

Xanthosoma robustum (Araceae): An addition to the flora of India

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ABSTRACT

Xanthosoma robustum Schott (Araceae) is reported here as an addition to the flora of India from Andhra Pradesh. A detailed description, photographs and relevant notes are provided to facilitate easy identification.

INTRODUCTION

The genus *Xanthosoma* Schott (Araceae) is represented by ca. 195 species (POWO, 2021), mainly distributed in tropical and southern tropical America, Costa Rica, West Indies and introduced and naturalised in many tropical regions of the world (Mayo, Bogner & Boyce, 1997). The leaves and root stocks of the genus are important food source in many countries. In India the genus is represented by only one species i.e. *Xanthosoma sagittifolium* (L.) Schott, which is usually cultivated for its edible tubers, and also naturalised in low land areas of Andhra Pradesh, Karnataka and Tamil Nadu (Prameela, Swamy & Prakasa Rao, 2020).

While exploring the aroids of Andhra Pradesh, a population of *Xanthosoma* plants was observed in the Eastern Ghats region of Andhra Pradesh and a few voucher specimens were collected from the existing population by the first author. After critical taxonomic studies using the relevant literature (Goncalves, 2011; Croat, Delannay & Ortiz, 2017; Prameela, Swamy & Prakasa Rao, 2020), these specimens were identified as *Xanthosoma robustum* Schott. The species has not been reported from India so far (Sasikala, Vajravelu & Daniel, 2019). Hence, the present collection forms the first report of this species in India. A detailed description with photographs is provided to facilitate easy identification. Voucher specimens have been deposited in the herbarium of the Botanical Survey of India, Deccan Regional Centre (BSID), Hyderabad, Telangana.

DESCRIPTION

Xanthosoma robustum Schott in Oesterr. Bot. Wochenbl. 3:370.1853. (Fig.1)

Marshy Shrubs, 1.5-2 m tall, with sparse, milky sap. Younger plants hypogeal, mature plants epigeal, corm rhizomatous, rhizome decumbent, dark brown; internodes short. Leaves in young plants 2-4, in mature plants 6-8; petioles 100-150 cm long, separated into two parts, lower sheathing part and upper terete part; sheathing part 65-90 × 3-10 cm, revolute, 7-10 cm wide at base, 3-4 cm deep, 3-3.2 cm at top, inflorescence developing from sheathing petiole; upper part 35-60 cm long, terete, 3 cm wide at base, 2 cm wide at top; lamina triangular-sagittate, as long as broad or rarely slightly more than long, 65-80 cm long, 50-80 cm wide at the base, upper surface dark green, lower pale green or yellowish green, glaucous; anterior lobe 55 cm long, 56-60 cm wide at base, apex apiculate; basal lobes 22-23 cm long, 28-35 cm wide, round at base, not overlapping, posterior ribs more or less straight to the apex of the lobes, 1.5-2 cm along the sinus; primary lateral veins 8-12 pairs; marginal vein 0.4 cm from the margin; margin wavy. Inflorescences, 4-6 per axil; bract light yellow, sharply two ribbed, 25-26 × 4-4.5 cm, margins pink. Peduncle 50 × 2-3 cm, obtusely 3-sided, flattened, glaucous. Spathe 30-35 cm long, divided into two parts, tube and blade or limb, constricted between tube and limb, outside of the construction tinged with yellowish green; tube 12 × 4 cm, green, elliptical; limb 23 cm long, 10 cm wide mid-way, 1 cm at apex, tip mucronate; mucro 0.4 cm long; inner surface creamy yellow, outer surface yellow, with pink nerves at the base of the limb, margin of blade at one side pink, another side of the limb with green line. Spadix 28 cm long, divided into 3 parts,

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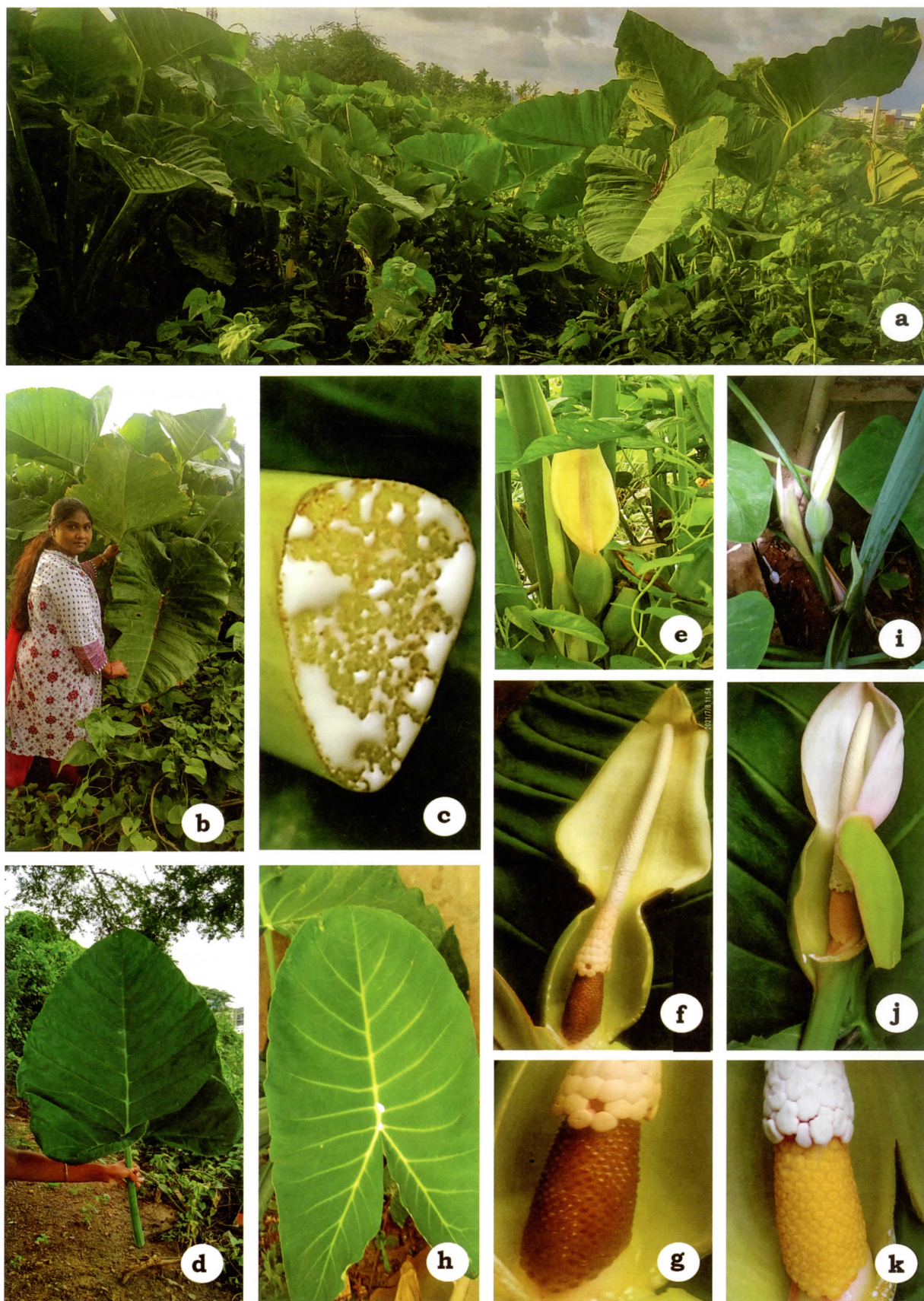


Figure 1. *Xanthosoma robustum* Schott : a. Habitat; b. Habit; c. T.S. of peduncle; d. Leaf; e. Inflorescence; f. Spadix with spathe-open; g. Female portion. *Xanthosoma sagittifolium* (L.) Schott: h. leaf; i. Inflorescence; j. Spadix with spathe-open; k. Female portion.

lower-female portion; middle-neutral portion or staminodes and upper-male portion, appendix absent. Staminate portion white or creamy, 16-18 × 1 cm, synandrium 8-10; pollen release thread like. Sterile portion 7 × 1-1.5 cm, dimorphic, dilated and thickened at basal part, neuters 10-11 rows, basal thickened portion with 7 rows, 1.5 cm wide, in young spadix pinkish but in blossoming spadix light orange coloured; basal staminodia little thicker and longer than 3-4 upper rows of staminodia. Pistillate portion 4-4.5 × 1.2-2 cm; ovaries mustard yellow, 4 - 5 carpellary, each carpel with numerous ovules; funicle long; placentation axile; stigmas brown.

Flowering and Fruiting: June- September.

Habitat: Occasional along streams and near water bodies in association with *Ipomoea carnea* subsp. *fistulosa* (Mart. ex Choisy) D.F. Austin and *Tinospora cordifolia* (Willd.) Hook.f. & Thomson.

Distribution: Native to Belize, Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, introduced into Hawaii (POWO, 2021).

Specimen examined: India, Eastern Ghats, Andhra Pradesh, Vizianagaram district, Vizianagaram, Padmavathi Nagar, 08.07.2021. *R. Prameela* 9307 (BSID).

Note: *Xanthosoma robustum* is one of the most difficult species to identify, because adult plants are very variable depending upon the growing conditions. It is allied to *Xanthosoma sagittifolium* but, can be distinguished by the characters mentioned in table 1.

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Table 1. Comparison of characters of *Xanthosoma robustum* Schott and *Xanthosoma sagittifolium* (L.) Schott

Character	<i>Xanthosoma sagittifolium</i> (L.) Schott	<i>Xanthosoma robustum</i> Schott
Habitat	Terrestrial	Marshy
Height	1 – 1.5 m	1.5 – 2 m
Lateral veins	5 – 7 pairs	8 – 12 pairs
Inflorescence	2 – 3 per axil	4 – 6 per axil
Spathe limb	White	Yellow
Stigma	Yellow	Brown
Female zone	3 cm long	4 – 4.5 cm long
Sterile zone	5 – 6 cm long	7 cm long
Male zone	11 cm long	16 – 18 cm

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