

Review on Rhizomatous Aromatic Herb – Curcuma Amada

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ABSTRACT

The unusual spice known as mango ginger (*Curcuma amada* Roxb.) resembles ginger in appearance but tastes like raw mango. The major applications of mango ginger rhizome are in food preparation and pickling. Mango ginger is highly valued as an appetizer in the Ayurvedic and Unani medical systems. aphrodisiac, diuretic, expectorant, emollient, antipyretic, laxative, and to treat biliousness, itching, and skin illnesses such as bronchitis, asthma, hiccough, and inflammation brought on by trauma and its also having a anti – inflammatory properties which treat wound healing . The biological properties of ginger and mango comprise platelet aggregation, anti-inflammatory, anti-bacterial, anti-fungal, and antioxidant activities. inhibitory, cytotoxic, antiallergic, hypotriglyceridemic, and fatal action for brine shrimp CNS depressive, analgesic, and enterokinase inhibitory effects. The primary chemical constituents consist of starch, phenolic acids, volatile oils, terpenoids such as amadannulen and curcuminoids.

Keywords: Rhizomatous Aromatic Herb, Curcuma Amada

INTRODUCTION

It is a perennial, rhizomatous, aromatic herb belonging to the family Zingiberaceae. This family is composed of 70–80 species of rhizomatous annual or perennial herbs the genus, which has a vast distribution in the tropical regions of Asia, Africa, and Australia, originated in the Indo-Malayan region. The plant reaches a height of one meter. The leaves are radical, long, oblong, and lanceolate. sheathed, tuft-like, and petiolate. A plant produces five to six pairs of foliage. Rhizomes of mango ginger are meaty, buff in color, 3-5 cm long, 2-4 cm wide, and divided into internodes and nodes. At nodes of the rhizome rough leaves placed in a circle, creating the impression of growing rings that have surface scars. The roots are branched, with sympodial branching. The roots have the flavor of raw mango and have a strong taste.

Pharmacological activity mainly Anti-inflammatory activity

chromatography to obtain a pure form of the antioxidant compound. The structure was inferred by analyzing Ethanol extract of *C. amada* showed the presence of multiple chemical constituents with the presence of hydroxyl, ester, carbonyl, and olefinic groups. The extract showed dose-dependent anti-inflammatory activity, which was found to be statistically significant at higher concentration in acute carrageenan-induced rat paw edema model. That extract shows anti-inflammatory activity at various acute phases of inflammation and on the MS, and twodimensional heteronuclear multiple quantum coherence transfer spectroscopy nuclear magnetic resonance spectral data and named it as “amadannulen,” a novel compound. Amadannulen also reported antibacterial activity against both Gram-positive and Gram-negative

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Figure - Curcuma amada roxb.

bacteria tested. formation of granular tissue [8]. Antioxidant activity Policegoudra et al. stated that chloroform extract of mango ginger (*C. amada* Roxb.) rhizome was subjected to antioxidant activity-guided decontamination by repeated silica gel column UV, IR, liquid chromatography

Distributed and Occurring of curcuma amada roxb.

The geographical distribution of this genus ranges from India to Thailand, Indo-China, Malaysia, Indonesia and northern Australia. *C. amada* is found the wild in parts of West Bengal, and is cultivated in Gujarat, Uttar Pradesh, Kerala, Karnataka, Tamil Nadu and the north-eastern states. They originated in the Indo-Malayan region and distributed widely in the tropics from Asia to Africa and Australia (Sasikumar 2005). Out of 10 *Curcuma* species, 2 species, *C. amada* and *C. zedoaria*, are distributed throughout India in the wild and cultivated forms; 4 species, *C. aeruginosa*, *C. brog*, *C. caesia* and *C. sylvatica*, occur in wild conditions and distributed throughout north-eastern part of India. *C. malabarica* and *C. aromatica* occur in south India, while *C. raktakanta* and *C. harita* are distributed throughout Kerala (Velayudhan et al. 1999).

Vernacular Names C. amada Roxb.

English: Mango ginger,
Sanskrit: Amrardrakam, Karpuraharida,
Hindi: Amahaldi,
Malyalam: Mangainchi,
Tamil: Mankayinci, Telugu: Mamidi Allam

The systematic position of the plant C. Amada is as follows.

Kingdom: Plantae
Sub-kingdom - Phanerogamae
Division: Spermatophyta

Subdivision: Angiospermae

Class: Monocotyledonae

Series: Epigynae

Order: Scitaminales

Family: Zingiberaceae

Genus: *Curcuma* Species: *C. amada* Roxb

Chemical components

proximity of edible rhizomes an important part in determining their nutritional value and nutraceutical quality. It was discovered that the mango ginger rhizome is a rich source of starch and fiber.

Curcuminoids in mango ginger

The well-known curcumin, demethoxy curcumin are well-known curcumin, demethoxy curcumin and bis-demethoxy curcumin (figure 3) are the major constituents from acetone extract of *C. amada*

Volatile Constituent

There are many reports on the composition of mango ginger volatile oil. The mango flavour is mainly attributed to presence of car-3-ene and cis-ocimene among the 68 volatiles

aroma components present in the essential oil of mango ginger rhizome [Dutt and Tayal]; Golap and Bandyopadhyaya ; Rao et al. Mango ginger plant (A), rhizomes (B) and TS of rhizome (C). 740 RS Policegoudra, SM Aradhya and L Singh J. Biosci.

Phenolic content

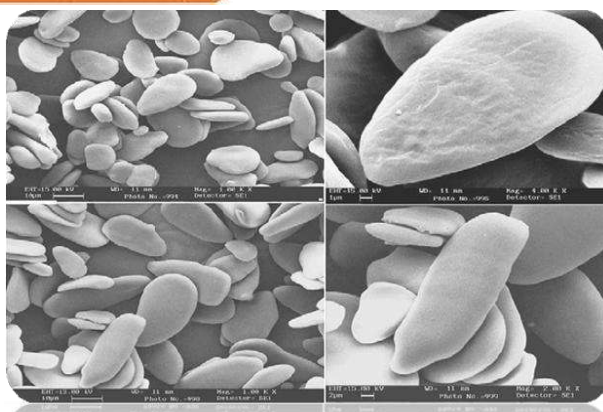
The amount of phenol in mango and ginger extracts the free phenolic acids (figure 4) found in mango ginger are as follows: small amounts of syringic (4%, 30 mg/g) and p- coumaric acids (2%, 15 mg/g), followed by gallic (10%, 75 mg/g), cinnamic (7%, 52.5 mg/g), and protocatechuic (7%, 52.5 mg/g) acids (Siddaraju and Dharmesh 2007). Additionally, it contains bound phenolic compounds such as gallic acid (1%, 11.5 mg/g), gentisic acid (1%,

4.9 mg/g), caffeic acid (4%, 30.7 mg/g), p-coumaric acid (11%, 95 mg/g), ferulic acid (47%, 391.5 mg/g), and cinnamonic acid (29%, 237 mg/g).

Mango ginger and its use in traditional medicines (Ayurveda and Unani)

The ancient testimony for the use of plants as medicine was well documented in the treatise of Ayurveda and dates back to the pre-historic Vedic era. Accordingly, the medicinal properties of mango ginger are depicted in the following Sankrit shloka: Raw mango flavoured ginger has a cooling effect on the body. It aggravates Vata.1 It also pacifies deranged Pitta,2 cures all types of itching and skin diseases. Raw mango flavoured ginger has a cooling effect on the body. It aggravates Vata.1 It also pacifies deranged Pitta,2 cures all types of itching and skin diseases.

आम्रगन्धिहरिद्रा या सा शीता वातला मता ।
पित्तहृत् मधुरा तिक्ता सर्वकण्डूविनाशिनी । ।
Āmragandhiharidrā yā sā śīta vātālā matā;
pittahṛt madhurā tiktā sarvakandūvināśinī.



Above Starch granule in mango ginger rhizome in this figure Perhaps it was a biological necessity for mango and ginger rhizomes to produce compounds with multifunctional activity to combat a wide range of abiotic and underground organisms. Difurocumenonol proved to be one such compound with multifunctional properties found in mango ginger. A distinct pattern of accumulation of phytochemicals and difurocumenonol was demonstrated along with Other visual parameters of ginger mango are given the best time to harvest mango ginger rhizomes, They are endowed with phytochemicals that provide various medicinal properties as mentioned above (Policegoudra et al. 2007c). Biosynthesis and accumulation pattern of diflocumenonol, Phenol and protein concentrations

- There are many species of this genus of great value as medicines, dyes and spices. Ayurveda, the oldest system of medicine in India,
- has many uses for the rhizome as sweetener, antipyretic, aphrodisiac and laxative?
- Other health benefits C.amada rhizome were reported for biliousness, pruritus, skin diseases, asthma and wound inflammation (CSIR 1950).
- According to the Unani system, it is diuretic, aphrodisiac,emollient,expectorant antipyretic and aphrodisiac.
- In addition,many reports have shown the effectiveness of C. amada rhizome against inflammation of the mouth and ears,
- aphrodisiac cancer in the male organs, acne, back and stomatitis (Kirtikar and Basu 1984; Warriar et. 1994, Hussain et al.

Accumulation pattern of biological compounds during development.

are maximum in rhizomes at 150-180 days of age. High concentrations of bioactive substance Compounds and other stock components are of great importance and play an important role as biomarkers for determining quality indicators of C.Amada rhizomes for use in the food and pharmaceutical industries

Raw-Mango Flavor

Spices' aroma and flavor qualities are what determine much of its worth. The commonly known as C. amada in the nations of South Asia,mango ginger, is because of its distinct uncooked mango. Numerous efforts have been undertaken to determine the evaporative scent elements that give mangos their distinct scent. The Bandyopadhyay and Gholap (1984) detected three terpene hydrocarbons in an approximate

manner. For example, α -pinene, car-3-ene, and cis-cimene, and proposed that while α -pinene contributes to the distinctive mango flavor, the latter two components the scent. to be the main chemicals in that have an impact on volatile oils from amada, suggesting that the aroma of mango Ginger is made up of a variety of substances that affect character

CONCLUSION

C.AMADA available information provides excellent information Understand agreement. However, some aspects still need to be studied in this plant. The following paragraphs summarize this article and highlight the important aspects that still need to be considered.

Since time immemorial, the plant has been widely used as a medicine to treat various ailments. Ayurvedic and Unani systems of medicine have given great importance to mango ginger as an aperitif, alectoric, antipyretic, aphrodisiac, diuretic, emollient, expectorant, laxative and in the treatment of jaundice, pruritus, skindiseases, bronchitis asthma, hiccups, inflammation caused by injuries. Pharmacological studies have so far been performed in in vitro and in vivo systems. Therefore, the investigation of phytochemicals and pharmacological profiles are necessary. The drugs currently available in the allopathic system of medicine are not as effective in combating a wide range of diseases. 746 RS Policegoudra, SM Aradhya and L Singh J. Biosci. 36 (4), September 2011 complications. Correction measurement may exist Botanical chemistry. Mango ginger appears to have high potential but remained unexplored for its bioactive phytochemicals. The available literature on phytochemicals biological and pharmacological properties actions are quite impressive. Very little information is available on the above-ground parts of the plant. An array of phytochemicals such as phenols, terpenoids and other bioactive components have been reported in the rhizome of mango ginge

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