

AN OVERVIEW ON *DESMOSTACHYA BIPPINATA*

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ABSTRACT

Desmostachya bippinata (Linn) stapf; a plant belonging to family *Poaceae* commonly known as Kush/Dabh. A rhizomatous perennial of dry areas with an extensive system of rhizomes. Leaves are coarse, narrow, tough, up to 50 cm long. The whole plant is useful to cure different diseases. *Desmostachya bippinata* is reported to have several medicinal properties for jaundice, menorrhagia, haemorrhoids, asthma, galactagogue, antihelicobacter, antidiarrhoeal and diuretic property. Plant is distributed mainly in Northern India and several constituents have isolated including tannins, flavanoids, terpenoids, carbohydrates and essential oils. Plant is also used religiously in Hindu religion. The alcoholic and aqueous both extract are useful of this plant for several diseases.

KEYWORDS: *Desmostachya bippinata*, Perennial, C4 grass, Essential oils.

INTRODUCTION:

About 80,000 species of plants are utilized for treating various diseases in different systems of Indian medicine. Since 1990s there has been a growing shift in interest towards plant as significant sources for new pharmaceuticals, companies show interest in plant derived drugs mainly due to the current widespread belief that 'Green medicine' is safe and more dependable than the costly synthetic drugs, which have adverse side effects. Since last decade, the rise in the failure of chemotherapeutics and antibiotic resistance exhibited by pathogenic microbial infectious agents has led to the screening of several medicinal plants for their potential anti-microbial activity. With the advancement of modern medicinal technology, it is now easier to identify specific botanical constituents and assess their potential antimicrobial activity. Many herbs contain dozens of active constituents that combine to give the plants its therapeutic value.^[1,2]

SOME VERNACULAR NAMES:

Briza bipinnata, *Coelachyrium longiglume* Napper, *Eragrostis bipinnata* (L.) Schum., *Leptochoa bipinnata* (L.) Hochst, *Stapfiola bipinnata* (L.) Kuntze^[1].

DISTRIBUTION:

Native in Asia (Afghanistan, Burma, China, India, Iran, Iraq, Israel, Pakistan, Saudi Arabia, Thailand, Vietnam, and Yemen), and Africa (Algeria, Chad, Egypt, Eritrea, Ethiopia, Libya, Mauritania, Somalia, Sudan, and Tunisia).^[1]



Figure 1: *Desmostachya bippinata* (Linn) stapf

TAXONOMY:

Kingdom - Plantae
Unranked - Angiosperm
Unranked - Monocots
Unranked - Commelinids
Order - Poales
Family - Poaceae
Genus - *Desmostachya*
Species - *D. bippinata*

DESCRIPTION:

A rhizomatous perennial of dry areas with an extensive system of rhizomes 2–3 mm thick at 20–30 cm depth. Leaves are coarse, narrow, tough, up to 50 cm long, 3–19 mm wide, often rolled. Ligule a very short ring of hairs, 1–2 mm. Culms with glossy yellow leaf sheaths at the

base, up to 1 m high with a conspicuous inflorescence 30–60 cm long. Spikelets carried in two dense rows on short branches 2–3 cm long arranged in whorls of 2–4 racemes. Individual spikelets 3–10 mm long, laterally compressed, comprising up to 14 florets. Glumes one-nerved, 1–2 mm long, lemmas 2–3 mm long, often purplish. Seed ovoid, 1 mm long, narrow, grooved.^[1]

CHARACTERISTICS:

Desmostachya bipinnata is a drought and salt-tolerant C4 grass of desert or semi-desert conditions with a deep, strong rhizome, making it an excellent sand-binder. It is not normally regarded as a fodder but is used in some arid area such as Afghanistan where it is chopped and mixed with cereals. It is used medicinally in India and also woven into mats in Hindu funeral ceremonies. Although not generally occurring as a weed of annual crops, this is a common and widespread species growing along irrigation channels, in orchards, and associated with cultivation in many countries of Asia and the Middle East, including Afghanistan and China.^[1,2]

CHEMICAL CONSTITUENTS:

The sample of essential oil was obtained from the aerial parts of the plant by hydrodistillation. From the 16 compounds representing 99.97% of the oils: camphene (16.79%), isobornyl acetate (9.92%), tricyclene (4.30%), (+, -) trans-2,6-gamma-Irone (2.21%), Caryophyllene diepoxide (12.29%), β -eudesmol (11.16%) Eseroline (25.15%) and Calarene (3.48%) appear as the main components.^[5] Plant contain xanthenes also.^[4]

The plant contain flavonoids and carbohydrates also.^[5]

THERAPEUTIC USES:

1. Plant pacifies vitiated pitta,^[9]
2. Diarrhoea,^[9]
3. Dysentery,^[9]
4. Menorrhagia,^[9]
5. Antibacterial^[3]
6. Jaundice,^[6]
7. Skin disease,^[9]
8. Burning sensation,^[9]
9. Excessive perspiration,^[9]
10. Anti helicobacter pylori^[6]
11. Anti-ulcerogenic^[7]
12. Diuretic,^[9]
13. Calcium channel blocking activity.^[8]

CONCLUSION:

The plant is widely distributed in Northern India. Plant has many therapeutic effect and traditionally used by tribes of India. Thus, the plant draws an attention due to their therapeutic activity. Lots of studies of this plant is still left. Its beneficial effects can bring revolution in herbal medicines.

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