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Review Article

Mauritian Grass: A Review of Its Botanical, Ethnomedical, and Pharmacological Aspects

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ABSTRACT

Herbal medicines are among the first known forms of human healing. India's Ayurvedic treatments are well known around the world. India has a long history of employing a wide variety of medicinal plants. However, a major barrier that has impeded the development of holistic medicine in prosperous countries is the lack of documentation and strict quality control methods. All scientific efforts on traditional medicines must be documented. Current information on the morphology, phytochemistry, pharmacological activity, therapeutic applications, ecological biodiversity, and botany of Apluda mutica L (Apluda mutica) is to be made available through this review. With the use of technical literature found on websites like Springer Link, Bio Med Central, Pub Med, Scopus, Science Direct, Scielo, Medline, and Science Domain, this review was put together. Dry dipterocarp forests, found in Vietnam, Laos, Cambodia, Thailand, Burma, and Central Asia, are home to the plant's natural range in Southeast Asia.

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The plant Apluda mutica also known as Apluda grassThis plant is indeed underrated despite its traditional uses in various parts of the world for treating conditions such as mouth infections, dysentery, fever, act as diuretics, and managing diabetes. While historically it has been utilized for these purposes, its pharmacological activities have been less explored, with only its anti-oxidant, anti-inflammatory, and anti-diabetic properties being evaluated. However, it's important to note that the plant's pharmacogenetic (identification and study of natural drugs), morphological, ethnobotanical (study of the traditional knowledge and customs of a people concerning plants), and pharmacological aspects are significant. Understanding these aspects can aid researchers in comprehending the plant's utility, efficacy, and potency better, thereby potentially leading to further exploration of its medicinal properties and applications.

INTRODUCTION

Plants are considered essential to traditional medicine because of their phytoconstituents, which are chemicals that have magical properties. Medicines are available to address a wide range of common ailments in society. Ayurvedic, Siddha, Unani, and homoeopathic remedies employed a variety of plant components, including leaves, stems, roots, and barks, as medicinal ingredients. Plants have an important role in human life. All plants phyla provide significant medicinal products, both legal and illicit. Herbal medicine has been used for as long as human civilization has existed. India's enormous natural flora, which has benefited humanity, has its treasures. India is nearly the planet's herbarium[1,2]. While the physiologically active phytoconstituents of certain herbal medications are unknown, they are typically given due to their efficacy, little adverse effects reported in clinical studies, and very inexpensive cost[3]. *Apluda mutica* is a naturally occurring perennial grass that belongs to the poaceae family and is sometimes referred to as Mauritius grass. Many regions utilize it as a herb since it is a relatively little-known ethnomedicinal plant. Although the young shoots are easily consumed by cattle, it is considered as a good fodder grass[4-6]. *Apluda mutica* as a wild grass belongs to the category of C4 plants. Grasses, in general, are vital components of range vegetation, particularly in areas with extreme climates. They possess qualities that make them highly suitable for various purposes, especially as fodder. Grasses are ubiquitous in nature and are known for their palatability, rapid digestibility, and high nutritive value, often surpassing that of shrubs and trees. These characteristics make them an ideal choice for fodder, especially in regions where feed resources may be limited[7]. Because of their aforementioned qualities, they can be a great choice for fodder[8]. According to Khan et al., grasses provide ruminant species in tropical areas with a viable substitute source of feed, particularly during slumps when there is a shortage of both quantity and quality of fodder[9]. Wild grasses play a crucial role in sustaining grazing livestock across a diverse range of ecosystems, including pastures, rangelands, plains, and mountainous regions. The health and productivity of cattle are heavily influenced by the availability and nutritional composition of the grasses they consume. Grasses contribute significantly to the dietary needs of ruminants, providing approximately 53% of the total fodder consumed by these animals[10]. The generic name of *Apluda mutica* grass, derived from Latin, reflects certain characteristics of the plant. "Apluda" originates from "Apluda," which means chaff, indicating the chaff-like arrangement of spikelets. "Mutica" comes from Latin, meaning blunt, suggesting the absence of awns or lemmas, with glumes being truncated[11]. Dr. T. A. Cope from the Royal Botanical Gardens in Kew, England, confirmed the identification of this plant. Voucher specimens have been preserved in the herbarium of the University[12]. Taxonomically, *Apluda mutica* is a challenging genus with high polymorphism. It is distributed across India, extending to Southeast Asia and Australia, and is commonly found in plains[4]. Bor (1960)

distinguishes two varieties within the genus: *Apluda mutica* var. mutica and *Apluda mutica* var. aristata. The flowering and fruiting season of *Apluda mutica* spans from September to March. Its small, white, bell-shaped flowers feature yellow anthers, and the seeds are small, round, and black. Seedlings typically exhibit a single, long, narrow leaf [13]. Studies have shown that the populations of *Apluda mutica* vary in ploidy. While diploid populations are reported in the hills of northwest India, tetraploid populations are found in the plains[14, 15].

Fig. 01

The taxonomical classification of *Apluda mutica* provides a systematic breakdown of its botanical hierarchy:

Kingdom: Plantae -Plants
Subkingdom: Tracheobionta -Vascular plants
Super division: Spermatophyta - Seed plants
Division: Magnoliophyta - Flowering plants
Class: Liliopsida- Monocotyledons
Subclass: Commelinidae
Order: Cyperales
Family: Poaceae Barnhart - Grass family
Genus: Apluda L. - Mauritian grass
Species: *Apluda mutica* L. - Mauritian grass
Subtribe: Ischaeminae[16] .

International common names of this grass are

English: Mauritian Grass, Mute Apluda, Mute Fescue, Blunt Hairgras,
Tamil: Moongil pul,
Marathi: Ghagara, Holera, Kharwel, Phulia,
Tambat, Hindi: chula, Tachhila, Pongta, Poleda,
Bhongta, Bhongla,
Kannada: Akku hullu, Kaadu, hanchi hullu.
West Bengal: Tati (Lodha), Dhudhia - gauri (Munda), Chofki (Santali),
Maharastra: Motitura,
Nepali: Daakle Khar, Daakle Jhaa,
Pakistan: Tachula, Ponai[5, 17, 19].

Apluda mutica has three homotypic synonyms[20]: Apluda varia Hack, Apluda varia subsp. mutica (L.) Hack, Calamina mutica (L.).

- *Apluda mutica* has several heterotypic synonyms, indicating variations or alternative names used for the species in different taxonomic treatments. Here is a list of some of these synonyms[20]:
- Apluda aristata L. in Cent. Pl. II: 7 (1756)
- Apluda villosa Schreb. in Beschr. Gräs. 2: 92 (1810)
- Apluda glauca (Retz.) Schreb. in Beschr. Gräs. 2: 99 (1810)
- Apluda geniculata Roxb. in Fl. Ind. 1: 327 (1820)
- Apluda gigantea (P.Beauv.) Spreng. in Syst. Veg., ed. 16. 1: 290 (1824)
- Apluda humilis (J.Presl) Kunth in Enum. Pl. 1: 517 (1833)
- Apluda kobila Buch.-Ham. ex Nees in Gramineae: 62 (1841),
- pro syn. Apluda microstachya Nees in Gramineae: 61 (1841)
- Apluda communis Arn. & Nees in C.G.D.Nees von Esenbeck, Gramineae: 62 (1841)

- Apluda rostrata Arn. & Nees in C.G.D.Nees von Esenbeck, Gramineae: 62 (1841)
- Apluda mucronata Steud. in Syn. Pl. Glumac. 1: 404 (1854)
- Apluda ciliata Andersson in Öfvers. Kongl. Vetensk.-Akad. Förh. 12: 177 (1855)
- Apluda scabra Andersson in Öfvers. Kongl. Vetensk.-Akad. Förh. 12: 179 (1855)
- Apluda cumingii Buse in W.H.de Vriese, Pl. Ind. Bat. Orient.: 105 (1857)
- Apluda pedicellata Buse in W.H.de Vriese, Pl. Ind. Bat. Orient.: 105 (1857)
- Apluda inermis Regel in Trudy Imp. S.-Peterburgsk. Bot. Sada 7: 658 (1880)
- Apluda varia var. intermedia Hack. in A.L.P.P.de Candolle & A.C.P.de Candolle, Monogr. Phan. 6: 197 (1889)
- Apluda varia var. major Hack. in A.L.P.P.de Candolle & A.C.P.de Candolle, Monogr. Phan. 6: 198 (1889)
- Apluda varia subsp. aristata (L.) Hack. in A.L.P.P.de Candolle & A.C.P.de Candolle, Monogr. Phan. 6: 199 (1889)
- Apluda varia var. aristata (L.) Rendle in J. Linn. Soc., Bot. 36: 379 (1904)
- Apluda mutica var. aristata (L.) Hack. ex K.Bakker in Mém. Soc. Roy. Sci. Nancy 2: 54 (1928)
- Apluda mutica subsp. aristata (L.) Babu in Herb. Fl. Dehra Dun: 582 (1977)
- Apluda aristata var. jainii S.K.Jain in Indian J. Forest. 9: 345 (1986 publ. 1987)
- Apluda mutica var. major (Hack.) S.K.Jain in Indian J. Forest. 9: 347 (1986 publ. 1987)
- Apluda aristata var. ciliata (Andersson) (1986 publ. 1987)
- Apluda blatteri Sur in Bull. Bot. Surv. India 28: 193 (1986 publ. 1988)

These synonyms reflect historical taxonomic treatments and variations in classification over time. They are important for referencing older literature and understanding the broader context of botanical nomenclature.

Mineral contents of grass

Apluda mutica grass contained minerals which are expressed as mg/g dry material and µg/g for copper. Four macrominerals (calcium, magnesium, potassium and sodium) and four microminerals (iron, manganese, copper, zinc) were analyzed. In which sodium (Na) 0.045 ± 0.002, potassium (K)., calcium (Ca) 1.233 ± 0.012., magnesium (Mg)0.049 ± 0.017., iron (Fe) 0.061 ± 0.011., copper(Cu) 0.907 ± 0.051., zinc (Zn) 0.034 ± 0.003 Manganese (Mn) not detected (ND)[21]. The importance of various minerals like sodium (Na), potassium (K), calcium (Ca), and iron (Fe) in the human body, The electrical equilibrium of the human body and tissue excitability is maintained by sodium (.045 ± 0.002) and potassium (1.233 ± 0.012). Sodium is essential for the movement of metabolites, whereas potassium is necessary since it is a diuretic. The ratio of K/Na is *Apluda mutica* (25.979) in diet has a crucial role in preventing hypertension and arteriosclerosis, as K lowers the blood pressure whereas Sodium raises it[22]. The regular functioning of heart muscles, blood coagulation, and cell permeability modulation all heavily depend on calcium (2.912 ± 0.010) [23]. In addition to serving as a catalyst for several enzymes, including cytochrome oxidase, iron (0.061 ± 0.011) is necessary for oxygen to bind to haemoglobin[24]. The concentrations of iron in *Apluda mutica* at the early bloom stage are 214 ppm in leaves and 186 ppm in stems. At the mature stage, the concentrations change to 298 ppm in leaves and 217 ppm in stems. This indicates an increase in iron concentration as the plant matures[25]. Magnesium (0.049 ± 0.017) is helpful in minimising immunologic dysfunction, haemorrhage, congenital defects, cardiomyopathy,

muscular degeneration, and growth retardation. *Apluda mutica* has been reported to contain the highest magnesium content, reaching 8475 ppm during the summer season[26, 27]. The primary Cu-containing metalloenzymes are lysyl oxidase and tyrosine oxidase. Copper (0.907 ± 0.051) plays a significant role in cytochrome c oxidase. 1.35 mg of copper should be consumed daily, according to FAO/WHO recommendations (2002). The element zinc (0.034 ± 0.003) plays a part in maintaining the stability of macromolecule production and structure. DNA and RNA polymerases are both zinc-dependent enzymes, and the function of metal ions in DNA and RNA production has been extensively studied[28]. These minerals, including magnesium, copper, and zinc, are essential for various physiological functions in the human body and contribute to overall health and well-being. The analysis of water-soluble vitamins in *Apluda mutica* indicates the presence of Riboflavin (B2) at a concentration of 1.535 ± 0.005 mg/100g and Vitamin B6 at 0.923 ± 0.011 mg/100g. Folic acid (B9) is also present at a concentration of 0.033 ± 0.003 mg/100g. Folic acid is particularly important for DNA synthesis and repair. However, other vitamins like Vitamin C, Thiamine (B1), Niacin (B3), and Pantothenic acid (B5) were found to be absent in the plant[29].

In terms of proximate analysis, *Apluda mutica* has moderate moisture content at 58.556 ± 0.309%, ash content at 7.013 ± 0.107%, crude fiber content at 24.498 ± 0.317%, crude fat content at 1.185 ± 0.058%, crude protein content at 3.382 ± 0.461%, and carbohydrate content at 12.066 ± 0.358%. The nutritive value is estimated to be 72.460 ± 0.577 kcal/100g. These findings provide insights into the nutritional composition of *Apluda mutica* highlighting its potential as a source of certain vitamins and other essential nutrients[29]. It's worth noting that the moisture content of *Apluda mutica* in a different study by Sultan et al. (2007) was reported to be 7-8% and 8-9% respectively[30]. The study conducted by U. R. Kokate et al. in 2020 analyzed the crude fiber content of *Apluda mutica* at different stages of growth, including the early blooming stage and mature stage. Here's a summary of their findings:

1. **Early Blooming Stage:**

- Grass Leaf: Crude fiber content was found to be 28.86%.
- Grass Stem (Culm): Crude fiber content was higher at 35.36%.

2. **Mature Stage:**

- Grass Leaf: Crude fiber content increased to 33.84%.
- Grass Stem (Culm): Crude fiber content decreased to 25.84%.

These results indicate variation in crude fiber content between different stages of growth, with generally higher levels observed in the early blooming stage compared to the mature stage[31]. *Apluda mutica* is traditionally used as a fodder grass for fever, diarrhoea, liver problems, mouth infections, diuretics, and to lower blood sugar levels.

Research Methodology

It sounds like a comprehensive review was conducted to gather information on various aspects of *Apluda mutica* including its botany, medicinal uses, phytochemistry, and biological activities. The use of multiple sources such as Google Scholar, Web of Science, SciFinder, Scopus, Science Direct, PubMed, Scielo, Springerlink, Google Patents, Espacenet, BioMed Central (BMC), Medline, as well as books, book chapters, theses, websites, and conference proceedings indicates a thorough approach to gathering relevant data. Keywords such as dissimilar scientific names and synonyms, common English names, and terms related to biological activities,

medicinal uses, ethnobotany, ethnopharmacology, medicinal, pharmacology, phytochemistry, and therapeutic value were employed to ensure the inclusion of a wide range of information. By utilizing these diverse sources and keywords, the review likely provides a comprehensive overview of *Apluda mutica* shedding light on its botanical characteristics, traditional and contemporary medicinal uses, chemical composition, and potential pharmacological activities. This approach ensures that the compiled information is robust and covers various aspects of this plant species.

Occurrence and Distribution

Southeast Asia: Apluda mutica is part of the dry dipterocarp forest, a significant and widespread savanna type. It occurs in countries such as Vietnam, Laos, Cambodia, Thailand, Burma, Central Asia, China (including Taiwan and Tibet), Japan (including Ryukyu Islands), Indian Subcontinent, New Guinea, and various islands in the Pacific Ocean like Vanuatu, Solomon Islands, New Caledonia, Caroline Islands, Madagascar, Mauritius, Réunion, Socotra, and Oman[32].

India: *Apluda mutica* is mainly found in Chandigarh and the hills of Kalka and Kasauli. Additionally, it is commonly seen in various locations across India, including Tambaram and Chennai in Tamil Nadu, Moradabad, Amroha, Pilibhit, and Bijnore in Uttar Pradesh, Kolkata, Howrah, and Pithoragarh. It's also observed in Jodhpur and Rajkot in Rajasthan, grasslands of Jannaram division in Telangana, Sabarmati River in Gujarat, Kawal Tiger Reserve in Telangana, Sunderbans in West Bengal, and Dehradun in Uttarakhand[6,12,33-37].

Pakistan: *Apluda mutica* can be found in regions such as Kurram, Punjab, Sindh, Khyber Pakhtunkhwa, Kashmir, and the Margalla Hills National Park in Islamabad[18,38-40].

China: *Apluda mutica* is distributed in Southern China, particularly along the edges of woodlands and streams. It's also found in grasslands and commercial/residential areas like Tai Po and Wu Kai Sha. In Shek O, it is one of the dominant grass species[41-43].

This widespread distribution across different regions highlights the adaptability and ecological significance of *Apluda mutica* in various habitats.

Morphology

Apluda mutica commonly known as Mauritian Grass, exhibits distinctive morphological characteristics[44].

Leaf Morphology: Leaf blade: Linear to lanceolate in shape, typically 5-25 cm long and 2-10 mm wide, with a flat structure that is cutoff at the tip.

Inflorescence: Inflorescence arrangement: Terminal and axillary, with the inflorescences arranged within a synflorescence.

Spatheole: Boat-shaped, ovate, membranous, 3.5-10 cm long.

Rames: Single, 0.6-0.8 cm long, bearing a triad of spikelets.

False panicle: Linear, interrupted, 3.4 cm long.
Culm Morphology:

Stems: Can grow up to about 3 m long, with a clambering, decumbent, or prostrate growth habit. They root from the lower nodes.
Mid-culm nodes: Glabrous.

Spikelets:
Spikelets can be either stalkless or stalked.

Stalkless spikelets: 2-6 mm long, with a lower glume narrowly elliptic-lanceolate.

Stalked Spikelets: Broadly lanceolate, larger ones measuring 2-5 mm long, with narrowly oblong stalks that are 2.4 cm long.

Glumes: Dissimilar, firmer than the fertile lemma. Lower glume lanceolate or ovate, keeled, 11–13-nerved, with a dentate, 2-fid apex. Upper glume lanceolate, gibbous, 5–9-nerved, with an acute apex.

Florets: Basal sterile floret present, with a hyaline palea. Fertile lemma linear or oblong, hyaline, 3-nerved, with an entire or lobed apex, sometimes bearing an awn. *Apluda mutica* is typically found in mesophytic habitats, often growing into small bushy undergrowth[6,45].

Phytoconstituents

Apluda mutica contains a variety of phenolic acids and flavonoids, each with its own potential health benefits. Here's a summary of the phenolic acids and flavonoids identified in *Apluda mutica l* along with their concentrations[21].

1. Caffeic acid: Maximum amount detected - 0.63 ± 0.001 mg/100g DPM. It Known for its antioxidant properties and its role in controlling lipid levels in blood. It also exhibits anti-mutagenic properties.

2. p-Coumaric acid: Maximum amount detected - 1.29 ± 0.002 mg/100g DPM.

3. Ferulic acid: Maximum amount detected - 1.38 ± 0.001 mg/100g DPM.

4. Sinapic acid: Maximum amount detected - 1.81 ± 0.001 mg/100g DPM.

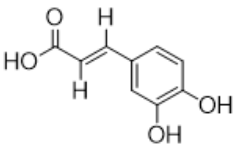
5. Syringic acid: Maximum amount detected - 2.869 ± 0.002 mg/100g DPM.
It Known for its anti-cancer, anti-proliferative, and hepato-protective actions.

6. p-Hydroxy benzoic acid: Amount detected - 0.077 ± 0.001 mg/100g DPM.

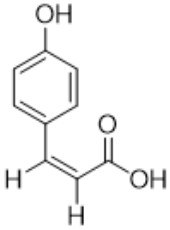
7. Chlorogenic Acid: Amount detected - 0.630 ± 0.001 mg/100g DPM.

8. Vanillic Acid: Amount detected - 0.089 ± 0.001 mg/100g DPM.

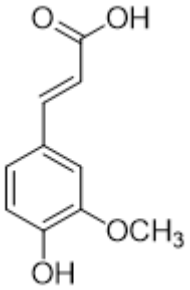
Phenolic acids



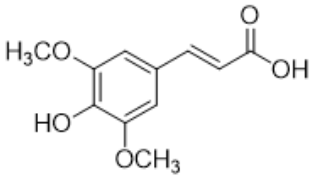
Caffeic acid



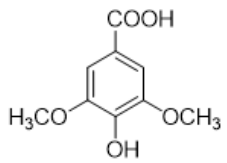
p-Coumaric acid



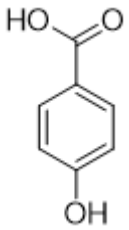
Ferulic acid



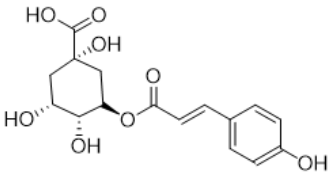
Sinapic acid



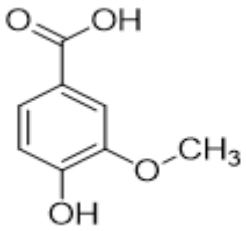
Syringic acid



p-Hydroxy benzoic acid



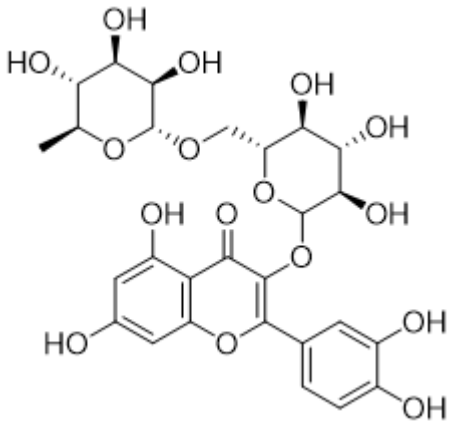
Chlorogenic acid



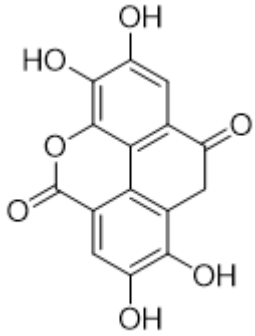
Vanillic acid

Flavonoids

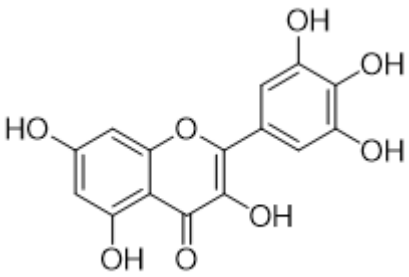
1. Rutin: Amount detected - 0.677 ± 0.001 mg/100g DPM.
2. Ellagic acid: Amount detected - 0.801 ± 0.001 mg/100g DPM.
3. Myricetin: Amount detected - 2.366 ± 0.001 mg/100g DPM.
4. Quercetin: Amount detected - 0.211 ± 0.002 mg/100g DPM.



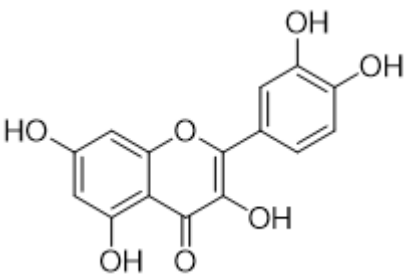
Rutin



Ellagic acid



Myricetin



Quercetin

These phenolic acids and flavonoids contribute to the medicinal properties of *Apluda mutica* including antioxidant, anti-cancer, anti-inflammatory, and hepatoprotective activities. Incorporating this plant into the diet may provide various health benefits due to its rich phenolic acid and flavonoid content[21].

Cultivation

Native to the Mediterranean area, Apluda mutica L is a perennial grass. It can be shared by divisions or seeds. It favours full light and soil that drains properly. It is largely pest- and free of illness, as well as can withstand drought[13]. 8.0 to 9.5 is the alkaline pH range where Apluda mutica L germinated the best. The production or activity of an enzyme required for germination appears to be inhibited by acidic media. Accordingly, the way acids or bases affect germination depends on how well or poorly they affect the relevant enzymatic activities[46]. Native to the Mediterranean area, Apluda mutica is a perennial grass. It can be shared by divisions or seeds. It favours full light and soil that drains properly. It is largely pest- and disease-free, and it also can withstand drought[13]. *Apluda mutica*: a day's high an anthesis frequency was followed by a day's weak anthesis rate. The strength of Apluda mutica anthesis fluctuated greatly over the course of many days. One day of massive blossoming was followed next by a weak one. This does not appear to be caused by the typical weather at the time. It is assumed that the anthers need to develop for more than 24 hours. But a more thorough investigation could reveal the fundamental reasons[47].

Medicinal Uses

Treatment of mouth sores in cattle: The whole plant or its paste is applied to the mouth sores of cattle. Additionally, the juice extracted from the plant is used for this purpose and also used in liver complaints[49,50].

Management of fungal infections: The plant is employed to combat fungal infections. Among the Santals tribe, a paste made from young plants is applied to the mouth to treat fungal infections also Paste made from A. mutica is used to cure fungal diseases in livestock[17,54]. Similarly, a paste of the whole plant is used as a balm on paralytic parts of the body to restore sensation, as practiced by the Lodhas tribe[17]. The whole plant, Apluda mutica linn is used as a poultice[48].

Treatment of dysentery: The plant is utilized to address dysentery. Its decoction is administered orally to alleviate symptoms of this gastrointestinal ailment[49-52].

Snake bite remedy: In cases of snake bites, the plant is prepared into a paste and applied to the bite wound. Additionally, the juice extracted from the plant is administered through the nostrils, ears, and naval cavity[52].

Other medicinal uses: The plant exhibits diuretic properties and is utilized in the treatment of gonorrhea. The paste made from its leaves is applied topically to stop bleeding. Moreover, locals consume the leaves on an empty stomach to manage blood sugar levels[53]. These traditional uses demonstrate the multifaceted medicinal properties of *Apluda mutica*, making it a valuable resource in indigenous healthcare practices.

Reported pharmacological activities

Anti-diabetic activity: The findings suggest that *Apluda mutica* exhibits potential anti-diabetic properties, particularly through its inhibition of α-amylase and α-glucosidase enzymes, which are involved in the digestion and absorption of carbohydrates. These enzymes play a crucial role in controlling postprandial blood glucose levels[53]. *Apluda mutica* demonstrates α-amylase inhibitory activity, with an IC50 value of 63.01 ± 0.004 µg/cc. This suggests that it can potentially reduce the breakdown of complex carbohydrates into simpler sugars, thereby slowing down the rate of glucose absorption in the body. *Apluda mutica* also exhibits α-glucosidase inhibitory activity, with an IC50 value of 168.84 ± 0.014 µg/cc. This further indicates its ability to impede the conversion of disaccharides and complex sugars into absorbable

monosaccharides, consequently reducing postprandial blood glucose levels.

Anti-inflammatory activity: The plant demonstrates anti-inflammatory properties, indicating its potential in alleviating inflammation-related conditions. This property could be beneficial in managing various inflammatory diseases.

Antioxidant activity: *Apluda mutica* exhibits antioxidant activity, which can help in scavenging free radicals and reducing oxidative stress in the body. This antioxidative property is valuable in combating various diseases associated with oxidative damage. Overall, the anti-diabetic, anti-inflammatory, and antioxidant activities of *Apluda mutica* highlight its potential as a therapeutic agent in managing diabetes and related complications, as well as other inflammatory and oxidative stress-related disorders. Further research may be warranted to explore its mechanism of action and therapeutic efficacy in greater detail.

CONCLUSION

The review highlights the importance of *Apluda mutica* as a traditional medicinal plant and underscores its potential therapeutic applications, particularly in the management of diabetes, inflammation, and oxidative stress. The review likely provides a detailed description of the morphological characteristics of *Apluda mutica* aiding in its identification and classification. It discusses the chemical composition of the plant, including the identification of various phytochemicals present in different parts of the plant. This information is crucial for understanding its medicinal properties. The review explores the traditional medicinal uses of *Apluda mutica L.* in different cultures and regions. This provides valuable insights into its historical and cultural significance as a medicinal plant. It outlines the pharmacological activities demonstrated by the plant, such as its anti-diabetic, anti-inflammatory, and antioxidant properties. This suggests its potential for therapeutic use in various health conditions. The review emphasizes the need for future research to delve deeper into the pharmacological properties, phytochemistry, clinical efficacy, and safety profile of *Apluda mutica* conducting clinical trials is particularly important to validate its traditional uses and establish its effectiveness in humans. Overall, the review underscores the importance of *Apluda mutica* as a valuable medicinal plant with promising therapeutic potential. Further scientific investigation is warranted to unlock its full pharmacological benefits and facilitate its integration into modern healthcare practices.

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