**Herbal Garden (Mulgai Vanam)**

**Kumattikkai**

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<table>
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<tr>
<th>Botanical Name</th>
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<th>Tamil Name</th>
<th>Kumattikkai / Thummatti</th>
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<tbody>
<tr>
<td>Sanskrit Name</td>
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<td>Atmaraksha</td>
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<td>English Name</td>
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<td>Bitter apple / Bitter cucumber / Bitter melon</td>
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**Distribution and Habitat**

*Citrullus colocynthis* belongs to the Cucurbitaceae family. It is a perennial plant with strong roots and angular, tough, rough, and vine-like stems that spread on the ground and may climb. It is usually found in Asia including India, Pakistan, Kuwait, Saudi Arabia and Sri Lanka.

The plant can withstand drought and high temperature. Stem is branched and oblique, soft, herbaceous, spiny and hairy. Shoots tender; leaves alternate; petioles long, thick, acutely divided, 5-7 lobes, 5-10 cm long with numerous hairs on surface. Flowers are yellow having 5 carpals and 5 petals. Fruits 5 to 10 cm spherical, yellow-green, smooth and bitter. The mesocarp is filled with a soft, dry, and spongy white pulp, in which the seeds are embedded. Each of the three carpals bears six seeds. Each plant produces 15 to 30 fruits.

**Parts used:** Leaves, fruit, roots and seeds

**Phytochemical constituents:**

Alkaloids, phenolics, flavonoids, terpenoids, fatty acids, essential oils, proteins, glycosides, carbohydrates, tannins, quercetin, myricetin, steroids, cardiac glycolipids, flavone, cucurbitacins, anthranol, saponins, and trace elements.

**Uses:**

*C. colocynthis* can be used as food or fodder. The oil is extracted for use in soap, cosmetics and fragrance. Hair wash powder prepared from the fruit is recommended for spot baldness and itchy scalp.
**Medicinal uses:**
Ancient records describe various medicinal properties of *C.colocynthis* as a popular source to cure variety of different disease conditions in India, Pakistan, Iran, and African countries. Leaves, flower, roots, fruits, seeds are used to prepare medicines and herbal products and used in the food industry. Fruits are bitter in taste and are used to cure common colds, pneumonia, tumors, asthma, leprosy, urinary tract disorders and jaundice. Rind of fruits is effective in treatment of bronchitis, arthritis, tuberculosis and constipation and its paste is used to cure boils and joint pains. Fruits are used as abortifacient; to reduce chances of bowels and vomiting. The fruit has been studied extensively for its antimicrobial, antioxidant, and anti-inflammatory activities (Hussain et al., 2014). Fruit and seeds are widely used to treat renal impairments, high blood pressure, skin problems and several kinds of allergic reactions. Seeds are useful to treat ulcer and enlarged spleen. Seed oil is used to treat constipation, cancer, mastitis and diabetes. It is also used for purifying blood, cure dermatitis and hair loss (Sharma et al. 2010). Seed paste is helpful for pimples and rashes. Extracts of seeds are useful to relief hypertension. Roots are used to treat chest infections, asthma, pneumonia and cough. Extracts of roots are potent to treat breast inflammations in animals and human. Paste of whole plant is used to cure rheumatic arthritis and as a hepatoprotective ailment (Akhrzari et al. 2015). Leaf extracts are used to treat hepatitis and respiratory tract infections.

**Conclusion:**
*C.colocynthis* is an herbaceous climber containing nutrients in abundance that play a key role in the improvement of wellbeing. It has many biological properties, such as anti-oxidative, hypo-glycemic, anti-bacterial, anti-cancerous, anti-inflammatory, analgesic, anti-microbial, antidiabetic, hypo-lipidemic, anti-neoplastic, anti-allergic, pesticidal, and immune-stimulatory. There are numerous bioactive compounds like cucurbitacin, flavonoids, and polyphenols in *C. colocynthis* that give it medicinal properties.

*Image courtesy:* https://alchetron.com/Citrullus-colocynthis