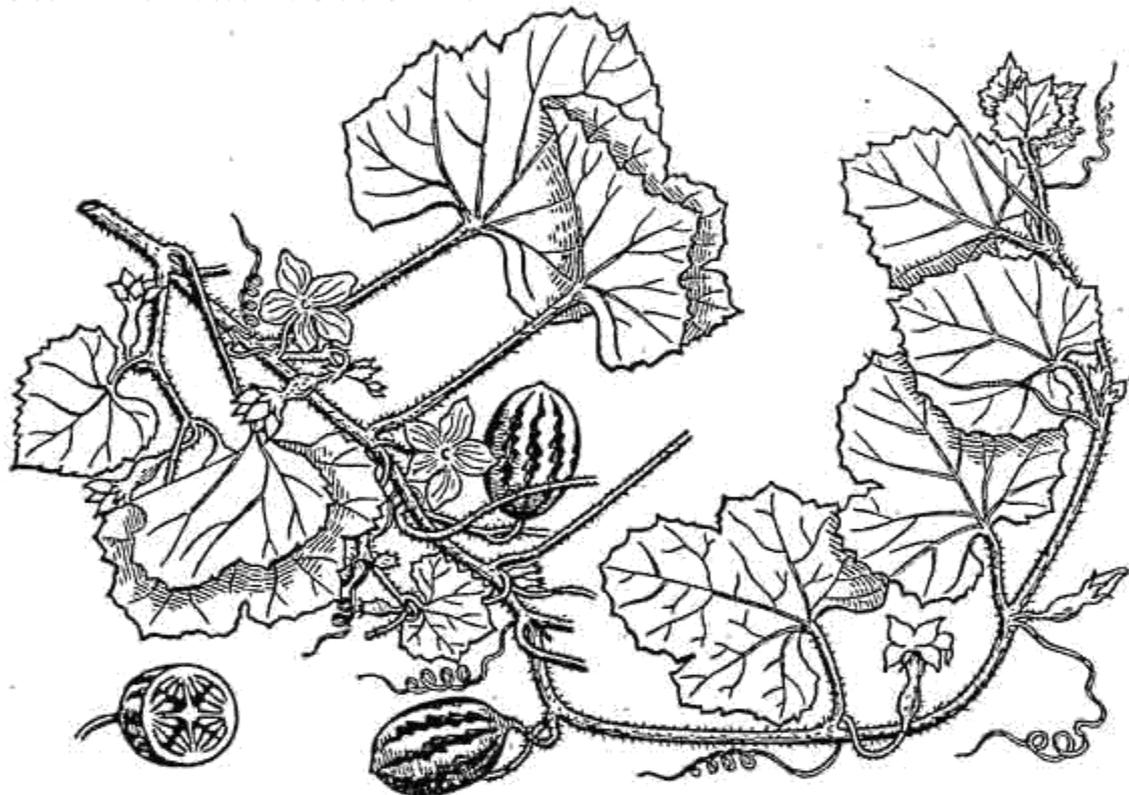


Budama kaya (*Cucumis pubescens* Willd.)—an economic cucurbitaceous plant.

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Introduction. There is considerable confusion in the nomenclature of *Cucumis pubescens* Willd. It is described by Hooker (1879) as *Cucumis trigonus* Roxb. Roxburgh (1832) describes this plant as *Cucumis madraspatanus* Willd. which the *Index Kewensis* (1895) incorrectly cites as a synonym of *Cucumis Melo* L.—the well known water-melon. It is figured in Wight's (1845) *Icones* tablet 496 under the Tamil name *Thummatti kai* and the Telugu name *Budama kaya*.



Cucumis pubescens, willd.

Description of the plant.

A trailing plant. Stems rough with short rigid hairs; branches often 3'—5, long; leaves somewhat reniform, repandy and acutely toothed, scabrid on both surfaces, in some plants they are nearly entire while in others unequally 5-lobed; lamina 4—8.5 cm. by 5—10 cm.; petioles scabrous, 2—10 cm. long. Flowers yellow, petals slightly acute. Fruit ovate, obtuse at both ends, terete, striped dark and light green, 4—5 cm. by 2—2.4 cm. Seeds elliptic, 5 by 2 mm.

Distribution. The plant occurs in the Central and East Coast districts of the Madras Presidency on waste lands. It grows abundantly in many parts of the Salem district. It is a common weed especially in *cumbu* (*Pennisetum typhoides* Stapf et Hubbard) fields and after the harvest of *cumbu*, this plant trails on the ground between rows of field Lablab (*Dolichos Lablab* L.) and castor (*Ricinus communis* L.) which are generally grown

at 8'—10' apart as a mixture with *cumbu*. The *cumbu* crop is generally harvested in December. Lablab and castor are harvested in February—March. In February, the ripe fruits of *Cucumis pubescens* Willd. are collected and cut into 2 or 3 pieces, often cross-wise and spread on bare rocks for drying. The pieces are collected when dried and stored in gunny bags. The tender fruits are bitter in taste. Ripe ones, however, are edible and pleasant to taste. Ripe fruits are used in making vegetable chips (*vattal*). It is a subsidiary occupation of the women-folk and children especially of Andipalayam, Oonjapalayam and other villages in the Salem District.

Each plant produces from 10—20 fruits. About 15 fruits are required to make $\frac{1}{2}$ Madras Measure of the chips (dried stuff) which is known in Tamil as *Karumatta vattal*, *Kummotti vattal* and *Muruku vattal*.

Preparation (further curing). The "vattal" is soaked in good buttermilk in which ground chillies and salt to taste have been added and kept for a day. The next day they are put out in the sun for drying. They are again soaked overnight in the same buttermilk and are dried from the third day till they are completely dry. The finished product will keep for several months and is known to keep for two years. It is fried in oil and used as a savoury preparation to be eaten with rice.

Marketing. Traders either go to Sankaridrug shandy or to the villages where the "vattal" is available and buy and stock it in large quantities. They take it to important towns all through South India, viz., Coimbatore, Pollachi, Palghat, Calicut, Trichinopoly, Madura, Tinnevely and Trichur. It is usually sold at two annas per Madras Measure. "Vattal" is available for purchase from March onwards.

Scope for cultivation. This "vattal" is cheap in Salem as it is produced largely in that district. It can easily be grown in almost all places in waste lands. Seeds can be obtained through the Agricultural Demonstrators in the Salem District.

Selection work in this crop is being done at the Agricultural Research Station, Nandyal, Kurnool District.

* The following are the analyses of "Budama" fruits and "Budama" chips.

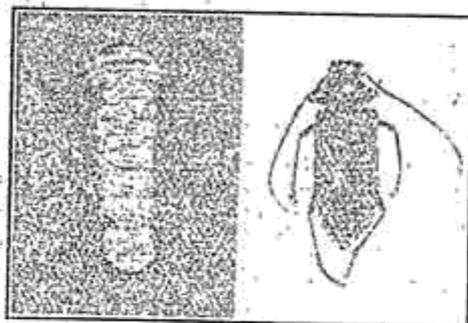
| | Budama fruits | | |
|--|-----------------------------|---------------|------------------------|
| | On original moisture basis. | On dry basis. | Budama chips (Vattal). |
| | % | % | % |
| Moisture | 89.10 | 9.22 | 7.38 |
| Ash | 1.31 | 10.88 | 10.96 |
| Crude proteins | 2.00 | 16.68 | 18.57 |
| Ether extractives | 1.99 | 16.56 | 17.45 |
| Crude fibre | 2.93 | 24.44 | 30.61 |
| Carbohydrates by difference | 2.67 | 22.22 | 15.03 |
| Total | 100.00 | 100.00 | 100.00 |
| Insolubles | 0.015 | 0.12 | 0.11 |
| Albuminoids | 1.58 | 13.19 | 13.89 |
| Lime (CaO) | 0.060 | 0.50 | 0.50 |
| Phosphoric acid (P ₂ O ₅) | 0.073 | 0.61 | 0.43 |

* The analyses were done by the Government Agricultural Chemist, Coimbatore, at the instance of the Assistant Director of Agriculture, Cuddapah.

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Research Notes.



Larva and beetle of Cashew stem borer.

A stem boring beetle pest of cashew tree. The cashew tree (*Anacardium occidentale*) is an important money crop in the South Kanara District. The area under the crop in this District is estimated to be 35,000 acres in 1940 and it is steadily increasing. The value of the annual produce of cashewnut in South Kanara amounts to one and a half million rupees in normal years.

No major insect pest of the cashewnut is so far reported. During the last four years, large numbers of cashewnut trees have been found dying all over the West Coast for no apparent cause. Several dead and dying trees were examined. Large numbers of live beetle grubs found inside the trunks were found to have caused damage and death of the trees. Specimens of grubs and adult beetles (plate) collected from the trunk were sent to the Government Entomologist in February 1940 and were identified as *Plocasterus ferrugineus*, Linn. family *Cerambycidae*. This was the first record of its kind in this Presidency; so far no cerambycid beetle grub has been known to attack cashewnut trees and do extensive damage. A survey in the South Kanara District has revealed that up to 10% of the trees were killed by this pest.

From the nature of the attack it is presumed that eggs are laid in the bark at the collar region. The grubs are pale brown-headed fleshy creatures about $1\frac{1}{2}$ "-2" in length. On hatching, they tunnel into the trunk eating their way upwards and inwards into the trunk and also downwards into the roots. They pupate below the bark in the tunnels in small cocoons of thin pale material and are found particularly in the collar region. The adult beetle is reddish brown in colour, about $1\frac{1}{2}$ " long and has long feelers.

The seat of first attack is the collar region of the tree at about the ground level. Usually, large, healthy and robust trees are attacked, small trees being comparatively free from attack. Affected trees are distinguished by characteristic yellowing and withering of leaves which may be confined to a few branches on the entire tree. Occasionally dried up, red coloured gum is observed in the crevices of the bark at the base of the trunk. On tapping the trunk of the affected trees a dull thud indicates the seat of attack. A healthy trunk produces a sharp sound when tapped. The bark when split open (which can be easily done) exposes a thick layer of grey coloured, powdered wood mixed with the excreta of the grubs between the bark and the wood. In neglected cases several months old—the trunk is tunnelled through and through. From one such specimen 250 grubs and a large number of beetles were collected. When the attack is serious the cambium between the bark and the wood is eaten up and the tree is