

Medicinal Common Seed-Acorus Calamus

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Abstract

This article covers the structure, distribution, chemical composition, and use of the common sedum plant in folk medicine and traditional medicine. It highlights the relevance of using this plant in the field of medicine. *Acorus calamus* is a perennial plant belonging to the *Aceraceae* family and is found in many countries. It contains various substances, including vitamin C. The plant is highly regarded in Indian traditional medicine and is known for rejuvenating the brain and nervous system. The rhizomes of *Acorus calamus* are widely used in the treatment of many diseases such as epilepsy, mental disorders, fever, abdominal pain, chronic diarrhea, liver, and kidney diseases.

Keywords: acorus; aceraceae; essential oil; vitamin; rhizome; pharmacological properties; preparation; epigastric region; scientific medicine

Introduction

Acorus calamus L., commonly known as common calamus or Kocherlakota, belongs to the *Aceraceae* family. It is a perennial herbaceous plant characterized by its horizontal creeping rhizome, which can reach a length of 1.5 meters. The rhizome is thick, branched, and multi-rooted, with a brown or greenish-yellow color on the upper side. Leaf bundles emerge from the upper part of the rhizome. The plant is typically found in areas near rivers, lakes, ponds, swamps, and meadows. Its distribution includes Moldova, Ukraine, Belarus, the Baltic region, the southern part of European Russia, Kazakhstan (along the Irtysh River), Siberia, Yakutia, the Far East, and partially in the Caucasus and Central Asia (specifically the Chores and Samarkand regions of Uzbekistan). The primary production of common calamus occurs in Belarus and Ukraine, while Kazakhstan and the middle reaches of the Amur River also serve as sources for harvesting the plant [1].

The rhizomes of common yam (*Acorus calamus*) contain approximately 5 percent essential oil, bitter acorn glycoside, flavoring agents, tar, and up to 25 percent starch. Fenugreek leaves also contain essential oil, along with up to 150 mg of vitamin C and additives. In addition to essential oil, the rhizomes of yarrow (*Achillea millefolium*) contain specific bitter glycosides

such as acorn and acitretin, as well as glycoside lucenin, calamine, alkaloids, tannins, resins, and mucus. Ascorbic acid (150 mg) and palmitic acid have also been found. Azafrinaldehyde is responsible for the plant's fragrance [2,3].

The substances present in the rhizomes of common yam, primarily essential oil and bitter glycoside acorn, have various pharmacological properties. They can enhance appetite, improve digestion, and stimulate gastric juice secretion. The rhizomes of yarrow also possess anti-inflammatory, wound healing, analgesic, and sedative properties. Furthermore, they contribute to heart toning, strengthen brain blood vessels, improve memory, and enhance vision [2]. Experimental evidence suggests that common yam preparations exhibit certain antispasmodic effects and possess bacteriostatic and anti-inflammatory properties due to the presence of terpenoids (pyrazoline, azirane) in the rhizomes of the plant. Galenic forms of fenugreek have a positive impact on the gallbladder, promoting increased bile secretion and diuresis. There is also evidence indicating that the rhizomes of the plant have mild sedative and analgesic effects [3].

Calamus (*Acorus calamus*) is widely used in medicinal applications. Galenic preparations of its rhizomes are commonly used to treat chronic gastritis, stomach and

duodenal ulcers, especially in cases of low gastric juice acidity. They are also utilized for various digestive disorders, such as diarrhea. Less frequently, preparations of calamus are employed for conditions like cholecystitis, hepatitis of different origins, and urolithiasis. In scientific and folk medicine, preparations made from calamus rhizomes serve as stomach remedies, such as extracts and juices. A decoction of the rhizomes enhances the secretion of hydrochloric acid in the stomach, particularly when gastric juice acidity is low. The presence of acorn in the rhizomes improves digestion. The bitter taste of calamus reflexively stimulates gastric secretion and increases appetite.

For individuals with high gastric juice acidity and severe epigastric pain, calamus can be used as an antacid through the administration of rhizome infusions or powders, taken 4-5 times a day. Externally, an infusion of calamus rhizomes can be used as a mouth rinse for halitosis and to cleanse purulent wounds and ulcers. A decoction of the rhizomes is employed in the treatment of bone diseases, including rickets, scrofula, and female genital organ disorders. The powdered form of calamus rhizomes is used for dusting suppurating wounds and ulcers. The tannins present in the rhizomes have a beneficial effect on gastritis and ulcers of the stomach and duodenum. In China, preparations made from common calamus (*Acorus calamus*) are used for various purposes. They are employed as tonics, antipyretics, and antidiarrheal agents. Common calamus is used in the treatment of rheumatism, certain skin diseases, and conditions that affect vision and hearing.

In Tibetan medicine, it serves as an expectorant for bronchitis, laryngitis, tracheitis, and pneumonia. Additionally, in certain Eastern cultures, a simple tincture of common calamus is believed to enhance sexual potency. Folk medicine also attributes common calamus as a gargle for malaria, tuberculosis, and toothache. In India, common calamus is used as a tonic for neuroses, and it is also employed in conditions such as bronchial asthma and during convalescence [4].

In traditional scientific medicine, alcohol extracts and essential oil derived from common calamus are used to

improve digestion and appetite. They find applications in gastrointestinal disorders, liver and gallbladder diseases, spleen and kidney conditions, acting as expectorants, tonics, and bactericides. Common calamus is also an essential component of children's baths for rickets and diathesis. Decoctions of the plant's rhizomes are utilized as aromatic bitters to stimulate appetite and aid digestion. They are also employed as tonics for central nervous system imbalances, depression, and relaxation. Common calamus decoctions may be used for kidney, liver, and bladder ailments, malaria, mouthwash, and toothache [3, 5, 6].

Conclusion

The common calamus plant (*Acorus calamus*) has a rich history of use in both folk medicine and scientific medicine. Its widespread utilization in medically advanced countries highlights its significance. Given its chemical composition and diverse range of applications, there is an urgent need to explore its cultivation and integration into modern medicine.

References

1. Amanov M.A. (2020). Development of the technology of obtaining dry extract of medicinal plants *Acorus calamus* and *Gulsafsar* (*Iris Pseudacorus*) Dissertation topic / Tashkent.
2. Universal encyclopedia of medicinal plants / comp. I. N. Putirsky, V. N. Prokhorov. - M.: Makhaon (2000). 47-49.
3. Maznev N. I. (2004). Encyclopedia of medicinal plants. - 3rd edition, Rev. and additional - M.: Martin, 59-60.
4. <https://www.mag.org.ua/rast/trava6.html>
5. Illustrated guide to the plants of the Leningrad region / edited by A. L. Budantsev and G. P. Yakovlev. - M. (2006). Association of Scientific Publications KMK, 737-739.
6. Telyat'yev V. V. (1985). Useful plants of Central Siberia. - 3rd edition, Rev. and additional - Irkutsk: Vost.-Sib. book. publishing house, 54-55-384.

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