PLANT FACT SHEET

Alocasia macrorrhizos (L.) G. Don

GENUS *Alocasia* **FAMILY** Araceae

COMMON NAMES Giant taro

EDIBLE PARTS AND USES

Edible parts: Rhizome, Root, Leaves, Corm, Vegetable

The stems and corms are eaten after roasting or boiling.
The main corm is cooked and eaten after being carefully peeled.
The young leaves are edible.
CAUTION The mouth can be irritated by chewing improperly cooked plant parts due to chemicals called oxalates.
The stems are cut into small pieces and boiled and eaten in curries.
The stems are boiled and the water thrown away.
The starch is also extracted from the rootstocks.
The young shoots are cooked and eaten.
The harvested food can be stored for about one week.

DESCRIPTION

A very large herb. A taro family plant. It has a stout erect trunk up to 4 m tall. This has upright leaves which are arrow shaped. Leaves have round lobes at the bottom. The leaves are leathery and are often wavy around the edge. The secondary veins are not prominent. The leaf blade can be 1-1.2 m long. The leafy structure around the flower is yellow in the upper section. It forms a hood and drops off as the flower opens. The fruit are bright red berries. The corm is large, often curved and above the ground. It often has small cormels at the side. Brown trailing fibres of the leaf bases often hang from the stem. The leaves and petioles contain stinging crystals.

HABITAT

A tropical plant. It is widely distributed in open wetlands and along streams and in some types of humid forest. The plant grows wild from sea level up to 2600 m altitude in the tropics. Giant taro is a tropical plant and will not grow well below 10°C. It requires a well distributed rainfall and does not tolerate drought. Even though it grows along creek banks it cannot tolerate waterlogged soil. It is only used as food in a few coastal areas. Wild forms commonly seen growing are bitter and not used. It does not do well on atolls. It suits hardiness zones 11-12.

PRODUCTION

Cultivation

The top of the main corm is planted. The small round cormels can be planted, but are slow to mature. A spacing of 1.2 x 1.2 m is suitable. Because the giant taro takes more than a year to be ready to harvest, it often ends up left growing in an old garden site without much care or weeding, until the owner wants to harvest it.
The mouth can be irritated by chewing improperly cooked plant parts due to chemicals called oxalates. Giant taro contains small needle-like calcium oxalate crystals in the tissues. It is necessary to remove these during the preparation and cooking. The method of peeling is important. Normally some ladies who are especially experienced at peeling do this job. Also the taro corm is often left to wilt for a week after it is harvested and before it is used. Also to help remove some of the crystals, the stem is baked for a long time, or boiled in several changes of water. It is also important to use the right variety of giant taro because the kinds grown in gardens have less of the chemical than wild ones.

Harvesting and Seed Production

Corms of 8.5 to 40 kg have been harvested from individual plants of unknown age. The time to maturity is about 12 months but plants are often left for 2-3 years.

Planting instructions

Giant taro

Tok ples: Paragum (Kuanua) Scientific name:Alocasia macrorrhiza

What is the giant taro plant like?

This is a taro family plant. It grows as a large upright plant which can be up to 3 metres tall. The tuber or rhizome grows above the ground and is the part eaten. It is only eaten in some varieties and is not commonly used except in a few places in Papua New Guinea.

The leaves are large and upright. The leaf blade continues straight on at the same angle as the stalk and is not bent back at right angles. The leaf is shiny and often the edge of the leaf is wavy. The bottom lobes of the leaf are rounded.

The stem or rhizome is thick (10-15cm) and often extends along the ground or curves upwards at an angle. Brown trailing fibres of the leaf bases often hang from the stem. Small round side shoots grow from this stem.

A giant taro
plant.

Where do giant taros grow?

In Papua New Guinea Giant Taro or Paragum can be seen growing wild near creeks and in the bush in many parts of the country. They grow from sea level up to about 2700 metres altitude. But in most places these plants are wild and not eaten for food. They are very bitter.

In a few areas this taro is grown in food gardens as a food. At Namatanai in New Ireland Province, and amongst some of the Tolais near Rabaul it is commonly grown and used.

The same plant has been recorded as an occasional food plant in a number of Pacific countries, the Philippines and in Indonesia and Malaysia, Taiwan and India.

How are Giant Taros grown?

Small shoots or corms develop along the sides of the stem of the main plant. These can be removed and planted. But growth from them is very slow.

It is better to use the top piece of an old stem once the plant has been harvested. Pieces of the stem can be used. Plants need to be 1 to 1.5m apart.

Because the giant taro takes more than a year to be ready to harvest, it often ends up left growing in an old garden site after the other plants have been replanted in a new garden. The giant taro is simply left to grow without much care or weeding, until the owner wants to harvest it.

Preparing and cooking giant taro?

Giant taro contains small needle-like crystals in the tissues. These are due to a chemical called calcium oxalate. It is necessary to remove these during the preparation and cooking. The method of peeling is important Normally some ladies who are especially experienced at peeling do this job. Also the taro corm is often left to wilt for a week after it is harvested and before it is used.

Also to help remove some of the crytals, the stem is baked for a long time, or boiled in several changes of water.

It is also important to use the right variety of giant taro because the kinds grown in gardens have less of the chemical than wild ones.

What conditions does giant taro require?

Giant taro is a tropical plant and will not grow well below 10oC. It requires a well distributed rainfall and does not tolerate drought. Even though it grows along creek banks it cannot tolerate waterlogged soil.

NOTES

There are about 60-70 Alocasia species.

PICTURES



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)



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REFERENCES

Giant taro references

Aberoumand, A. and Deokule, S. S., 2009, Determination of Elements Profile of Some Wild Edible Plants. Food Anal. Methods. 2:116-119 (As Alocasia indica)

Allen, R.N., 1929, Photomicrographs of Philippine starches. Philipp. J.Sci., 38(2), 247.

Ambasta S.P. (Ed.), 2000, The Useful Plants of India. CSIR India. p 29 (As Alocasia indica)

Anderson, E. F., 1993, Plants and people of the Golden Triangle. Dioscorides Press. p 20

Ara, R. I. T., 2015, Leafy Vegetables in Bangladesh. Photon eBooks. p 116 (As Alocasia indica)

Asthana, R.P., 1946, Bacterial leaf-spot on arum. Curr. Sci., 15(12), 356.

Backer, C.A., & Brink,B.,van den, 1968, Flora of Java.p 118.

Bandyopadhyay, S. et al, 2009, Wild edible plants of Koch Bihar district, West Bengal. Natural Products Radiance 8(1) 64-72

Bandyopadhyay, S., et al, 2012, A Census of Wild Edible Plants from Howrah District, West Bengal, India. Proceedings of UGC sponsored National Seminar 2012 (As Alocasia indica)

Banerjee, A., et al, 2013, Ethnobotanical Documentation of Some Wild Edible Plants in Bankura District, West Bengal, India. The Journal of Ethnobiology and Traditional Medicine. Photon 120 (2013) 585-590 (As Alocasia indica)

Baro, D., Baruah, S. and Borthukar, S. K. 2015, Documentation on wild vegetables of Baksa district, BTAD (Assam). Scholars Research Library. Archives of Applied Science Research, 2015, 7 (9):19-27 (As Alocasia indica)

Barrau, J., 1958, Subsistence Agriculture in Melanesia. Bishop Museum Bulletin 219 p 43.

Barrau, J., 1957, Les Aracees a tubercules alimentaires des iles du Pacifique sud. J.Agric. Trop. Bot. Appl. 4(1), 41-44.

Barrau, J., 1976, Subsistence Agriculture in Polynesia and Micronesia. Bernice P. Bishop Museu, Bulletin 223 Honolulu Hawaii. Kraus reprint. p 39

Biswas, K. & Das, A. P., 2011, Documentation of wild leafy vegetables from the tribal dominated parts of Malda District of Paschimbanga, India. Recent Studies in Biodiversity and Traditional Knowledge in India 301 - 306. 2011.

Bois, D., 1927, Les Plantes Alimentaires. Vol. 1 p 527.

Bodkin, F., 1991, Encyclopedia Botanica. Cornstalk publishing, p 68

Borrell, O.W., 1989, An Annotated Checklist of the Flora of Kairiru Island, New Guinea. Marcellin College, Victoria Australia. p 15, 156 (Also as Alocasia indica)

Bourret, D., 1981, Bonnes-Plantes de Nouvelle-Caledonie et des Loyaute. ORSTOM. p 61

Brickell, C. (Ed.), 1999, The Royal Horticultural Society A-Z Encyclopedia of Garden Plants. Convent Garden Books. p 99

Brown, D., 2000, Aroids. Plants of the Arum family. Timber Press. (Second edition) p 262, 306,

Brown, W.H., 1920, Wild Food Plants of the Philippines. Bureau of Forestry Bulletin No. 21 Manila. p 28

Brown, 1951, Useful Plants of the Philippines p 343.

Burkill, H. M., 1985, The useful plants of west tropical Africa, Vol. 1. Kew.

Burkill, I.H., 1966, A Dictionary of the Economic Products of the Malay Peninsula. Ministry of Agriculture and Cooperatives, Kuala Lumpur, Malaysia. Vol 1 (A-H) p 107 (As Alocasia indica)

Cable, W.J., 1985, Growth of giant taro (Alocasia sp.) cultivars at Alafua, Western Samoa. Alafua Ag Bulletin v 10(3) p13-19

Chanda, M., et al, 2018, Assessment of Traditionally Used Wild Edible Plants and Its Impact on Health and Livelihood among the Ethnic Communities of Tripura. Asian Journal of Agricultural and Horticultural Research. 2(3): 1-13

Cherikoff V. & Isaacs, J., The Bush Food Handbook. How to gather, grow, process and cook Australian Wild Foods. Ti Tree Press, Australia p 192, 194, 198

Chiang Mai University Vol. 4 , 1964, Table 6 p 47

Chowdery, T., et al, 2014, Wild edible plants of Uttar Dinajpur District, West Bengal. Life Science Leaflets. 47:pp 20-36 http://lifesciencesleaflets.ning.com

Chowdhury, M. & Mukherjee, R., 2012, Wild Edible Plants Consumed by Local Communities of Maldah of West Bengal, India. Indian J.Sci.Res.3(2) : 163-170

Coursey, D.G.,1967, The edible aroids. Wld.Crops. 20(4):25-30.

Cribb, A.B. & J.W., 1976, Wild Food in Australia, Fontana. p 144

Cundall, P., (ed.), 2004, Gardening Australia: flora: the gardener's bible. ABC Books. p 133 (As Alocasia macrorrhizos)

Devarkar, V. D., et al, 2011, Dietary and Medicinal Significance of Wild Vegetables from Osmanabad Region, Maharashtra (India). Life sciences Leaflets 11:317-332. (As Alocasia indica)

Devi, O. S., et al, 2021, Wild edible plants associated witht the people of Thoubal Khunou village and its migrated villagers. Int. J. Adv. Res. Biol. Sci. 8(9): 72-90

Dobriyal, M. J. R. & Dobriyal, R., 2014, Non Wood Forest Produce an Option for Ethnic Food and Nutritional Security in India. Int. J. of Usuf. Mngt. 15(1):17-37

Doi Shinji, 1944, Value of Dokuimo as a raw material for the fermentation industry. J.Agric. Chem.Japan 20,457-464.

Dutta, U., 2012, Wild Vegetables collected by the local communities from the Churang reserve of BTD, Assam. International Journal of Science and Advanced Technology. Vol. 2(4) p 119 (As Alocasia indica)

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