysis, pharmacological screening and clinical trials. In the present review, the literature about traditional uses and biological activities has been given comprehensively. The plant is having, antioxidant, antiviral, anti-inflammatory, anti-microbial activity, wound healing activity, skin infection, antifungal, antiallergic activity, and gastroprotective activity. *Ageratum conyzoides* is believed to possess various traditional uses and biological activities. It offers many opportunities to investigate the various functions and prospects in pharmaceutical studies. A number of studies have been carried out using this plant as weed controlling agent. It is believed that the above information as presented in this review on its traditional uses and various biological activities of this plant might provide incentive for proper evaluation of the use of the plant in medicine. On the basis of various studies, we can concluded that the information of the plant is used to explore the knowledge to practitioners in the fields of ethnopharmacology, natural product chemistry and drug discovery related research.

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