PLANT FACT SHEET

Amorphophallus paeoniifolius (Decne.) Nicolson

GENUS *Amorphophallus* **FAMILY** Araceae

COMMON NAMES Elephant foot yam

EDIBLE PARTS AND USES

Edible parts: Tuber, Roots, Corm, Leaves, Vegetable

The corm is cooked and eaten. In some kinds it is burned and smashed with salt and eaten with rice.
The young unopened leaves are edible cooked.
The young petioles or leaf stalks are eaten cooked. They are often eaten with fish. They are also used in soup.
The harvested stalks can only be stored for about one week.

DESCRIPTION

A taro family plant but with a very divided leaf. It grows to 0.75-1 m high. It is a herbaceous plant with rough and mottled leaf stalks. It has a straight stem and the leaf is divided into leaflets. The leaves can be 1 m in width. The leaves usually come singly from the ground. The leaf blades are divided into many lobes. The leaflets can be 3-35 cm long and 2-13 cm wide. The flower stalk can be 3-20 cm long. The bract around the flower is bell shaped and fluted. It can be 60 cm across. The edge is curved back and wavy. The flower is dull purple and up to 30 cm across. It can be 70 cm long. The flower gives of a bad smell like rotting meat and this attracts flies. The flower only develops after the leaves have died off. The leaves and corms especially in the wild varieties contain many stinging crystals. Edible kinds have a smooth petiole. It has a large round tuber up to 25 cm across. The large round underground corm produces small corms around the side. These can be 10 cm long. These are usually used for planting.

HABITAT

A tropical plant. It occurs mainly in seasonally dry areas and grassland up to 800 m altitude in equatorial zones. It requires an average temperature of 25-35°C and rainfall of 1000-1500 mm during the growing season. Soils need to be well drained as it cannot stand waterlogging. It occurs widely around the Philippines in low altitude places especially where people have cleared the forest. It is common in Indonesia and Vietnam. In XTBG Yunnan.

PRODUCTION

Cultivation

The cormels are planted. Seeds will grow but flowers need hand pollination. Small corms from around the side are the normal part planted. If a very small corm is planted, the plant may need to grow for several seasons to produce a large yield. Setts or small cormels of 200 g are suitable for use planted at 30 cm x 30 cm spacing and produce seed corms of about 500 g. Larger corms take 3-4 years to produce. This is achieved by digging up

corms and replanting next season. Each crop takes about 8 months to mature. Corms are planted 15 cm deep. Spacing is increased between plants in successive years of growth. After harvest, the corm needs to be kept for a few months before it is ready to produce a new shoot and re-grow.

Harvesting and Seed Production

The stalk dies back when the plant is mature. The corm will keep for several months. An individual corm can finally weigh 8 kg. When it is planted a single leaf stalk is produced and the irregular shaped leaf is produced at the top of the stalk. Eventually the corm under the ground increases in size then the leaf dies back. The corm could be harvested and stored, or eaten at this stage. If it is just left, a very large flower is produced. This type of growth pattern where vegetative growth is followed by a storage organ with dormancy, is the type of growth that suits areas with a distinct wet and dry season. It has the advantage that the corm will store well after harvest and can be eaten in the dry season when food is short.

NOTES

There are about 170-200 Amorphophallus species. It has benefits against colon cancer.

PICTURES



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)

REFERENCES

Elephant foot yam references

Aher, S. R., 2023, Traditionally Used Wild Edible Plants from Dist. Washim (M.S.) India. Bulletin Monumental Vol. 24: Issue 8 p 72f

Ambasta S.P. (Ed.), 2000, The Useful Plants of India. CSIR India. p 36 (As Amorphophallus campanulatus)

Anderson, E. F., 1993, Plants and people of the Golden Triangle. Dioscorides Press. p 202 (As Amorphophallus campanulatus)

Anon., 1939, Note sur une plante a tubercles amylaces d'Ilis-Ilis de Java (Amorphophallus campanulatus Blume). Agron. colon. 28(255), 84-87.

Anon., 1960/61. Effect of waxing on elephant yam Amorphophallus campanulatus. Ann. Rep. cent. Fd. technol. res. Inst. Mysore p 3

Ansil, P. N., et al, 2014, Cytotoxic and apoptotic activities of Amorphophallus campanulatus (Roxb.) Bl. tuber extracts against colon carcinoma cell line HCT-15. Saudi Journal of Biological Sciences 21:524-531

Arakeri, H.R., 1950, Seed production in suran (Amorphophallus campanulatus) Dharwar Agric. Voll. Mag., 3:3-4.

Arakeri, H.R., 1956, A note on storage and germination requirements of seeds of Suran. Indian J. Genet. 1:27-29.

Backer, C.A. and Brink, B van den, 1968, Flora of Java. 3 vols. p111.

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 Amorphophallus campanulatus)

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

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

Bircher, A. G. & Bircher, W. H., 2000, Encyclopedia of Fruit Trees and Edible Flowering Plants in Egypt and the Subtropics. AUC Press. p 24 (As Amorphophallus campanulatus)

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.

Brown, D., 2000, Aroids. Plants of the Arum family. Timber Press. (Second edition) p 265

Brock, J., 1993, Native Plants of Northern Australia, Reed. p 89

Brown, W.H., 1920, Wild Food Plants of the Philippines. Bureau of Forestry Bulletin No. 21 Manila. p 31

Brown, , 1951, Useful Plants of the Philippines. p344.

Brown, D.,1988, Aroids. Timber Press, Portland, Oregon. p39-40 and 202-4.

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 139 (As Amorphophallus campanulatus)

Cabalion, P. and Morat, P., 1983, Introduction le vegetation, la flore et aux noms vernaculaires de l'ile de Pentcoste (Vanuatu), In: Journal d'agriculture traditionnelle et de botanique appliquee JATBA Vol. 30, 3-4

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

Chandewar, N.G. & Chandewar, R., 2023, Exploration, Documentation and Ethno-botanical Studies of Wild Edible Plants of Mogarkasa Conservation Reserve (MCR) of Nagpur District, Maharashtra State. International Advanced Research Journal in Science, Engineering and Technology Vol. 10, Issue 5 May 2023

Chandrakumar, P., et al, 2015, Ethnobotanical studies of wild edible plants of Gond, Halba and Kawar tribes of Salekasa Taluka, Gondia District, Maharashtra State, India. International Research Journal of Pharmacy 6(8)

Chaugule, B.A. and Knot, B.D., 1957, Four years with suran. Indian Fmg., 7(9):27-31.

Chaugule, B.A. and Knot, B.D., 1963, Effect of size of seed corm and spacing on growth and yield of four year suran, (Amorphophallus campanulatus Blume). Indian J. Agron. 7(4):310-318.

Checklist of NT Vascular Plant Species. January 2003.

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

Chevalier, A., 1931, Les amorphophallus et leurs usages. Revue Bot. Appl. Agric. Trop. 11(122):809-816.

Chiang Mai University Vol. 4 , 1964, bio1080uu, Table 6 p 48

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

Christophersen, E., 1935, Flowering Plants of Samoa. Bishop Museum Bulletin. No 128 p40.

Cooper, W. and Cooper, W., 2004, Fruits of the Australian Tropical Rainforest. Nokomis Editions, Victoria, Australia. p 59

Coursey, D.G., 1968, The edible aroids. World Crops 20(4):25-30.

Full reference list (122 more) at https://www.echocommunity.org/en/resources/f1de86c8-632a-4986-85d8-d8daaf325957

PROVIDED BY **Food Plants International**

French, B.R. & Maynard, A.R. Food Plants International Database. Food Plants International

LICENCE CC BY-NC-SA 3.0

ONLINE FACT SHEET https://www.echocommunity.org/en/resources/f1de86c8-632a-4986-85d8-d8daaf325957