

Exploration of Cucurbitaceae Fruit Diversity and Indigenous Knowledge Among the Kani Tribe of the Southern Western Ghats, Tamil Nadu

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ABSTRACT

The family Cucurbitaceae, commonly known as the gourd family, comprises a diverse group of medicinally valuable plants. These are mostly annual or perennial herbaceous climbers native to tropical and temperate regions. Well-known members include cucumbers, gourds, melons, squashes, and pumpkins. Due to their high sensitivity to freezing temperatures, their cultivation is restricted to warmer climates. Although cucurbits generally have low nutrient content, various plant parts-fruits, seeds, stems, and leaves-have been widely used for culinary purposes since ancient times. Beyond their culinary value, cucurbits are integral to traditional medicinal systems such as Ayurveda, Unani, Siddha, and folk medicine, owing to their rich composition of bioactive metabolites and phytoconstituents. In India, wild fruits from this family significantly contribute to the healthcare, nutrition, and food security of rural and tribal communities. Notably, some wild species possess higher nutritional value than cultivated varieties. This study focuses on the ethnobotanical exploration, identification, and potential utilization of cultivated and wild edible cucurbits consumed by the Kani tribes residing in the forested areas of the Southern Western Ghats, Tamil Nadu. A total of 22 genera and 46 species were documented, along with their habitats, medicinal uses, and conservation status. Among them, 31 species were common and 15 were rare. Except for *Cucumis callosus* (Rottb.) Cogn., a perennial climber, the remaining 45 species were identified as annual climbers. These climbers are traditionally used to treat various chronic and acute ailments, including diabetes, diabetic wounds, skin diseases, inflammation, kidney stones, jaundice, rheumatic pain, ulcers, and migraines. The findings highlight the need for greater research, documentation, and conservation efforts to sustainably manage and promote the medicinal and nutritional potential of edible cucurbits.

Keywords- Cucurbitaceae, Fruits, Diversity, Kani tribes, Traditional Knowledge.

I. INTRODUCTION

Members of Cucurbitaceae, the gourd family of flowering plants, include cucumbers, gourds, melons, squashes, and pumpkins are annual or perennial herbs native to temperate and tropical areas. Most species are extremely sensitive to temperatures near freezing, a factor that limits their geographic distribution and area of

cultivation. Most species are fast-growing prostrate or climbing vines with long-stalked palmate leaves that alternate along the stem. At the side of the leafstalk in annual species, there is a simple, often branched, spirally coiled tendril. It is generally regarded by most botanists to be a modified shoot and serves to support the vining stems. Most species have unisexual flowers that are borne in the leaf axils and have five white or yellow petals.

There are five sepals in each flower; male flowers have up to five anthers, often fused or joined in a complex way, and female flowers usually have three carpels. Known as a pepo. The fruit in most species is a fleshy, many-seeded berry with a tough rind, often attaining considerable size. Incredibly, the seeds are flattened and medicinally important in the Indian system of medicine.

Cucurbitaceae (the gourd family) is a family of plant species with global pharmacological and dietary importance. Several members of the family are native to India and make it one of the most important plant families in existence with global impact due to its vast medicinal usage. It has about 125 genera and 960 species distributed mainly in tropical and subtropical regions of the world [1,2] with a few species extending into temperate climate [3]. The family is often referred to as cucurbits [1]. Cucumbers originated in India and other parts of Western Asia [4]. There are relatives of the cucumber that can be found in the foothills of the Himalaya Mountains, but cannot be used agriculturally because of bitter fruit, mainly dormant seeds and delayed maturity. Other relatives of the cucumber can be found in China and the Near and Middle East; however, cucumbers were most likely domesticated in Asia [5].

Indigenous communities frequently transmit their ethnobotanical knowledge about cucurbit fruits orally, and it is ingrained in their cultural practices. The uses, dosages, and contraindications of particular fruits and preparations are passed down by elders and traditional healers, known locally as vaidyars. Ritual applications, like using specific gourds in spiritual ceremonies or harvest festivals, highlight the sociocultural significance of these plants beyond their practical uses. However, habitat degradation, deforestation, biodiversity loss, and degradation of indigenous practices as a result of modernization and urbanization pose a growing threat to this precious traditional knowledge [6,7]. The consumption of the fruits of Cucurbitaceae plants is widely popular among Indians due to their various nutritional and medicinal purposes. Cucurbitaceae is the largest group of summer vegetable crops. These include cucumber, musk melon, water melon, tinda, bottle gourd, luffa, and bitter gourd, pumpkin, squashes, parwal and snake gourd [8].

The fruit, seeds, and leaves of some Cucurbitaceae species are traditionally consumed in various ayurvedic preparations and confectionery [1]. Three genera including *Cucumis* (cucumbers, melons), *Cucurbita* (pumpkins, squash), and *Citrullus* (watermelons) are among the top ten economically important vegetable crops of the world, while several other members have regional importance [2]. These groups of plants have been playing important roles in food and traditional medicine for decades, which makes them highly relevant in the history of the African people.

Furthermore, an untapped source of genetic diversity is displayed by wild cucurbits. Many of these species are resistant to natural disasters like drought,

pests, and diseases. They may also be valuable genetic resources for crop improvement and sustainable agriculture, which will benefit the growth of rural communities. Being cognizant of their variety and applications could assist in creating food systems that are more resilient to climate change. To protect this knowledge and biodiversity, conservation strategies that combine community-based participatory approaches with both in situ (on-site) and ex situ (off-site) methods are essential. The various parts (fruit, seeds, stems, leaves) of the plants belonging to the Cucurbitaceae family are very popular for their uses in culinary purposes from the ancient time. It is also used in Ayurvedic, Unani and folk medicine for its several therapeutic values due to the presence of a large number of metabolites (both primary and secondary). The important genera belonging to the family are *Luffa*, *Cucurbita*, *Bryonopsis*, *Trichosanthes*, *Cucumis*, *Benincasa*, *Corallocarpus*, *Momordica*, *Lagenaria*, and *Citrullus* [9]. Some species that have attracted scientific investigation include *Luffa echinata*, *Lagenaria siceraria*, *Cucumis sativus*, *Trichosanthes kirilowii*, *Benincasa hispida*, *Cucumis melo*, *Citrullus colocynthis*, *Cucurbita pepo*, *Momordica charantia*, [10].

In terms of cultural preservation, the diversification and traditional knowledge of Cucurbitaceae fruits in Tamil Nadu's Western Ghats are important for future food security, nutrition, and herbal medicine. There is a critical desire to integrate traditional ecological knowledge with official conservation and research initiatives as modern science recognizes the importance of ethnobotanical wisdom. Studies on these fruits' taxonomy, phytochemistry, pharmacology, and sustainable management is essential to promoting a more resilient and inclusive approach to community health and biodiversity conservation. A perusal of these reports suggested that the ethnopharmacological survey in Southern Western Ghats is incomplete and traditional herbal healing knowledge of a large number of folk communities need documentation. There is no previous report in the records of ethnopharmacological knowledge of wild and cultivated cucurbits used for various ailments from the Kani tribe of Southern Western Ghats. An attempt has therefore been made to collect and document the folk knowledge from tribals. Local herbal healers and knowledgeable elder people of different castes and communities residing in certain forest areas of Southern Western Ghats of Kanyakumari and Tirunelveli district of Tamil Nadu. Hence the present study was made to document the naturally growing wild and cultivated cucurbits explored by the indigenous community Kani tribes from Southern Western Ghats of Kanyakumari and Tirunelveli district of Tamil Nadu for food and medicine, and to conserve those plants for their future generations. Additionally, a large number of cucurbits are still unexplored regarding their uses as food and medicine. So, one of the objectives of the present work was preparation of a report on cucurbits used as non-formal food and medicinal resources by the Kani tribal and rural people of

Kanyakumari and Tirunelveli districts of the Southern Western Ghats of Tamil Nadu.

II. METHODOLOGY

Study area and ethnic people:

The study was conducted during 25 days in 2006 and 25 days in 2011 by the research team of Survey of medicinal plants unit, Regional Research Institute of Unani Medicine under the CCRUM (Ministry of Ayush) New Delhi, to collect information on cucurbits fruits used medicinally by traditional healers in the southern Western Ghats of Kanyakumari and Tirunelveli district, Tamil Nadu (Map-1). The Kanyakumari district lies between 77° 15' and 77° 36' of the eastern longitudes and 8° 03' and 8° 35' of the northern latitudes. The District is bound by Tirunelveli District on the North and East, by South East Gulf of Mannar by South and the South West the boundaries are the Indian Ocean and the Arabian Sea by West and North West is bounded by Kerala. The kani tribal inhabited the villages of konjanr, kodayar, Kodithurai or Kani kudiiruppu, Keeripari, olakiaruvi, veerapuli and Maramalai.

The rich forests of this district form the catchment area for more than 7 rivers and 9 dams, and that form the backbone of the irrigation network and provide drinking water for Kanyakumari Tirunelveli and Tuticorin districts in south Tamil Nadu. The ethnomedicinal information was gathered from the indigenous people of the study area, called Kani or Kanikaran, one of the oldest groups of the branch of ethnic people in South India. They reside in remote and inaccessible forest areas and practice indigenous phytotherapy to treat common ailments. During the course of exploration of ethnomedicinal plants, information has been gathered from the healers inhabiting the forest areas who have sound knowledge of herbal remedies. For many decades, the tribal community has had a traditionally self-managed system of folk medicine and primary healthcare mainly based on herbal remedies.

Tirunelveli district is Southernmost district of Tamil Nadu state, located between 8°05' and 9°30' north latitude and 77°05' and 78°25' east longitude. The district is bounded by Virudhunagar District to the North, by Thiruvananthapuram, Kollam and Pathanamthitta districts in the West, by Kanyakumari district in the South and Thoothukudi district in the east are the border areas of Tirunelveli district and it covers about 6823 square kilometres land area. The district is also irrigated by several rivers originating in the Western Ghats, such as Pachaiyar river which flows in to the perennial Thamiraparani river, Pachaiyar river, which flows into the perennial Tambaraparani and Manimuthar rivers which also provides irrigation for agriculture and power generation through many dams and reservoirs.

The Ethnobotanical survey was conducted in Nambi Koil, Moormadam and Kodumudiyeru, Forest Areas in Thirukanangudi Range, Sengaltheri and South

Veeraganallur Forest Areas in Kalakadu Range, Chinnakutriyar Dam, Vinchipoint, Manjolai Lower slope Forest Areas in Upper Kodayar Range, Arivaltheeti Forest Area in Kadayam Range, Papanasam Forest Area in Papanasam Range. All the Forest Areas are mainly occupied by rural inhabitant but in Mundanthurai range of Periyamaiyalaru Kanikudil and Servallaru Kanikudil Forest Areas are occupied by Kani or Kaniyakaran tribal communities.

The knowledge about medicinal plants is rather specialized and is limited to a few members in the kani community who are recognized as 'Vaidhyar' (also known as medicine men, informant and traditional healer). Traditional healers commonly begin their training as children or teenagers working as assistants to their mothers, fathers and to other relatives who are recognized healers. After having trained for a number of years, the apprentice will be ceremonially granted the authority to use a given treatment. This individual will be recognized by others in their culture as having mystical power to heal, as well as having the power to train others in the use of medicinal plants.

Data collection

The ethnomedicinal information was collected through general conversations with traditional healers, and questionnaires were used to gather their knowledge. Details of medicinally used fruits of cucurbits, mode of treatment, methods of preparation and types of administration were documented by interacting with them as well as through direct observations. The information got from the tribe was recorded in field notebooks, an ethnobotanical data collecting proforma sheet and compared with the previously reported literature [11, 12, 13]. The collected Cucurbitaceae plants species were identified by the local people with their vernacular names, photographed and sample specimens were collected for the preparation of the herbarium. The Flora of Presidency of Madras [14] and The Flora of Tamil Nadu Carnatic [15] were used to ascertain the nomenclature. The voucher specimens were deposited in the herbarium at Regional Research Institute of Unani Medicine, Chennai.

III. RESULT AND DISCUSSION

The art of herbal healing is deeply rooted in Indian culture and folklore, reflecting a rich tradition that has been nurtured over centuries. Medicinal plants have played a crucial role in the survival and health care of ethnic communities, particularly those residing in remote villages and forested regions. Among these communities, traditional knowledge- largely undocumented-has been passed down orally from one generation to the next. A significant proportion of the Indian population continues to depend on herbal remedies for primary healthcare needs [16].

This dependence is especially pronounced among forest-dwelling tribes, such as the Kani people inhabiting the dense forests of the Southern Western

Ghats in Tamil Nadu. Due to the remoteness of their settlements and limited access to modern medical infrastructure, the Kani tribe relies heavily on indigenous plant-based healing systems for treating everyday health issues. Motivated by this context, the present study focuses on documenting and analyzing the ethnomedicinal uses of Cucurbitaceae species by the Kani tribal and rural communities of Kanyakumari and Tirunelveli districts. These hills are rich in botanical diversity, especially members of the Cucurbitaceae family, which are extensively used in traditional healing practices. Field investigations revealed that Kani healers utilize 46 species of cucurbits, belonging to 22 genera, for treating a broad spectrum of ailments. These include conditions such as dry cough, viral fevers, kidney stones, joint pains, jaundice, skin diseases, and even for contraceptive purposes (Table 1). Most of the identified plants are climbers, with 31 species categorized as common and 15 as rare. Notably, while most species are annual climbers, *Cucumis callosus* (Rottb.) Cogn. is a perennial.

Among the Kani tribe, various species of the Cucurbitaceae family are employed in the treatment of a wide range of health disorders. For managing diabetes, species such as *Coccinia grandis* (L.) Voigt, *Cucumis melo* L., *Cucumis melo* var. *momordica* Duthie & Fuller, *Diplocyclos palmatus* (L.) C. Jeffrey, *Luffa cylindrica* (L.) M. Roem., *Momordica balsamina* L., *Momordica charantia* L., and *Momordica dioica* Roxb. ex Willd. are commonly utilized. In the treatment of diabetic wounds, the fruits of *Zehneria thwaitesii* (Schweinf.) C. Jeffrey, *Momordica balsamina* L., and *Momordica cochinchinensis* Spreng. are applied.

For dermatological conditions, including skin infections and irritation, the Kani use *Benincasa hispida* (Thunb.) Cogn., *Citrullus lanatus* (Thunb.) Matsum. & Nakai, *Luffa aegyptiaca* Mill., and *Cucumis sativus* L., while more specific ailments like skin irritation and psoriasis are addressed with *Solena amplexicaulis* (Lam.) Gandhi in Saldanha & Nicol. and *Trichosanthes cucumerina* subsp. *cucumerina*. Anti-inflammatory properties are attributed notably to *Zehneria thwaitesii*. In cases of kidney stones, *Benincasa hispida*, *Luffa acutangula* (L.) M. Roem., and *Sechium edule* (Jacq.) Sw. are frequently prescribed by traditional healers. Conditions like jaundice are treated using species such as *Cucumis callosus*, *Cucumis trigonus* Roxb., *Cucumis maderaspatanus* L., *Lagenaria siceraria* (Molina) Standl., and *Mukia maderaspatana* (L.) M. Roem. To combat fevers of various kinds, the Kani rely on *Cucurbita pepo* L. and *Trichosanthes lobata* Wall. for malarial fevers, *Trichosanthes dioica* Roxb. for flu, *Trichosanthes cucumerina* L. for bilious fever, and *Zanonia indica* L. for viral fevers. For managing rheumatic pain and swelling in the joints, *Luffa acutangula* var. *amara* is commonly employed. Gastrointestinal issues, including stomach ulcers and respiratory complaints such as coughs and colds, are

treated using *Cucumis metuliferus* E. Mey., *Momordica cymbalaria* Hook. f., *Mukia maderaspatana*, and *Cucumis maderaspatanus*. For neurological discomforts like headache and migraines, *Trichosanthes incisa* Rottler ex Rosenthal and *Trichosanthes tricuspidata* Lour. are utilized. Other notable ethnomedicinal applications include the use of *Melothria heterophylla* (Lour.) Cogn. for liver inflammation and *Cucurbita maxima* Duchesne ex Lam. to enhance sperm count. *Ctenolepis garcinii* (Burm. f.) Naud. is valued as a laxative, and *Gymnopetalum wightii* Arn. Makino is employed in the treatment of obesity. For external tumors, *Gynostemma pentaphyllum* (Thunb.) is traditionally used, while *Solena angulata* (Chakravarty) Babu is prescribed for intestinal worms. Additionally, *Trichosanthes bracteata* (Lam.) Voigt is applied to alleviate back and neck pain, *Zehneria scabra* (L.f.) Sonder is used in treating paralysis, and *Zehneria maysorensis* Arn. is administered to expel intestinal worms. These findings were meticulously gathered through direct interaction with the Kani tribal communities and have been documented to preserve their invaluable traditional knowledge. Cucurbitaceae members are not only used for their medicinal benefits but are also significant in Indian traditional medicine systems such as Ayurveda, Siddha, and Unani. They are rich sources of diverse bioactive compounds including glucose, fructose, essential amino acids, water-soluble polysaccharides, dietary fibers, vitamins (A, K, C), minerals, phenolic glycosides, flavonoids, and terpenoids. Of particular interest is the presence of the cucurbitacin group of highly oxygenated tetracyclic triterpenoids. Cucurbitacins, classified into types A through T, are found in various plant parts like roots, stems, cotyledons, leaves, and fruits, with concentrations typically increasing with plant age [17]. These compounds have been identified as natural taste deterrents in certain animal-foraged and edible plants like cucumbers [18]. Beyond their ecological role, cucurbitacins exhibit significant pharmacological properties, including anti-inflammatory, anti-cancer, hepatoprotective, and antioxidant effects [19]. Cucurbits also contribute to nutrition and diet. For instance, cucumbers, which contain over 96% water, are low in calories and are excellent sources of potassium and essential vitamins. Their consumption, both raw and in preserved (pickled) forms, has long been part of traditional diets, especially during off-seasons. The Cucurbitaceae family holds a vital position in both ethnobotanical knowledge and modern pharmacological potential. The Kani tribe's deep-rooted reliance on cucurbit species highlights their significance in traditional healthcare systems. This ethnomedicinal legacy is not only a testament to the tribe's wisdom but also serves as a promising foundation for the development of new phototherapeutics. Recognizing and preserving such indigenous knowledge is crucial for biodiversity conservation, sustainable healthcare, and scientific advancement [6,7]. This is consistent with other general observations which have been reported and recorded

earlier in relation to medicinal uses of cucurbits studies by the Indian system of medicines like Siddha, Ayurveda and Unani [20,21,22]. Most of the cucurbits, mainly used as food, also have medicinal importance. The Cucurbitaceae species are also used to treat a wide range of illnesses, including hemorrhoids, fever, sore chest, paralysis, herpes, lung inflammation, asthma, malaria, leprosy, blood cures, and headaches. [23,24,1]. In India, many number cucurbits fruits have been used as food and medicine in folk, ayurvedic, unani, siddha and other systems recorded since 1000 BC [25,26]. Similar ethnobotanical findings of the study have also been reported by other scientists in India [27,28,29]. The member of this family has global pharmacological and dietary importance. Several members of the family are native to Africa and make one the most important plant family in existence with global impact due to its vast medicinal usage. The fruit, seeds, and leaves of some Cucurbitaceae species are traditionally consumed in various ayurvedic preparations and confectionaries [1].

IV. CONCLUSION

Fruits of Cucurbitaceae are playing an important role in our day to day life directly or indirectly from the time immemorial, these fruits have been used as a restorative agent for variety of ailments. They are the natural drugs used to regain the alterations made in normal physiological system by foreign organisms or by any malfunctioning of the body. It is very essential to have a proper documentation of medicinally used cucurbits and their potential for the improvement of health and hygiene through an eco-friendly system. The available literature regarding the pharmacological properties of these cucurbits are very impressive. This study enriches our knowledge regarding the therapeutic value of the Cucurbitaceae membranes used by kani tribal as Medicine and food. Hence, importance to the potentiality of ethno-medicinal studies may be given in future aspects as these can provide a very effective strategy for the discovery of useful drugs and medicinally active compounds from cucurbits.

Author contributions

KV designed the study and data collection. MA compilation of the data. MA and KV performed the analysis and data interpretation. KV and MA drafting and writing the manuscript. MR, KAK and ZAN review and editing the manuscript. All authors read and approved the final version.

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Conflict of interest

The authors declare no conflict of interest.

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Table 1: List of medicinal plants of Cucurbitaceae family in Southern western Ghats of Tamil Nadu

S. No.	Botanical Name / Specimen No:	Local Name /	Mode of application and use	Nature of environment or Natural home	Status	Life form of Plant	Forest Type or Ecosystem
1	<i>Benincasa hispida</i> (Thunb.) Cogn. / Voucher Specimen No. RRIUM-CH:2226	Vellai Poosani	Fruit juice is orally given for a kidney stone. Fruit rind ash mixed with castor oil is then applied externally for skin diseases.	Cultivated	Common	Annual Climber	Plain land
2	<i>Cucurbita moschata</i> (Lam.) Duch. ex Poir. / Voucher Specimen No. RRIUM-CH:11320	Poosani	Fruit juice orally given for prostate gland problems of men.	Cultivated	Common	Annual Climber	Plain land
3	<i>Citrullus colocynthis</i> (L.) Schrad./Voucher Specimen No.RRIUM-CH:11734	Peykumatti	Fruit decoctions are taken orally for gastrointestinal problems. Seed and shell powder mixed with palm oil is used for skin diseases.	Wild	Common	Annual Climber	Plain land
4	<i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai/ Voucher Specimen No. RRIUM-CH:1034	Tharpoosani	Fruit eaten for cooling. Seed soaked in coconut oil for skin diseases.	Cultivated	Common	Annual Climber	Plain land
5	<i>Coccinia grandis</i> (L.) VOIGT. / Voucher Specimen No. RRIUM-CH:13631	Kovai	Ripen fruit edible and unripe fruit juice taken for diabetes.	Wild/ Cultivated	Common	Annual Climber	Plain land

6	<i>Cucurbita maxima</i> Duchesne ex Lam./ Voucher Specimen No. RRIUM-CH:11153	Sarkkarai pusani	Fruit juice orally taken for Increase sperm count.	Wild/ Cultivated	Common	Annual Climber	Plain land
7	<i>Cucurbita pepo</i> L./ Voucher Specimen No. RRIUM-CH:11246	Parangi	Leaves extract for malarial fever.	Wild/ Cultivated	Common	Annual Climber	Plain land
8	<i>Corallocarpus epigaeus</i> (Rottler) Hook.f./ Voucher Specimen No. RRIUM-CH:14618	Akasakarudan	Fruit paste is applied externally for rheumatic pain and swelling.	Wild	Rare	Annual Climber	Deciduous forest
9	<i>Ctenolepis garcinii</i> (Burm. f.) Naud./ Voucher Specimen No.RRIUM-CH:2440	Akasha Garudan	Plant juice used for laxative.	Wild	Rare	Annual Climber	Deciduous forest
10	<i>Cucumis callosus</i> (Rottb.) Cogn./ Voucher Specimen No.RRIUM-CH:12085	Kattu thumatti	Fruit juice orally given for Jaundice.	Wild	Rare /	Perennial Climber	Deciduous forest
11	<i>Cucumis melo</i> L./ Voucher Specimen No. RRIUM-CH:12030	Metukku Thumattikai	Fruit used for diabetes.	Cultivated	Common	Annual Climber	Deciduous forest
12	<i>Cucumis melo</i> L. var. <i>momordica</i> Duthie & Fuller/ Voucher Specimen No. RRIUM-CH:11894	Sukkan kai	Fruit juice orally given for anti-diabetes.	Wild/ Cultivated	Common	Annual Climber	Plain land
13	<i>Cucumis sativus</i> L./ Voucher Specimen No. RRIUM-CH:12691	Vellari	Seed paste apply externally used for skin diseases.	Cultivated	Common	Annual Climber	Plain land
14	<i>Cucumis metuliferus</i> E. Mey/ Voucher Specimen No. RRIUM-CH:12061	Mullu vellari	Fruit edible and seed decoction orally given for stomach ulcers.	Wild/ Cultivated	Common	Annual Climber	Plain land
15	<i>Cucumis trigonus</i> Roxb./ Voucher Specimen No.RRIUM-CH:12051	Kaattuthum matti	Fruit juice orally given for jaundice.	Wild	Common	Annual Climber	Ever green Forest
16	<i>Cucumis maderaspatanus</i> L./ Voucher Specimen No. RRIUM-CH:12048	Mosumosuka i	Leaf juice orally given for cold and cough. Fruit juice orally given for Jaundice.	Wild	Common	Annual Climber	Ever green Forest
17	<i>Diplocyclos palmatus</i> (L.) C.Jeffrey/ Voucher Specimen No.RRIUM-CH:12042	Aivirali	Fruit juice orally given for Diabetes.	Wild	Common	Annual Climber	Ever green Forest
18	<i>Gymnopetalum wightii</i> Arn./ Voucher Specimen No.RRIUM-CH:12631	Kattu mosukai	Whole plant juice orally given for reduce obesity.	Wild	Common	Annual Climber	Ever green Forest
19	<i>Gynostemma pentaphyllum</i> (Thunb.) Makino/ Voucher Specimen No. RRIUM-CH:10516	Atyamlaparn i	Fruit paste apply externally for external tumorous.	Wild	Common	Annual Climber	Ever green Forest
20	<i>Kedrostis courtallensis</i> (Arn.) C. Jeffrey/ Voucher Specimen No. RRIUM-CH:1001	Appakovai	Fruit decoction orally given for Flu fever.	Wild	Common	Annual Climber	Ever green Forest
21	<i>Lagenaria siceraria</i> (Molina) Standl. / Voucher Specimen No. RRIUM-CH:12723	Bottle Suraikai	Fruit juice orally given for jaundice.	Cultivated	Common	Annual Climber	Plain land
22	<i>Luffa acutangula</i> (L.) M. Roem./ Voucher Specimen No.RRIUM-CH:12744	Pirkankai	Fruit juice orally given foe kidney stone.	Wild/ Cultivated	Common	Annual Climber	Ever green Forest
23	<i>Luffa aegyptiaca</i> Mill. /Voucher Specimen No. RRIUM-CH:0068	Nurai perkan	Fruit made into paste with neem oil and externally apply for skin exfoliate.	Wild	Common	Annual Climber	Ever green Forest
24	<i>Luffa acutangula</i> (L.) M. Roem. Var. <i>Amara</i> / Voucher Specimen No. RRIUM-CH:4495	Pai perkan	Dried fruit boiled in castor oil then apply externally for Joint pain.	Wild	Common	Annual Climber	Ever green Forest
25	<i>Luffa cylindrical</i> (L.) M. Roem. Hort. Beng./ Voucher Specimen No.RRIUM-CH:3672	Mozhuku Pirkankai	Fruit juice orally given for diabetes.	Wild	Common	Annual Climber	Ever green Forest
26	<i>Melothria heterophylla</i> (Lour.) Cogn/ Voucher Specimen No. RRIUM-CH:1555	Kalkovai	Fruit juice orally given for liver inflammation and damage.	Wild	Common	Annual Climber	Ever green Forest
27	<i>Momordica balsamina</i> L./ Voucher Specimen No. RRIUM-CH:1540	Palsam apple	Fruit juice orally taken for Diabetes. Seed paste boiled in coconut oil then apply externally for Diabetic wound.	Wild	Common	Annual Climber	Ever green Forest
28	<i>Momordica charantia</i> L./ Voucher Specimen No. RRIUM-CH:0085	Pavaikai	Fruit juice orally given for diabetes.	Wild/ Cultivated	Common	Annual Climber	Plain land

29	<i>Momordica cochinchinensis</i> Spreng./ Voucher Specimen No.RRIUM-CH:7246	Mezhukupakal	Seed paste with neem oil apply externally for diabetic wound.	Wild	Common	Annual Climber	Ever green Forest
30	<i>Momordica cymbalaria</i> Hook.F./ Voucher Specimen No. RRIUM-CH:14899	Athalakkai	Fruit juice orally given for fruit stomach ulcers.	Wild/ Cultivated	Rare	Annual Climber	Mountain Land
31	<i>Momordica dioica</i> Roxb. Ex Willd./ Voucher Specimen No.RRIUM-CH:0772	pazhu-pakal	Fruit juice orally given for Diabetes and hypertension.	Wild/ Cultivated	Rare	Annual Climber	Mountain Land
32	<i>Mukia maderaspatana</i> (L.) M. Roem./ Voucher Specimen No.RRIUM-CH:14987	Mosumosukai	Leaf juice orally given for a cold and cough Fruit juice orally given for Jaundice.	Wild	Common	Annual Climber	Plain land
33	<i>Sechium edule</i> (Jacq.) Sw./ Voucher Specimen No. RRIUM-CH:9217	Seema – Kathirikai (Chou chou)	Fruit juice orally given for a Kidney stone.	Common /Cultivated	Rare	Annual Climber	Plain land
34	<i>Solena amplexicaulis</i> (Lam.) Ganghi in Saldanha & Nicol./ Voucher Specimen No.RRIUM-CH:2821	Pulivangi	Fruit and leaf made in to paste with neem oil for skin irritation.	Wild	Common	Annual Climber	Plain land
35	<i>Solena angulata</i> (Chakravarty) Babu/ Voucher Specimen No. RRIUM-CH:14167	Pulivanci (Moist Deciduous Forests.)	Fruit juice is orally given for worm infestation.	Wild	Common	Annual Climber	Ever green Forest
36	<i>Trichosanthes cucumerina</i> L./ Voucher Specimen No. RRIUM-CH:12029	Pudalangai	Fruit used as a vegetable and Seed decoction used for bilious fever	Cultivated	Common	Annual Climber	Plain land
37	<i>Trichosanthes cucumerina subsp. Cucumerina</i> (L.)/ Voucher Specimen No. RRIUM-CH:297	Kattuppeypudalai	Fruit juice used for Psoriasis.	Wild	Common	Annual Climber	/ Plain land
38	<i>Trichosanthes dioica</i> Roxb./ Voucher Specimen No.RRIUM-CH:12031	Naipudalai	Fruit and leaf juice orally given for Flu fever.	Wild	Rare	Annual Climber	Ever green Forest
39	<i>Trichosanthes incisa</i> Rottler ex Rosenthal/ Voucher Specimen No. RRIUM-CH:11246	Sirukorattai	Fruit soaked in castor oil, then apply externally for Headache migraine and neck pain.	Wild	Rare	Annual Climber	Ever green Forest
40	<i>Trichosanthes lobata</i> Wall./ Voucher Specimen No.RRIUM-CH:11170	Kattupputali	Fruit juice orally given for malaria fever.	Wild	Rare	Annual Climber	Ever green Forest
41	<i>Trichosanthes bracteata</i> (Lam.) Voigt/ Voucher Specimen No. RRIUM-CH:12015	Korattai pazham, Savaripazham	Fruit boiled in coconut oil is then applied externally for back pain and neck pain.	Wild	Rare	Annual Climber	Ever green Forest
42	<i>Trichosanthes tricuspidata</i> Lour./ Voucher Specimen No.RRIUM-CH:12007	Kurattai	Fruit boiled in coconut oil and applied to the head for migraine and headache.	Wild	Rare	Annual Climber	Ever green Forest
43	<i>Zanonia indica</i> L./ Voucher Specimen No. RRIUM-CH:0929	Peenar valli	Water filled in empty fruit and then orally taken for viral fever.	Wild	Rare	Annual Climber	Ever green Forest
44	<i>Zehneria maysorensis</i> Arn. / Voucher Specimen No. RRIUM-CH:11748	Kattumusumosukai	Leaf juice orally given with honey for remove Stomach warm.	Wild	Rare	Annual Climber	Ever green Forest
45	<i>Zehneria scabra</i> (Lf) Sonder/ Voucher Specimen No. RRIUM-CH:2955	Naai Pagal	Leaves and fruit boiled in coconut oil, then applied externally for paralysis.	Wild	Rare	Annual Climber	Ever green Forest
46	<i>Zehneria thwaitesii</i> (Schweinf.) C. Jeffrey/ Voucher Specimen No. RRIUM-CH:11639	Kattu kovai	Plant juice boiled in neem oil then apply Anti inflammation and diabetic wound.	Wild	Rare	Annual Climber	Ever green Forest