

Karjikai (*Momordica cymbalaria*): The Underrated Resilient Wild Gourd

Dr. Chandrashekhar M. Biradar



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Introduction

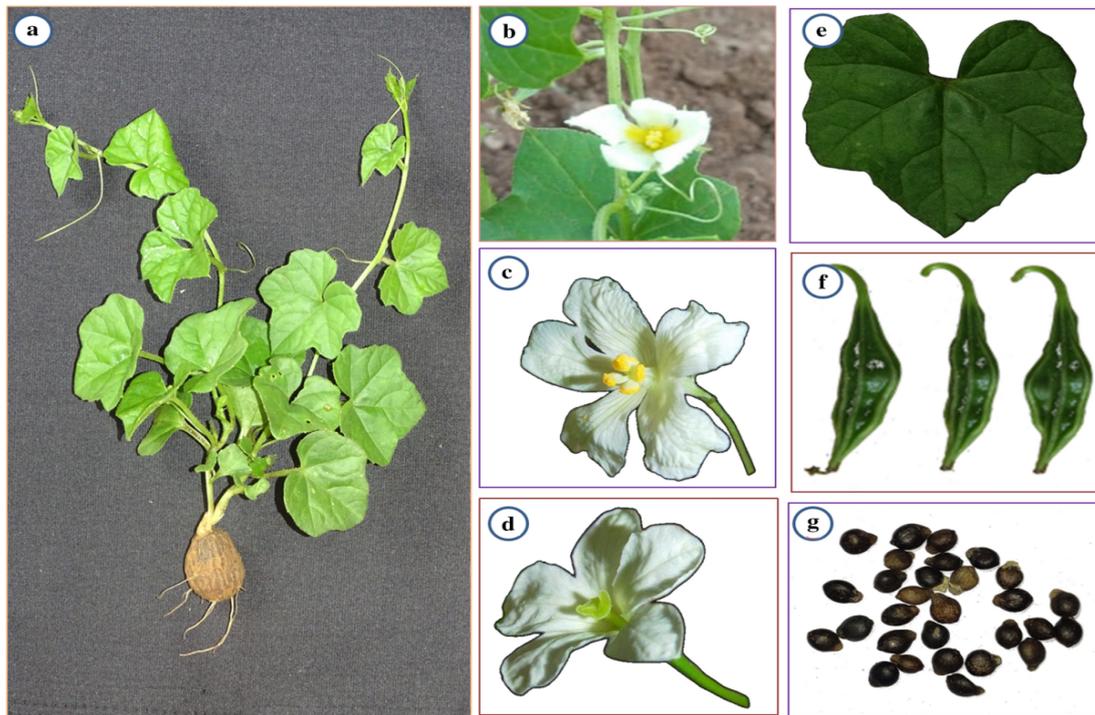
Hidden in the dryland farms of peninsular India thrives a resilient and medicinally rich climber—*Momordica cymbalaria*, locally known as Karjikai (Kannada), Kasarakayee (Telugu), and Athalakkai (Tamil). This underutilized vegetable emerges naturally with the monsoon, grows without irrigation, and brings both nutrition and healing to rural households. Belonging to the Cucurbitaceae family, it is valued for its edible fruits and deep-rooted tubers, which can survive droughts for nearly a decade and regenerate with the first rains.

An ethnobotanical study from North Karnataka (Rajasab & Isaq, 2004) documents its traditional use as both food and medicine. Thriving in black cotton soils, the vine's small ribbed fruits are typically roasted or fried and used to treat stomach ailments, liver and spleen disorders, and diabetes. Its tubers and leaves, often consumed raw in the early morning, are also believed to boost immunity. This forgotten crop represents a vital link between climate-resilient agriculture, local food traditions, and natural health systems, deserving revival through structured research and agroecological promotion.

Meet the Plant

- **Family:** Cucurbitaceae
- **Growth Habit:** A perennial or seasonal vine with soft stems and lobed leaves. Produces pale yellow male and female flowers.
- **Fruits:** Small (2–2.5 cm), ridged, dark green, and mildly bitter when young.
- **Tuber:** Deep-anchored, woody, drought-resilient, capable of surviving 8–10 years without water.

- **Habitat:** Native to semi-arid and dry tropical zones; common in uncultivated farm bunds and organic fields.



Various stages of the Karjikai (Momordica cymbalaria), Image credits: Chintani et al., 2021)

Health Benefits at a Glance

- **Diabetes Management:** Karjikai extracts have shown **hypoglycemic effects**, lowering blood sugar in clinical trials.
- **Liver & Kidney Support:** Traditionally used to cleanse and protect liver and kidney functions.
- **Anti-inflammatory & Wound Healing:** Folk applications for rheumatism, boils, ulcers, and skin disorders.
- **Antioxidant Power:** Contains flavonoids, phenolic acids, and cucurbitane-type triterpenoids.
- **Digestive Tonic:** Used to manage constipation, intestinal worms, and diarrhea.

Preliminary study was conducted to assess the biochemical and nutritional traits. The results revealed that it is the rich source of minerals mainly potassium (505.92 mg/100 g), calcium (73.57 mg/100 g), sodium (41.58 mg/100 g), zinc (2.76 mg/100 g), and iron (1.71 mg/100 g), and ascorbic acid (299.12 mg/100 g), total carotenoids (2.81 mg/100 g) and lycopene (1.86 mg/100 g), as mentioned in Chinthan et al., 2021.

Culinary Use

The young fruits are a **local seasonal delicacy**:

- **Sabji (Dry Palya):** Sautéed with minimal spices and served with Sorgham (**Jowar**) or Ragi roti.
- **Poriyal & Koottu:** Common in Tamil Nadu kitchens.

- **Pickles & Fry:** Lightly bitter, tangy, and earthy in taste—pairs well with pulses and millets.
- **Dry Pepper Fry:** Lightly roasted in ghee with salt and pepper to make one of the best snacks with tea and evening drinks (a learned from a friend!)

I have successfully propagated by tubers and grown in home garden in with great success.

Folk Wisdom:

“ಕರ್ಜಿಕಾಯಿ ಬರೋದೇಂದರೆ ಹೊಸ ಮಳೆಯ ಸಂಕೇತ, ಮಳೆ ಬಿದ್ದರೆ, ಮೇಲೆ ಹರಡಿ ಬರುತ್ತದೆ.”

“Karjikai barodendare hosa maleya sanketa. Male biddare, mele haradi barutte.”
 (“When Karjikai sprouts, it signals the monsoon. It leaps on surface with joy when rains bless the land.”)

Nutritional Value (per 100g fresh fruit)

Nutrient	Amount
Moisture	84.3%
Dietary Fiber	6.4 g
Protein	2.15 g
Carbohydrate	12.6 g
Vitamin C	290 mg
Calcium	72 mg
Potassium	500 mg
Iron	1.7 mg
Beta-Carotene	0.01%

A nutritional ally for combating **hidden hunger**, especially in **women and children**.

Ecological Benefits: The Silent Regenerator

- **Drought Champion:** Revives after years of dormancy, it can survive 10 of years without water and rain, can surface when rain comes. It is ideal crop for drylands and for climate-uncertain regions.
- **Biodiversity Refugia:** Supports microhabitats and native pollinators in mixed and uncultivated plots.
- **Regenerative Indicator:** Emerges naturally in low-input and natural farming systems, signaling healthy soils.
- **No Inputs Needed:** Self-seeding, pest-resistant, and grows in marginal soils.
- **Ground Cover:** It is one of the good ground cover and it will go away when main crops come up.

Best Kept Secret in Traditional Agroecology

While ignored by mainstream seed systems, Karjikai has been a *silent savior* for dryland farmers. Tubers planted once can regenerate seasonally with rains. Its **eco-physiological intelligence**—reviving after a decade of dormancy—makes it a model species for **living lands, resilient farms, and natural food forests**.

Future Perspectives

Reviving *Momordica cymbalaria* is a triple win: for **nutrition, biodiversity, and climate resilience**.

Recommendations:

- **Document local landraces & recipes** through community seed banks.
- **Establish cultivation trials** in dryland zones.
- **Include in millet-mix cropping systems** or food forests.
- **Encourage research** on its pharmacological properties.
- **Integrate into school kitchens** as a seasonal health food to bring awareness.

Let's Reclaim Karjikai

It is time to **reclaim, cultivate, and celebrate** this forgotten gift of the wild. Karjikai reminds us that **resilience often lies underground**, waiting for us to rediscover its power.

"Let us not wait for the rains—let us plant the seeds of revival today."



Lucky family enjoying the various recipes and delicacies of the Karjikai (Momordica cymbalaria) harvested from the black cotton rainfed farms of Vijayapura (north Karnataka), Photo: Author

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