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CARALLUMA ADSCENDENS (MAKAD SHING) AS A POTENTIAL MEDICINAL HERB

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ABSTRACT
Many herbal remedies have been employed in various medicinal systems for the treatment and management of various diseases. The plant *Caralluma adscendens* has been used in different system of traditional medication for the treatment of disease and aliments of human being. It is reported to contain various glycosides, flavonoids and steroids. It has been reported as an anti-inflammatory, antioxidant, anti-diabetic, analgesic, anti-ulcers, antibacterial, hypoglycemic activities. There are also reports available for traditional uses of this plant for its dermatitis, anti-obesity, as a bloat, wound healing activities. Caralluma fimbriata extract has received Generally Recognized As Safe (GRAS) status for use as a nutraceutical to combat the most serious public health concern (i.e., obesity). More than 260 species grouped under the genus Caralluma (Family Apocynaceae) are distributed in tropical Asia and Mediterranean regions of the globe.

KEYWORD: *Caralluma adscendens*, medicinal system, medicine, source, Interestingly.

INTRODUCTION

Caralluma fimbriata, also known as *Carulluma adscendens*, is a belongs to Asclepiadaceae family. It's a relative of the succulent plant family that's gaining popularities for its appetite suppressant, and weight –loss properties, as well as its ability to lower blood sugar levels.

The Traditional herbs various sources for therapeutics application and plays and important role in maintaining Different disease condition of Human as well as animals. India India is one of the prominent places for plant based medicine in the word. It is estimated that about 25000 plant based medicinal formulation are effectively use in indigenous medicine.

Various plant species are used by the different system of medicines such as Ayurveda, Siddha and Unani to treat a range of diseases. The member of Caralluma have a quadrangular stalk with no leaves and small dark-colored flowers in a variety of colors. The Carulluma species found in India are edible and are used in the country's traditional medical system. In certain part of India, it is commonly consumed as a vegetable. Interestingly it is more than 25% of the mordent medicines are directly or indirectly derived from plants.

PLANT DESCRIPTION

Fig: A. Plant Caralluma Adscendens.

Caralluma Adscendens is a medicinally useful cactus plant. It belongs to Asclepiadaceae family. and it is flowering plant. *Caralluma adscendens*, Synonym Carulluma Fimbriata was iIlustrated in1832. There are total 2500 species in 200 genera. 30-60(-100)cm tall; stem basally up to 2 cm in diameter, concavely 4-angled, at apex tapering to a pointy tip, reddish spotted; tubercles blunt, projecting, spreading horizontally or vertically; latex present. Simple, tiny, and primitive leaves. Flowers 1–2 together, axillary, scattered, bisexual, 5-merous, regular, drooping, with foetid odor; pedicel 1–4 mm long; sepals triangular, 2–3 mm long, acute. (Bader A, Bingtao Li etal. 2003).

Synonym:-*caralluma attenuata, caralluma fimbriata.*

Common Name
Marathi:-Makad Shingi.
Tamil:-Kallimulaiyan, Muyal Kombu Chedi.
Irula:-Ekkae Chedi.

Table 1: Texonomical Classification of *Caralluma Adscendens* Plant.

Taxonomy	Plant Caralluma adscendens
Domain	Eukaryota
Kingdom	Plantae
Sub kingdom	Viridaeplantae
Phylum	Magnoliophytina
Subphylum	Spermatophytina
Infraphylum	Angiospermae
Class	Magnoliosida
Sub class	Lamiidae
Super order	Gentiananae
Order	Gentiananae
Family	Asclepiadaceae
Genus	Caralluma
Specific epithet	Adscendens
Variety	Gracilis
Botanical Name	Caralluma adscendens var.gracilis

Phytochemical Composition
Caralluma adscendens plant is found to be deciduous and hilly areas.it contains triterpene rich latex as well as Indole alkaloids, Phenanthrene, glycosides, sponine, and tannins.

This succulent cactus contains glycosides, hydrocarbons, saponins as a major phytoconstituents and reported for various biological activities such as bhelminthetic, antiobesity activities.

The attraction of pharmaceutical companies, researchers for elucidation of bio efficacies and provide knowledge for the advancement of phytomedicine.

Table 2: Phytochemical Constit Uent of Caralluma Adscendens.

Sr.No	Phytochemical constituents	Inference
1.	Steroids	Present
2.	Anthocyanin	Absent
3.	Caumarine	Present
4.	Protein	Present
5.	Amino acids	Absent
6.	Carbohydrates	Present
7.	Diterpenes	Present
8.	Phytosterols	Present
9.	Phenol	Absent
10.	Flavonoids’	Present
11.	Tannins	Absent
12.	Phobatannins	Absent
13.	Cardinal glycosides	Absent
14.	Saponins	Present
15.	Alkaloids	Present

MARERIALS AND METHOD
The entire *Caralluma adscendens* plant was cleaned, dried in the shade, and ground to powder in a mechanical grinder. Separately, the required number of powder samples were weighed and transferred to a stoppered flask. This is soaked in ethanol until the powder is

completely dissolved. The flask was shaken every hour for the first 6 hours, then set aside for 24 hours before being shaken again. The extracts were then filtered after three days of this process. Vacuum distillation devices were used to collect the extracts and evaporate them to dryness.

Pharmacological activities of *Caralluma adscendens* Plant

1. Appetite suppression

It state that pregnane glycosides may suppress appetite; It's that preganane glycosides amplifying the signalling of energy sensing function of hypothalamus.

Another hypothesis that c. adscendens may down-regulate ghrelin synthesis in the stomach and neuropeptide-Yin the hypothalamus, results to appetite suppression.

There is limited research conducted into the effect of C.adscendens on appetite in humans. A human trial conducted on the appetite suppressing effect of C.adsendens in India adult found that the extract (1g/day) to suppress appetite and reduce weight circumference in overweight individuals(n=50)with a BMI greater than than 25kg/m2 over a two month period compared to placebo group.

It was Found that hunger levels of participants reduced by 20% following the administration period Which may account for an 8%decline in energy intake of the experimental group. Appetite sensation including 'hunger'. 'through of food'; urge to eat 'and fullness of stomach' were assessed by the visual analogue scale method and dietary intake was assessed via a modified food frequency questionnaires. The food frequency questionnaires indicated that appetite suppressing effect caused a decrease in energy and fat intake and also a decline in the consumption of less desirable food.

2. Antiobesity Activity

In the DIO rat model the extract of C. Fimbriata (CFE) was evaluated for appetite suppressing and antiobesogenic activities In this model the result shows that CFE has potent appetite suppressant and antiobesogenic effect in a dose –dependent manner. The consumption of feed, body weight, liver weight, and fat pad mass, and serum lipid profiles of the rats in our various treatment groups reflected these results. CFE eliminate by obesity and hyperleptinemia. The best dose of CFE for avoiding CA diet-induced alteration in body weight, harmones, fat pads and liver appears to be 50mg/kg/day. Each probe point, data on kidney and liver function was collected. The diet caused slight unfavorable alterations in liver and renal function, were the reduced by CFE in dose –dependent manner and returned to normal dose level. (Lawrence RM, Choudhary S et al.2004).

3. Anti-inflammatory activity

Anti-inflammatory effect of c.Fimbriata extract has been evaluated. The ant-inflammatory activity was screened by Carageenan induce paw edema model in which model in which animals treated with testing drug and std indomethacin has been reduced the inflammation when compared with carrageenan induced inflammatory positive control group of animal In Carageenan induced paw edema *caralluma fimbriata* inhibited by dose dependent manner. The paw volume in normal control group rats 2nd hr. was found to be 0.2148 0.0122ml. The paw volume in rats pretreated with lower dose of *C.fimbriata* (100mg/kg/day) higher dose (200mg/kg/day) and indomethacin (10mg/kg/day)at 2nd hr. was found to be 0.191 0.0061ml, 0.158 0.0042ml.

4. Analgesic Activity

The extract of Caralluma fimbriata is tested for its analgesic properties. The model used to assess analgesic activity was Eddy's hot plate method, which showed that animals treated with Caralluma fimbriata and standard Pentazocin had significantly longer latency periods for jumping and paw licking than control group animals. The maximal analgesic activity of Caralluma fimbriata was measured at 60, 90, and 120 minutes for 100 and 200mg/kg doses, respectively.

5. Anxiolytic Activity

his entire Caralluma adscendens plant was cleaned, dried in the shade, and ground to powder in a mechanical grinder. Separately, the required number of powder samples were weighed and transferred to a stoppered flask. This is soaked in ethanol until the powder is completely dissolved. The flask was shaken every hour for the first 6 hours, then set aside for 24 hours before being shaken again. The extracts were then filtered after three days of this process. Vacuum distillation devices were used to collect the extracts and evaporate them to dryness The entire Caralluma adscendens plant was cleaned, dried in the shade, and ground to powder in a mechanical grinder. Separately, the required number of powder samples were weighed and transferred to a stoppered flask. This is soaked in ethanol until the powder is completely dissolved. The flask was shaken every hour for the first 6 hours, then set aside for 24 hours before being shaken again. The extracts were then filtered after three days of this process. Vacuum distillation devices were used to collect the extracts and evaporate them to dryness.

6. Antiatherogenic Activity

Antiatherosclerotic effect was measured by histology. CFE induced significant and dose dependent inhibition of food intake, with dose related prevention of gains in body weight, liver weight, and fat pad mass. Alteration in serum lipid profiles associated with weight gain was the typical increase in serum level.

7. Antibacterial Activity

C. adscendens, as well as 15 other medicinal plants, were studied for antibacterial properties and physicochemical parameters. The antimicrobial properties of the methanol extract of C. adscendens were evaluated against four pathogenic bacteria, including E. coli, Proteus vulgaris, Klebsiella pneumoniae, and Staphylococcus aureus, and MIC values were determined. C. adscendens possesses antibacterial activity against K. pneumoniae and S. aureus that is comparable to that of other bacteria. The aqueous and ethanolic extracts of C. adscendens were tested against five bacterial strains (E. coli, P. vulgaris, Pseudomonas aeroginosa, S. aureus, and Salmonella typhi) and found to have antibacterial and antifungal properties.

8. Antifungal Activity

The antifungal activity was tested using the conventional cup-plate method 10-12 after the extract was produced with the appropriate solvent system. The activity of Aspergillus Niger and Cladosporium was compared to that of normal miconazole nitrate.

CONCLUSION

The Caralluma adsencens is a dormant source of therapeutic phytochemicals' review of the literature survey that a few species have been investigated for pharmacological activity. For modern medicines, disease treatment was managed by herbal remedies. Herbal treatments used to treat diseases prior to the arrival of modern medicine. It's about 80%of the word population residing in the vat ruler area of the developing under developed countries still rely mainly on medicinal plants. The plant is widely used in traditional medicinal system of India and has been reported to possess hepatoprotective, anti-inflammatory, antiobesic, anticancer, antioxidant, antifungal, anticancer and also used to check wounds healing and antibacterial properties. It is known as a rich sources of tannins, flavonoids and glycosides present present in *caralluma adsencens* might be medicinally important and nutritionally useful. The current study into the phytochemical and nutrional properties of plant.

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