



AN OVERVIEW OF SOME PROMISING MEDICINAL PLANTS WITH ANTI- PSORIATIC ACTIVITY: A REVIEW

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ABSTRACT

Psoriasis is a common, chronic skin condition characterised by the hyper proliferation of epidermis, Different therapy was available for the treatment of psoriasis. Herbal medicine, also known as phytomedicine, have been widely used since the ancient times. Studies has been proved that the medicinal plants are rich sources of chemical substances with potential therapeutical and pharmacological activity for treatment of many diseases. The plant containing various constituents that have anti – psoriatic activity. Herbal preparation can be more effective than conventional medicines, These are safe. By Considering these facts the present review aims to reveal the up to date literature on recent ethnomedical uses with phytochemical review of two different medicinal plants *Cynodon dactylon*, *Wrightia tinctoria* which are commonly used for treatment of psoriasis like effect in aurvedic system of medicine.

KEYWORDS: Psoriasis, *Cynodon dactylon*, *Wrightia Tinctoria*.

INTRODUCTION

Psoriasis is a skin disease which is distinguished by massive proliferation, thick inflammatory cell infiltrates, generation of new blood vessels, modifications in lymphatic structure and impaired differentiation of epidermis.^[1] It is an autoimmune disorder where environment and genetic components have a major function.^[2] Psoriasis is a non communicable regular skin disorder that leads to instant skin cell reproduction leading in red, dry patches of thickened skin. The dry flakes and skin scales are the result of the instant and sudden formation of skin cells. It is commonly affects the skin of the elbows, knees, and scalp.^[2]

The aim of this review is to provide information on the Phytochemicals, Ethnomedicinal uses and Pharmacological activities of two medicinal plants (*Cynodon dactylon*, *Wrightia tinctoria*) commonly used in Aurvedic medicine for the treatment of psoriasis.

Cynodon dactylon



Cynodon dactylon is a perennial glabrous grass. It is commonly known as Doob grass or Bermuda grass. It is a cosmopolitan plant, it belongs to the family poaceae. Very commonly found grass, everywhere in country. It is well described *Chikitsa granthas*, *Nighantus Charaka Samhita* and *Sushruta samhitha* Due to the presence of bioactive compounds it is anti psoriatic, anthelmintic, antidysenteric, antidote to poisons, litholytic, diuretic, etc.^[3,4]

Macroscopic characters^[3,7]

Stem: is slender, prostrate, widely creeping, forming matted tufts, with slender erect or ascending flowering branches 7.5-30 cm. high.

Leaves: are 2-10 cm. by 1.25-3 mm. narrowly linear or lanceolate, finely acute to pungent, more or less glaucous, soft, smooth, and usually conspicuously distichous in the barren shoots and at the base of stems, and usually conspicuously distichous in the barren shoots and at the base of stems, sheaths tight, glabrous or hairy.

Classification

Kingdom : Plantae
Order : Poales
Family : Poaceae (Gramineae)
Genus : *Cynodon*
Species : *dactylon*

Vernacular names^[19,20]

Classical Name : *Durva*

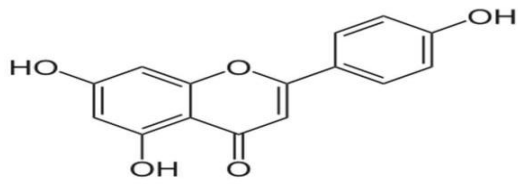
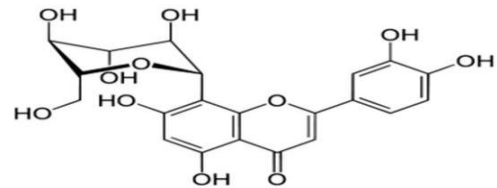
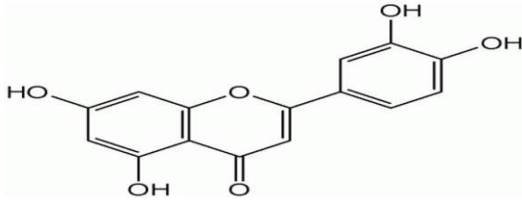
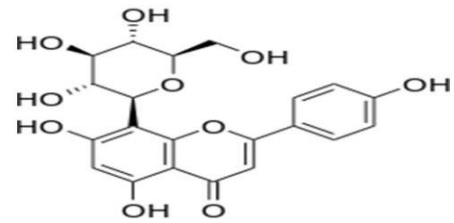
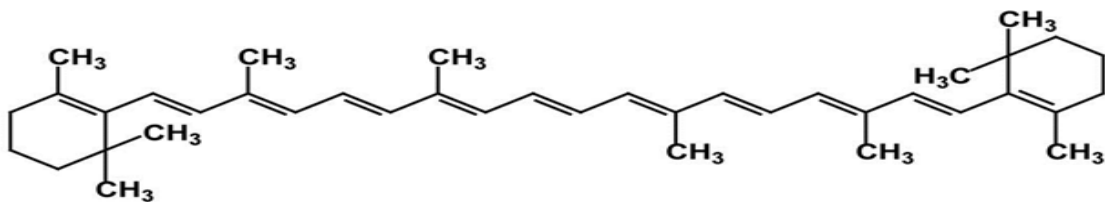
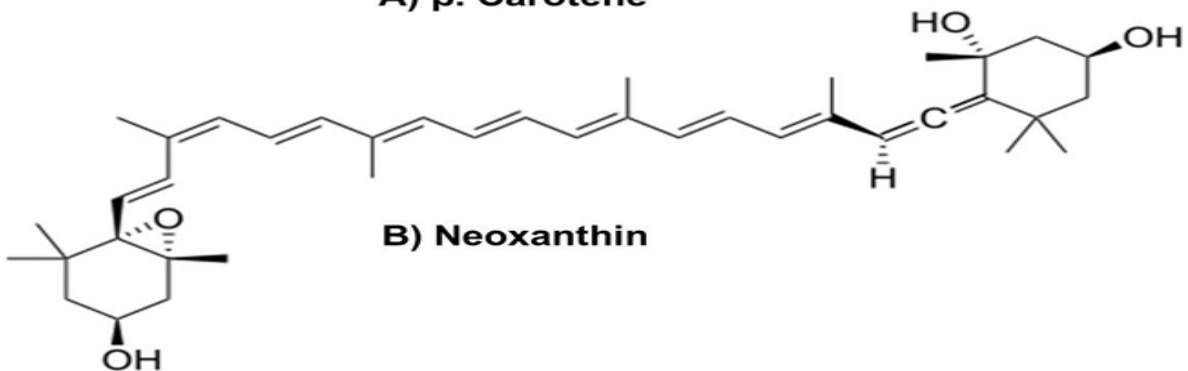
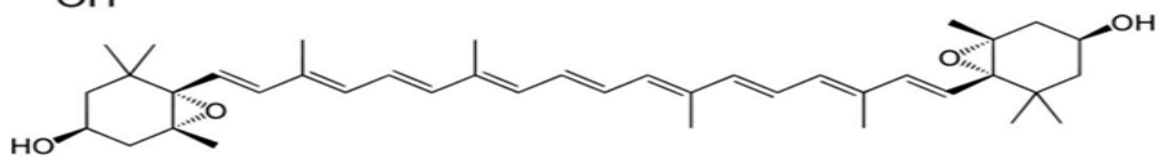
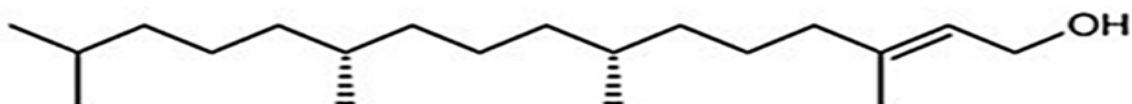
Sanskrit name	:	<i>Durva, Shataparva, Golomi,</i>
Hindi	:	<i>Dub, Dubarha</i>
English	:	Doob Grass
Arabian	:	<i>Usva</i>
Persian	:	<i>Marg.</i>
Telugu	:	<i>Harvali</i>
Tamil	:	<i>Arugampulla</i>

Organoleptic property

Colour	:	greenish
Odour	:	characteristic
Taste	:	Bitter

Ethanomedical review^[10]: *Cynodon dactylon* (Bermuda grass) is a perennial grass distributed all over the world, and particularly it is native to the warm temperate and tropical regions. The plant has been rich in metabolites notably proteins, carbohydrates, minerals, flavonoids, carotenoids, alkaloids, glycosides and triterpenoides. bark is useful as bitter and acid; it is cooling to the bowels, anthelmintic, antidyenteric. anti-inflammatory and uterine tonic. It cures itching, sore throat, bronchitis, indigestion, heaviness, ulcers, boils, psoriasis, inflammations, leprosy, anaemia, inflammations, leprosy, anaemia, leucoderma, elephantiasis-filariasis, urinary discharges, dyspepsia, thirst, burning sensation, diseases of the blood and effect of fatigue, enlargement of abdomen, colic, piles. The seeds are useful in urinary discharges, calculus and diuretic. The flowers are pounded and mixed with water are used for the treatment of haemorrhagic dysentery. The powder of dried flowers given in diabetes. The bark, flowers and fruits are prescribed in combination with other drugs for the treatment of snake-bite and scorpion-sting.

Phytochemical review^[11,12]: *Cynodon dactylon* (Bermuda grass) is a perennial grass distributed all over the world. The plant has been rich in metabolites notably proteins, carbohydrates, minerals, flavonoids, carotenoids, alkaloids, glycosides and triterpenoides. Whole plant of *C. dactylon* keeps several biological activities such as antibacterial, antimicrobial, antiviral and wound healing properties. Furthermore, it has been extensively used in traditional medicines to treat varied ailments such as cough, headache, diarrhea, cramps, epilepsy, dropsy, dysentery, hemorrhage, hypertension, hysteria, measles, snakebite, sores, stones urogenital disorders.^[18,19]

**Apigenin****Orientin****Luteolin****Vitexin****Flavanoid constituents of *Cynodon dactylon*****A) β . Carotene****B) Neoxanthin****C) Violaxanthin****D) phytol****Carotinoid constituents**

Wrightia tinctoria

Wrightia tinctoria is a small and deciduous tree which grows up to 10m. *W. tinctoria* belongs to family Apocynaceae. It is known by common name as “indrajav”. It has got very important place traditional healing and also is widely recognized medicinal plant. In Siddha system of medicine, it is known to be used for psoriasis and other skin diseases.^[5,6]

Macroscopic characters^[8]**Leaves**

Leaves are variable, 6-15 cm*3-6cm lanceolate or oblong-lanceolate, acuminate, or the young leaves puberous beneath, base acuted; main nerves 6-12 pairs and petioles 3-4 mm.

Flower: white, fragrant, in lax terminal cymes, minute, ovate. Calyx is glabrous, glandular inside, or teeth 2.2-5.0 mm long, oblong. Corolla tube is short.

Fruit: Cylindrical, dark green in colour, mericarpous, slightly tapering is present at both end.

Seed: seeds are linear, Brown in color and pointed at the apex.

Classification

Kingdom	:	Plantae
Subkingdom	:	Tracheobionta
Super division	:	Spermatophyta
Division	:	Angiospermae
Class	:	Rosidae
Order	:	Gentianales
Family	:	Apocynaceae

Sub family	:	Mimisidae
Genus	:	Wrightia
Species	:	Wrightia tinctoria

Vernacular names

English	:	Pala indigo plant
Hindi	:	Duhi
Sanskrit	:	Shwetha kutaj
Malayalam	:	Dhandappala
Kannada	:	Ajmara
Tamil	:	veppalai

Organoleptic property

Color:	Pale green.
Odour:	No characteristic odour.
Texture:	Smooth.

Ethanomedical review^[9]

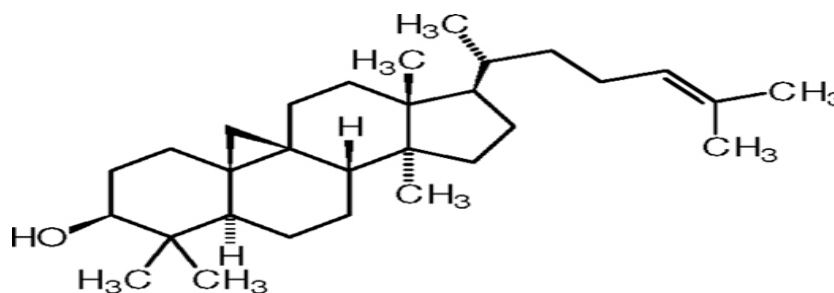
Different parts of *Wrightia tinctoria* (Apocynaceae) used in Indian systems of medicine such as Ayurveda, Siddha and Unani system for jaundice, malaria, psoriasis and many other ailments. The plant is rich in alkaloids, saponins, indoxy yielding O-glycoside(s), phenolics, flavonoid.^[21,23]

Anthranillate, rutin, β -isatin, tryptophan, indigotin, indirubin, vast number of literature found in database revealed that the extracts of tinctoria showed significant pharmacological actions. mainly used for the treatment of psoriasis and other skin diseases. *Wrightia tinctoria* has been assigned to have good analgesic, anti-inflammatory, anthelmintic, antiulcer, antidiabetic, anticancer, antipyretic activities and also effective in the treatment of psoriasis. Bark and seeds are used in bilious infections. Flowers are used as vegetable. The wood is used for all classes of turnery. The leaves are a fodder for the cattle, goat and sheep.^[23]

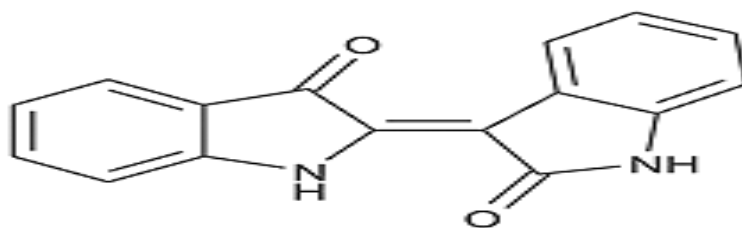
Phytochemical Review^[13,14]

The species *Wrightia tinctoria* (family Apocynaceae) is a wild medicinal tree contains many active phytoconstituents which are of aphrodisiac, anthelmintic, anti-inflammatory,

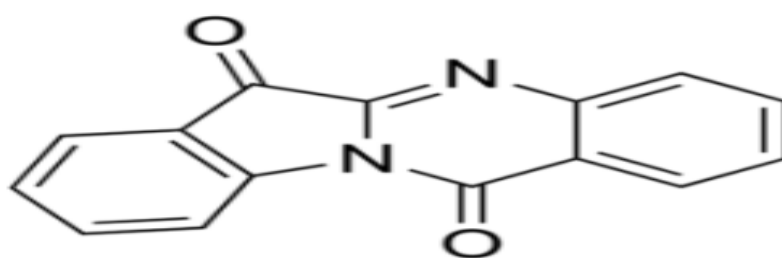
analgesic as well as antipyretic importance and used to cure many human diseases. The bioactive compounds of *W. tinctoria* leaf have been evaluated using GC-MS revealed the presence of 3-O-methyl-d-glucose (51.44%), Squalene (16.52%), n-hexadecanoic acid (6.17%), Phytol (4.47%) and 9,12-Octadecadienoyl chloride (Z,Z)- (4.31%) in the ethanolic extract. A group of terpenes containing lupeol, β -amyrin and β -sitosterol from stem bark indurubin from leave and wrightial, cycloartenone, cycloeucaenol, β - amyrin and β -sitosterol were isolated from methanolic extract of the immature seed pods of *Wrightia tinctoria*^[15,16,17]



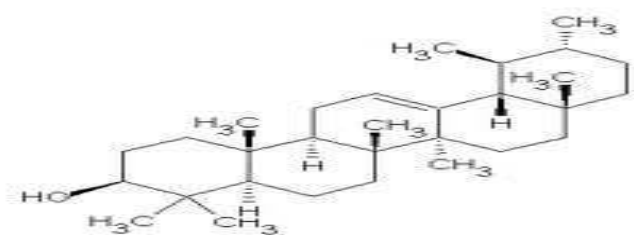
Cycloartenol

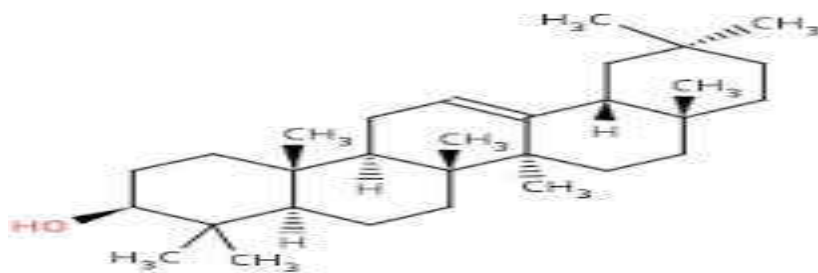
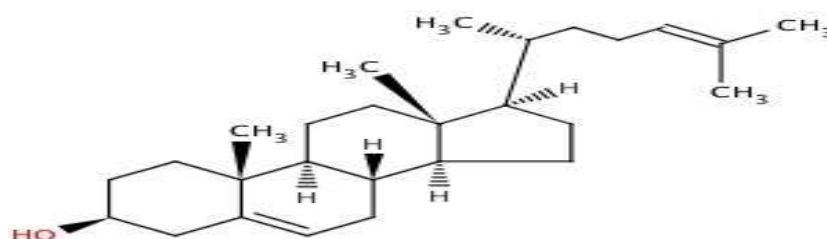
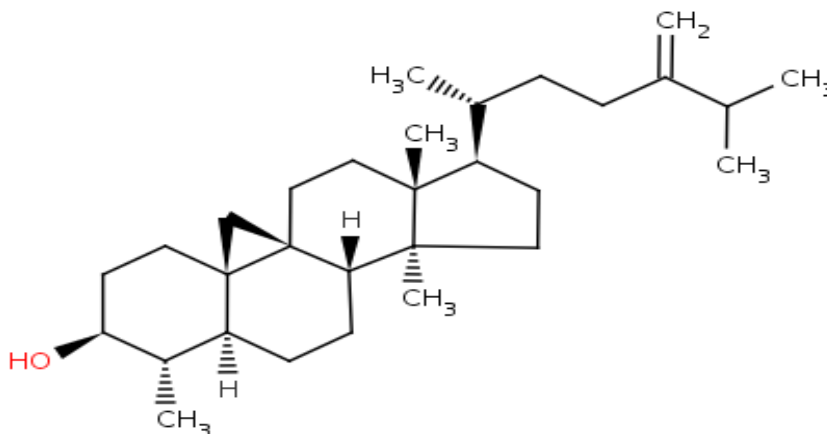


Idirubin



Wrightial

 α -amyrin

 **β -amyrin****Demosterol****Cycloeucaleanol**

CONCLUSION

Psoriasis is a common, chronic, noncommunicable skin disease, with no clear cause or cure. The negative impact of this condition on people's lives can be immense. Psoriasis affects people of all ages, and in all countries. The reported prevalence of psoriasis in countries ranges between 0.09% and 11.43%, making psoriasis a serious global problem with at least 100 million individuals affected worldwide. In this review article, an in depth study on

ethnobotanical uses, phytochemical constituents and pharmacological activities of 2 major anti psoriatic plants namely, *Cynodon dactylon*, *wrightia tinctoria* have been done. Nowadays, the demand for natural products and plant based medicines is growing throughout the world. Herbal preparation can be more effective than conventional medicines and their non-toxic nature means that they can be administrated over long period.

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