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Xanthosoma mafaffa Schott (Araceae) an edible tuber, a new record from Eastern Ghats

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Abstract
Xanthosoma mafaffa Schott is a cultivated species, grown for its edible tubers in Araku valley by indigenous people. The present paper provides plant description, photographs, and ethnic importance of *mafaffa* gathered from local people.

Keywords: *Xanthosoma*, edible tuber, aroids, Araku, Eastern Ghats, Andhra Pradesh

Introduction
Xanthosoma species are fast growing and robust plants with large leaves with milky latex. They are both wild and edible. Mostly edible aroids are considered as poor man's food, because only indigenous and poor people eat aroids, the tubers are not sold in towns nor available in super markets. "I give you every seed-bearing plant on the face of the whole earth….....they will be yours for food, I give every green plant for food" Genesis 1-29, 30. Unfortunately we neglect many foods. Hill region people use more edible aroids than plain area people.

It is difficult to identify *Xanthosoma* species as they are similar in morphology until flowering. The author has confused the present species with *X. Sagittifolium*, both of which are morphologically similar. When observed, flowering quiet differs from *X. sagittifolium*, resembles *X. Mafaffa* in leaf margin purple, spathe tube reddish green outside and sterile portion of the spadix pink. Previously three species were reported from India *X. Sagittifolium* (Prameela, Swamy and Prakasa Rao 2020) [7] *X. Robustum* (Prameela & Swamy 2021) [8] and *X. Violaceum* (Prameela, Swamy and M.J. Bhasha 2022) [9] the *X. robustum* is growing wild, the other two are edible.

Key to *Xanthosoma* species of India
1a. Wild species growing in natural environment near aquatic regions; spadix with sterile portion yellow/ orange……..... *X. Robustum*
1b. Cultivated species for food or as ornamental plants; spadix with sterile portion white or pink…….....2
2a. Posterior rib not at all naked; Posterior lobes rounded at the tip; petiole, mid rib and lateral ribs are green; peduncle 25 cm long; spadix with sterile portion white…….....*X. Sagittifolium*
2b. Posterior rib naked at least 0-1 cm, Posterior lobes pointed or round at the tip; petiole, mid rib and lateral ribs are dark purple or green; peduncle 25 or 45 cm long; spadix with sterile portion light pink or dark pink.....3
3a. Petiole, mid rib, and lateral ribs are dark purple, sterile portion dark pink……*X Violaceum*
3b. Petiole, mid rib, and lateral ribs are green, sterile portion pinkish white…….. *X Mafaffa*

Plant Description
Terrestrial and huge plants, growing up to 1.5 cm tall, stem cormatous and stoloniferous, stolons produce small edible cormlets young stem hypogeal, mature stem epigeal and decumbent, densely covered by brown fibres; Leaves large 5-6; petioles 120-150 cm long, green and waxy, terete petiole 80-90 cm long, 2-4 cm diam, sheathing part 45-55 cm long, sheath margin erect to revolute, pink; leaf blade 70-80 cm long, 60-65 cm width, cordate sagittate, concolor, adaxial dark green, abaxial yellow green, margin wavy, purple,

primary anterior veins 6-7 pairs, posterior ribs naked 0-1 cm; Inflorescence 3 per axil, peduncle 20 to 25 cm long, 2.5-2.8 cm diam., compressed; spathe 28-30 cm long, spathe tube 10-11 cm long, 5-7 cm diam., reddish green outside, yellow red inside; blade 19-21 cm long, 12 cm wide midway, margin yellow green or yellow red; Spadix 22 cm long; Staminate portion 12 cm long, before dehiscence white in colour, after dehiscence turned to yellow obtuse, at apex pink, abundant pollen; Sterile portion 4-4.5 cm long, 2.3 cm diam., at base, 1.3 cm diam between male and sterile portion, moderately dimorphic, thick and pinkish white in colour, thickened staminodia at base subrounded, the next rows rhombic to hexagonal; Pistillate portion conical, 4.5 cm long, 2 cm diam, bright yellow; stipe 1.5 cm long, there is a small patch in the stipe, stipe pinkish yellow (Figure 1).

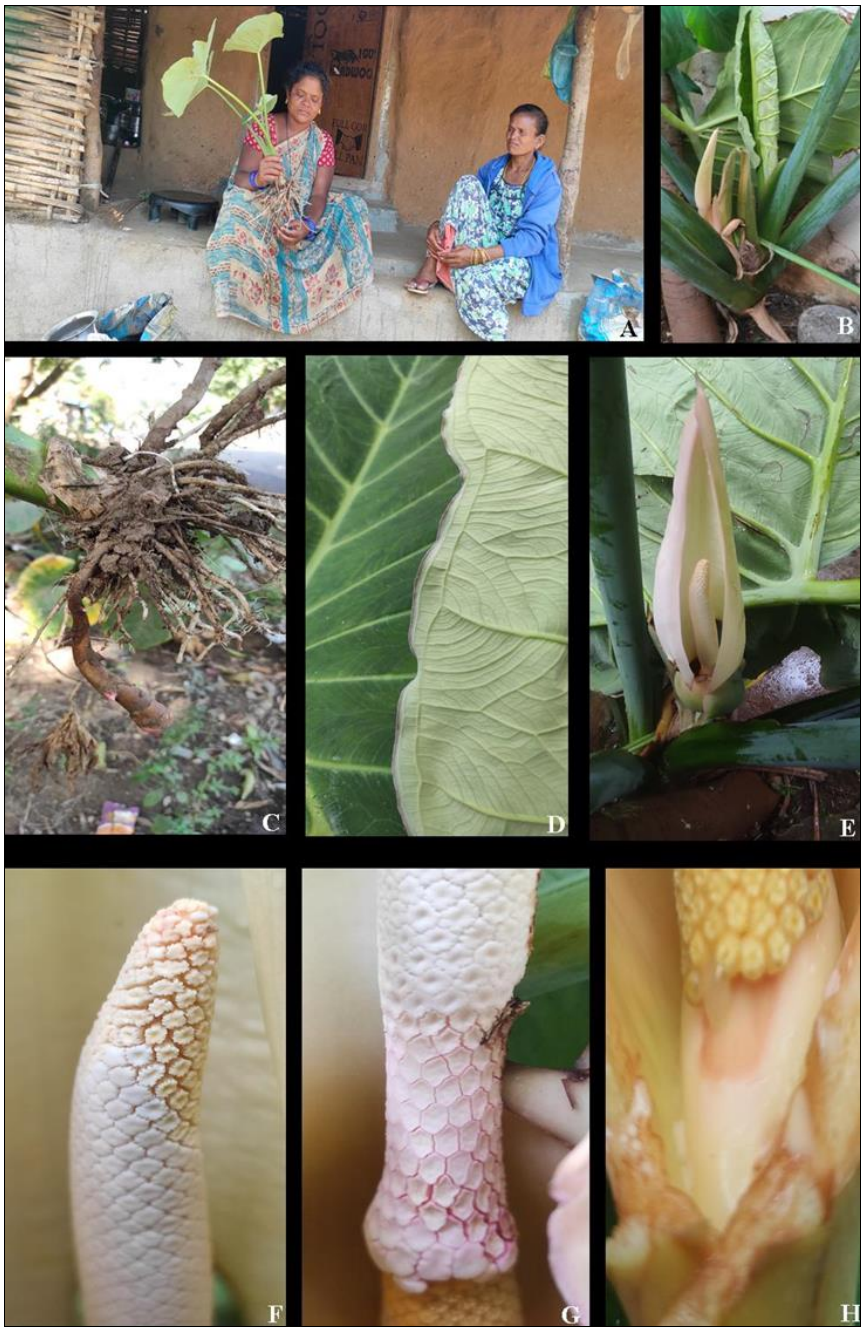

Fig 1: A) Local people explaining about plant; B) Plant with flowering; C) Edible cormlet; D) Leaf with purple margin; E) Inflorescence; F) Male portion; G) Sterile portion; H) Female portion and stipe

Flowering: November-December.

Habitat: Mesophyte, growing well near moisture soils. Cultivated in the hill regions of Eastern Ghats.

Distribution: Costa Rica to Guatemala. Artificially spread in Caribbean Islands and also Florida.

Specimen examined: India, Eastern Ghats, Andhra Pradesh, Araku. 12th November 2023 R.Prameela 25411 (AUV)

Notes: It is cultivated by indigenous people for its edible tubers. Though it is an aroid it is not itchy, for this reason they are use it widely. They take them as snacks by boiling and use them in curries. Tender leaves and petioles are used to making soup (RASAM). When the author asked the local people where they got this plant from, they said that they have been using this tuber for many years and their ancestors also used it. When asked about flowers, they said they don't know much about flowering. They harvest the tubers before flowering. Author has introduced the tuber in her home

garden in 2021, after two and half years it came to flowering. After critical examination the *Xanthosoma* species matched with *Xanthosoma mafaffa*.

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Conclusion
Xanthosoma species are resilient, fast-growing plants with notable significance among indigenous communities, particularly in the hill regions. These plants, often overlooked and labeled as "poor man's food", offer a valuable and nutritious food source, with tubers commonly utilized in various traditional dishes. Despite their morphological similarities, distinguishing features such as the coloration of the spadix and leaf margins are crucial for accurate identification. The study reveals that the examined species, originally confused with X. sagittifolium, is indeed X. mafaffa. This emphasizes the importance of preserving indigenous knowledge and promoting the utilization of underappreciated edible plants for broader nutritional benefits.

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