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REVIEW ON: ACACIA ARABICA (BABOOL) AND IT'S MORPHOLOGICAL DESCRIPTION

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1) ABSTRACT

The use of herbal medicine has increased dramatically during the past few decades. Traditional medical systems like Unani, Ayurveda, and Siddha have relied on herbal remedies as their primary means of diagnosing, treating, and curing a wide range of illnesses and physiological abnormalities. Especially in undeveloped and underdeveloped nations, a sizable portion of the global population still relies heavily on the conventional system of medicine Drugs to treat a variety of ailments are routinely developed using the useful and affordable phytochemicals found in medicinal plants. Because herbal medications are inexpensive, readily available, and of natural origin with larger safety margins and fewer or no adverse effects, they are becoming more and more widely used in medicine. Babool (Acacia Arabica) is a plant that has therapeutic benefits for a number of human bodily systems according to the Unani school of medicine. The plant's bark, root, gum, leaves, pod, and seeds are only a few of the components that have therapeutic uses. The current study aims to highlight the many ethnobotanical and Unani traditional applications of Acacia arabica, also known as Babool, as well as its phytochemical and pharmacological properties.

Acacia nilotica Lam (Mimosaceae), often called locally as "Babul" or "Kikar," is a medium-sized tree that may be found widely in tropical and subtropical regions. It may have antioxidant properties and a wide variety of therapeutic purposes. Alkaloids, volatile essential oils, phenols and phenolic glycosides, resins, oleosins, steroids, tannins, and terpenes are just a few of the categories that this plant contributes to. The phenolic compounds gallic acid,

protocatechuic acid, pyrocatechol, (+)-catechin, (-)epi-gallocatechin-7-gallate, and (-)epi-gallocatechin-5, 7-digallate are all found in abundance in the medicinal plant A. nilotica. This plant's various parts, including the gum, immature pods, seeds, fruits, flowers, and bark, have anti-cancer, anti-mutagenic, spasmogenic, vasoconstrictor, anti-pyretic, anti-asthmatic, and cytotoxic properties. They also have anti-platelet aggregation, anti-plasmodial, molluscicidal, anti-fungal, and inhibitory properties against Hepititis ool.

2) KEYWORDS: Acacia nilotica, phytomedicine, multipurpose plant, different parts, medicinal uses, pharmacological properties.

3) INTRODUCTION

A vital multifunctional plant is Acacia nilotica (L.) Del. syn. Acacia arabica (Lam.) Willd. (Mimosaceae) (Kaur et al., 2005). A. nilotica is a 5 to 20 m tall plant with a dense, spherical crown, stems and branches that are often dark to black in colour, slashing that is grey-pinkish, fissured bark, and an exudate of low-quality, reddish gum. The plant has axillary pairs of straight, light, thin, grey spines that are typically 3 to 12 pairs long and 5 to 7.5 cm long in young trees. Mature trees often lack thorns. The rachis has a gland at the base of the final pair of pinnules on the bipinnate leaves, which have 3 to 6 pairs of pinnules and 10 to 30 pairs of leaflets a piece. Bright golden-yellow flowers with globulous heads of 1.2 to 1.5 cm in diameter are arranged whorlwise or axillarily at the ends of the branches on peduncles that are 2 to 3 cm long. Strongly constricted, white-grey, hairy, and thick are the pods (baravker et al., 2008). Species of the pantropical and subtropical genus A. nilotica are widely distributed in Asia, Australia, Africa, and America. Natural occurrences of A. nilotica are essential in conventional rural and agro-pastoral systems.

More than 80% of people worldwide rely on conventional medicine for their main healthcare requirements, according to the World Health Organization (WHO). In Asia, the use of herbal remedies reflects a long history of environmental interactions between people and the environment. Some chemical components in plants have therapeutic. The most important genus in the Leguminosae family is Acacia, which Linnaeus originally described in 1773. There are said to be 1380 different species of acacia in the globe. Two varieties of acacia trees, also known as babool (or babul), Egyptian mimosa, Egyptian thorn, kikar, Indian gum, and red thorn, have been used for treating a variety of illnesses for a very long time. It was given the name akakia by the Greek physician Dioscorides, who is regarded as the father of botany. The present term acacia is derived from this word.

4) Morphological description

Perennial tree or shrub, 2.5 to 10 metres tall, with a variety of features. Branchlets with lenticels are purple-brown, briefly or densely hairy, and create a thick, spherical or flat crown with stems that are dark to black in colour The bark is thin, fissured, and has a rich reddish-brown hue. Older trees frequently lack thorns. In juvenile trees, spines (thorns) are straight, thin, light-grey, in axillary pairs, typically in 5-7.5 cm long, 3-12 pairs. The leaves are bipinnate and 30–40 mm long, with 1-2 petiolar glands and extra glands between all or only the top pinnae. Pinnae are 2–11 pairs, with 7–25 leaflet pairs ranging in length from 1.5-7 mm long per pinnae. Peduncles cluster at the nodes of both leafy and leafless branchlets. 1.2-1.5 cm in diameter globulus heads with golden yellow flowers. Pods are 5–15 cm long on a pedicel, 0.5–1.2 cm wide, and gently bent or straight.

Constrictions between the seeds that resemble a string of pearls; while young, they are mushy; as they grow, they turn black and rigid. Dark blackish-brown seeds with a compressed, subcircular, smooth areole that is 6-7 mm long and 4.5–5 mm wide. A kilogramme of seeds might contain anywhere between 5,000 and 16,000 seeds. Subsp. militia has twigs and pods that are glabrous or almost glabrous, whereas Subsp. kraussiana has constricted, white-grey hairy pods. The pods of subsp. adstringens are little or not at all constricted. Habit: A medium-sized, crooked or straight tree that is nearly evergreen. Its bark is dark-blackish brown, longitudinally fissured, and uneven.

i) Babool tree

Maharashtra, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Jharkhand, Rajasthan, and other arid areas of the nation are all home to large populations of babool. The prickly babool tree is also found in Bangladesh, Sri Lanka, and Burma, three neighbouring Asian nations. It originates from North Africa and is frequently observed in Egypt. In the western states of the

peninsula, it is more prevalent. The common names for babool include Babura, Kikar, and Babula in Hindi, Kaloabaval, and Babul in Gujarati, Babala, Babul, and Babhul in Oriya, Babla in Bengali, and Babbala in Assamese, as well as the English names Babula tree and Indian gum Arabic tree. Kannada names for prisons include Kari Jail, Kari Gobli, Sharmeeruka, and Pulai Jali; Punjabi names include Kikkar; and Kashmiri names include Sak. Telugu has Thumma, Nallatumma, Tamil has Karuvel, Karuvelan, Malayalam has Velutha Karuvelan, and Sanskrit has Bavari, Kinkirata.

ii) Babool leaves

You can utilise sensitive leaves, little bark, and babool leaf juice. Leucorrhoea may be treated using flower, leaves, bark, pod, and wood in powder form. Chewing babool and drinking a decoction made from the bark may help with coughing. To reduce eye swelling and redness, use the or juice of babool leaves.

iii) Babool gum

Because babool gum powder has analgesic and anti-inflammatory qualities, taking it once a day with water helps to relieve joint discomfort. Due to its antibacterial properties, using a paste made of Babool leaf powder and coconut oil helps treat mouth issues including plaque development and gingivitis.

iv) Babool flowers

v) Babool fruit

Babool friut boosts the body's defence mechanisms.

Babool is sometimes referred to as the "Healing tree" since all of its parts—including the bark, root, gum, leaves, pods, and seeds—are utilised in many types of medicine. Ayurveda recommends chewing on tiny pieces of fresh babool bark because of its astringent properties, which help to strengthen gums and teeth while addressing oral health issues.

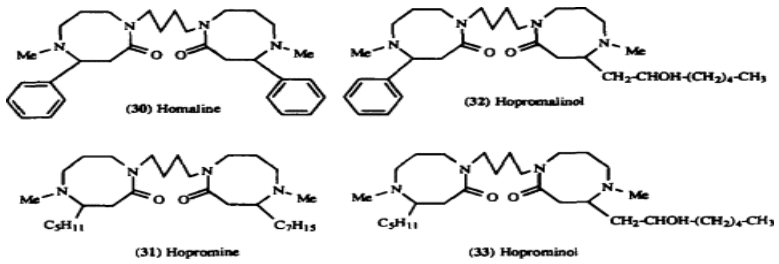
vi) Babool bark

Ayurveda recommends chewing on tiny pieces of fresh babool bark because of its astringent properties, which help to strengthen gums and teeth while addressing oral health issues. Bark strength It is fantastic for teeth. Additionally, it increases immunity power.

vii) Babool seed

Due to its Keshya characteristic, babool also aids in the control of diarrhoea by reducing intestinal motility. By encouraging the elimination of sputum from the air, it also relieves the symptoms of a cold, cough, and sore throat. passages and easy breathing.

5) Chemical constitution in babool



6) Ayurvedic uses of babool

Babool, also known as Kikar in Hindi, is a fiber-rich plant that improves heart health, eases constipation, and treats liver diseases among many other health issues. Since the beginning of time, Ayurveda, the traditional Indian medical system, has employed it for a variety of medicinal purposes, ingesting the gum resin, leaves, and fruits, as well as applying the fruits directly to the skin.

7) Nutritional values of babool

Babool is a fantastic source of essential vitamins, minerals, and nutrients. Iron, manganese, protein, zinc, and important amino acids including valine, histidine, isoleucine, threonine, lysine, and leucine are just a few of the nutrients found in babool. Babool has a lot of tannin and polyphenolic chemicals in its bark and pod. A variety of plant components, including galactose, aldobio uronic acid, arabinobioses, and the minerals calcium and magnesium, are found in the plant's gum. Flavonoids such kaempferol 3-glucoside, iso-quercetin, and leucocyanidin are abundant in babool tree flowers.

8) CONCLUSION

The wonderful ayurvedic herb babool has several health advantages. All components of the plant, including the bark, branches, leaves, pods, and fruit, have a variety of therapeutic characteristics. It helps heal wounds, cure skin issues, and much more. It also enhances dental health.

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