



Published by
www.researchtrend.net

***Costus pictus* D.Don Ex Lindl. (Costaceae) new to Odisha, India**

P.Murugan and C.Kalidass*

Taxonomy and Conservation,
Regional Plant Resource Centre, Bhubaneswar-15, Odisha, India

*Corresponding author: kalidassindia@gamil.com

| Received: 04 August 2016 | Accepted: 24 August 2016 |

ABSTRACT

Costus pictus D.Don ex Lindl. (Costaceae), is reported new to Odisha, India. Colour illustration of this species is provided for taxonomic identification. This species is a native to South and Central America.

Key Words: Costaceae, *Costus* L. Odisha, India, new reports.

INTRODUCTION

The genus *Costus* L. belonging to the family Costaceae and comprises approximately 85 species, which were mostly distributed in Africa and the neotropics (Specht, 2006). So far only seven species of it has been reported in India (Merina, 2004, Sabu, 2006). Saxena, & Brahmam, (1996) have reported only one species such as *Costus speciosus* (J.Koeing) Sm., currently this name is a synonym of *Cheilocostus speciosus* (J.Koenig) C.D.Specht. from Odisha in their works. During a recent field exploration in the Bhubaneswar city of the Khurda district of Odisha, a small population of *Costus* L. has been located in the IRC village area. After a critical and comparative study of the live specimen based on available literature (Sabu, 2006, Kare *et al.*, 2012) it was identified as *Costus pictus* D.Don ex Lindl. Hence, the present report is a new record for Odisha state and also its extended distribution of India. The detailed description with updated nomenclature and colour illustration of this species is provided. A herbarium specimen is deposited for the herbarium of Regional Plant Resource Centre, Bhubaneswar, Odisha.

Taxonomic treatment

Costus pictus D.Don ex Lindl., Edwards's Bot. Reg. 19: t. 1594. 1833. Sabu, Zingiberaceae and Costaceae of South India 258. 2006. *C. mexicanus* Liebm., Bot. Tidsskr. 18: 261. t.16. 1893. *C. congestus* Rowlee, Bull. Torrey Bot. Club 49: 291. 1922. **Fig. 1.**

Common name: Insulin plant

Perennial, rhizomatous, erect terrestrial herbs, non-aromatic and up to 1.3 m high; stem slender, 8-13 mm diam., internodes 3 cm long, pale green, glabrous. Leaves simple, spirally arranged on stem, dark olive-green, lamina narrowly to broadly elliptic to lanceolate, 13-26 × 6-10 cm long, base at sub cordate, apex at acuminate to caudate, glabrous on both sides; margin entire, scarios; venation parallel with mid rib prominent; petiole very short, ca. 2-4 mm long, flat, glabrous; ligule 10-15 mm long, membranous, slightly thread like very long hairs; sheath 3-4 × 1.5 cm long, pale green, tubular

like covered the stem, glabrous. Inflorescences terminal on leafy stem, spiciform, cone like, with prominent persistent imbricated bracts and one flower opened at a time. Bracts 3.5-10 × 3-4 cm long, coriaceous, one flower per bract, broadly ovate, greenish towards apex, reddish brown towards base and scarious. Bracteoles 1.5-2.2 × 6-8 cm long, coriaceous, boat shaped, reddish brown towards base, slightly greenish towards apex, tip acute to pointed and scarious. Flower epigynous, zygomorphic, 5.5-7 × 2-3 cm long. Calyx 8-10 × 4-6 mm long, cup-shaped, reddish brown, pubescent, scarious, persistent, tri-lobed; each lobe 2-4 mm long, apex at obtuse to acute. Corolla 3-lobed, unequal, base fused, imbricate in bud, overlapping at maturity; dorsal petals 1, 5-6 × 2-3 cm long, creamy yellow, broadly elliptic to lanceolate, glabrous, transparent, margin entire, recurved; lateral petals 2, 5-5.5 × 1.5-2.5 cm long, creamy yellow, lanceolate, glabrous, transparent, margin entire, recurved. Labellum 4-5.5 × 3.5-4 cm long, funnel-shaped, central, deeply three lobed at apex, yellow, without stripes; lateral lobes light yellow with reddish brown stripes. Lateral staminodes, obsolete; Filament 2-3 × 1 cm long, yellow, broad, hairy towards the centre; anther thecae 8 × 4 mm long, white, ovate, dehisced by longitudinal slits.

Anther crests 10 × 5 mm, broadly ovate, median yellow, margin reddish brown. Ovary 5-8 × 3 mm long, inferior, trigonous, 3 locular, placentation axile, villous; style filiform, 4-5 cm long, glabrous; stigma bilobed with a two-pronged, rounded dorsal appendage, glabrous.

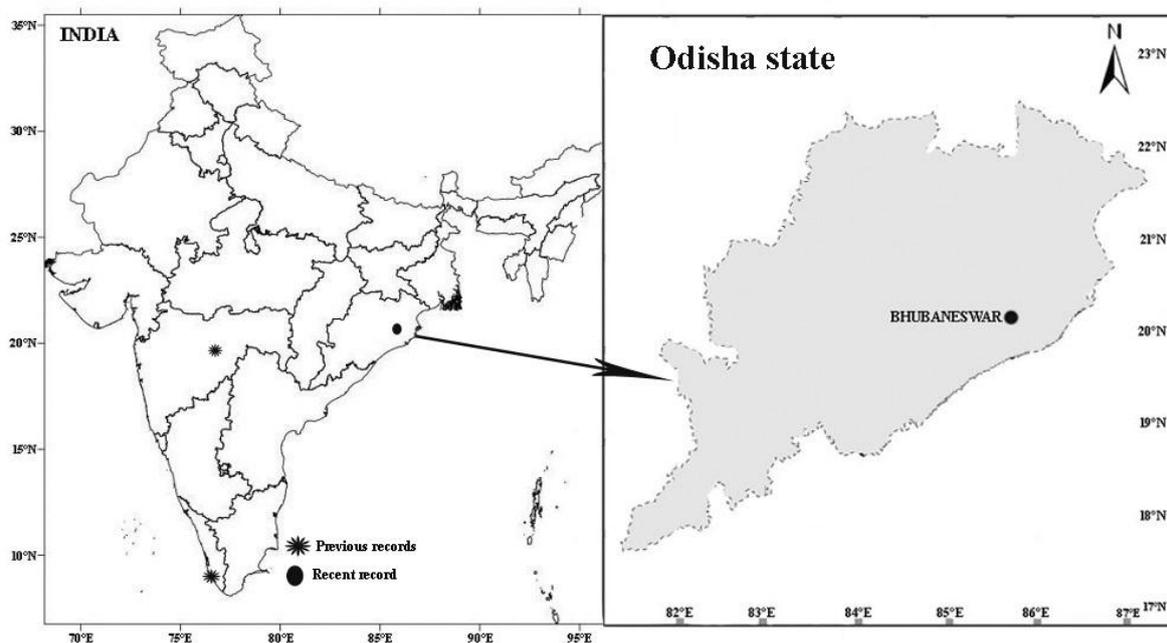
Flowering and Fruiting: July - September

Distribution: North & South America and also introduced India (Kerala, Maharashtra) now naturalized in Odisha (Map 1).

Biotic Association: It grows in the side of the road along with *Cleome rutidosperma* DC., *Cleome viscosa* L., *Boerhavia diffusa* L., *Commelina benghalensis* L., *Coccinia grandis* (L.) J.Voigt and *Phyllanthus* sp.

Specimens examined: INDIA: Odisha State, Khurdha District, Bhubaneswar, Nayapalli along road side, N20°18'25" E085°40'780", 75 MSL (Map 1): 17July 2016, C. Kalidass & P.Murugan, 9496 (RPRC).

Uses: Fresh young leaf is taken orally to cure diabetics.



Map 1: Distribution of *Costus pictus* D.Don ex Lindl., in India

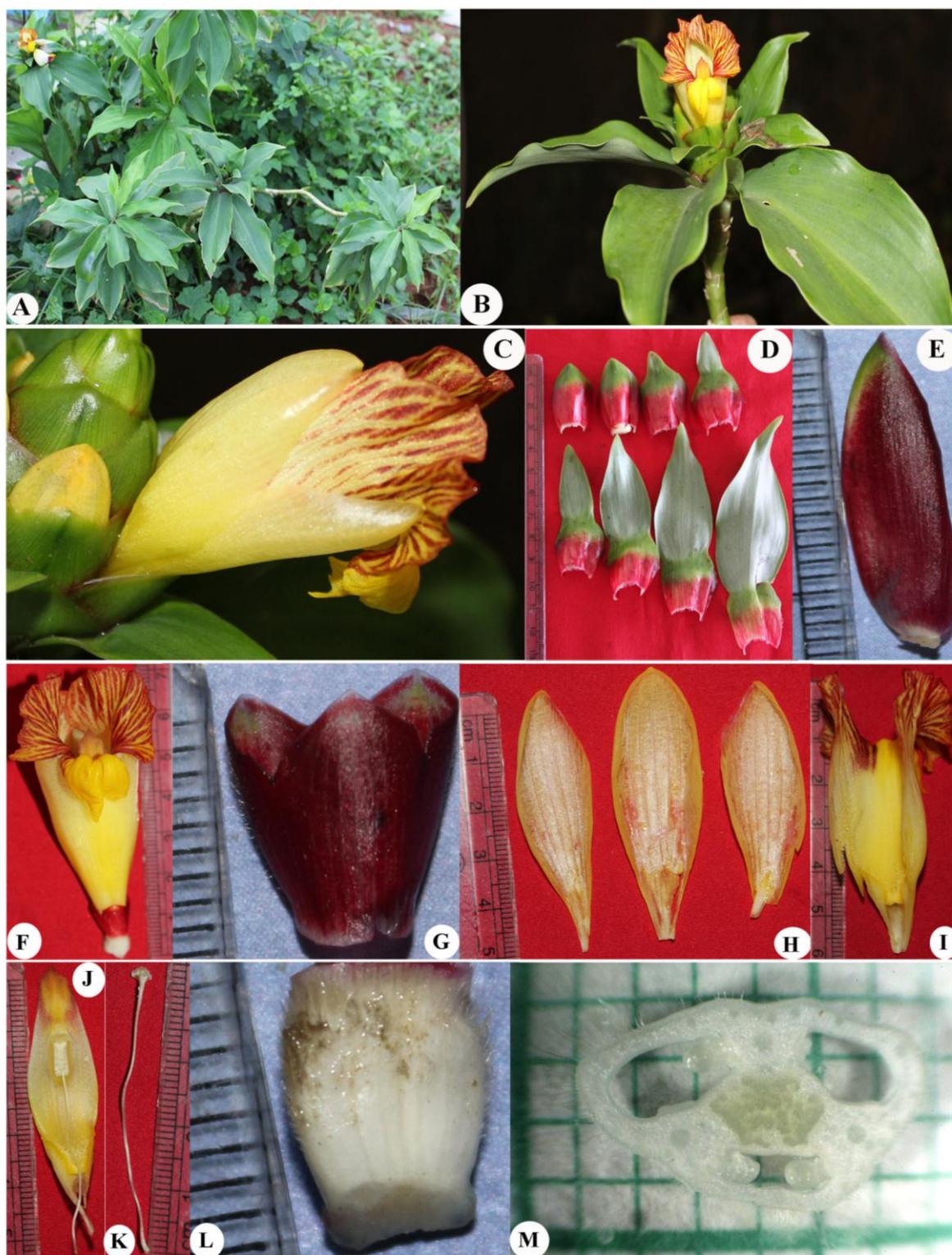


Fig. 1. *Costus pictus* D. Don (Costaceae): **A.** habit, **B.** flowers twig, **C.** lateral view of flowers twig, **D.** different stages of bract, **E.** bractole, **F.** flower, **G.** calyx, **H.** petals, **I.** labellum, **J.** stamen with style, **K.** style, **L.** ovary, **M.** c.s. of ovary

ACKNOWLEDGEMENTS

Authors are grateful to the Forest & Environment Department, Government of Odisha for financial support and to the Chief Executive, Regional Plant Resource Centre, Bhubaneswar for facilities.

REFERENCES

- Kare MA, Mule DA, Paithane VA, Bhuktar AS. 2012. *Costus pictus* D. Don ex Lindl. New records to flora of Maharashtra, India. International Multidisciplinary Research Journal 5(1):20-26.
- Merina B. 2004. Insulin Plant in gardens. Natural Product Radiance 3(5):349-350.
- Sabu M. 2006. *Zingiberaceae and Costaceae of South India*. Indian Association for Angiosperm Taxonomy, Kerala, India 251-263.
- Saxena HO, Brahmam M. 1996. '*The Flora of Orissa*'. Orissa Forest Development Corporation Ltd., Bhubaneswar, India.
- Specht CD. 2006. Gondwanan Vicariance or Dispersal in the Tropics? The Biogeographic History of the Tropical Monocot Family Costaceae (Zingiberales). ALISO 22(1):631-642.