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# Two New Additions to the Flora of Andhra Pradesh, India

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## Abstract

Two taxa *viz. Pancratium verecundum* Aiton (Amaryllidaceae) and *Tripogon bromoides* var. *anantaswamianus* (Sreek., V.J.Nair & N.C.Nair) Sang.Dey & Prasanna (Poaceae) are reported here as additions to flora of Andhra Pradesh from the Alluri Sitharama Raju (ASR) district of Andhra Pradesh, India. A detailed description and photo plates are provided for easy identification.

**Key words**: *Amaryllidaceae, Endemics, New records, Pancratium, Poaceae, Tripogon*

## Introduction

Andhra Pradesh is a seventh largest state in India located in the southern coastal region of India. The state spreads from south to north direction along the east coast with an area of 162,970 km². The important bio-geographical regions in the state are Velikonda, Seshachalam, Gundlabrah meshwaram, Nallamala, Papikonda, Kambalakonda hills *etc.* Each region has its own and specific plant and animal diversity. The main forest types of the state are semi-evergreen, moist deciduous, dry deciduous to even dry evergreen forests. Pullaiah et al. (2018) reported 2982 taxa of flowering plants under 1112 genera and 177 families from the residuary Andhra Pradesh. However, many parts of Andhra Pradesh are still underexplored, as new species and records are being added every day.

## Materials and methods

While working on the flora Andhra Pradesh, the authors have collected two interesting plants from the hills of Alluri Sitharama Raju (ASR) district, Andhra Pradesh. The specimens have been later identified as *Pancratium verecundum* Aiton (Amaryllidaceae) and *Tripogon bromoides* var. *anantaswamianus* (Sreek., V.J.Nair & N.C.Nair) Sang. Dey & Prasanna (Poaceae) after critical studies of the specimens and with relevant literature. *Pancratium verecundum* was earlier reported from the Northern parts of India and recently from the Telangana state (Swamy & Rasingam, 2022). *Tripogon bromoides var. anantaswamianus* is endemic to Western Ghats and known from the Kanniyakumari and Coimbatore districts of Tamil Nadu (Sreekumar et al. 1983; Kabeer et al.2008; Sangita & Prasanna, 2021). Hence, the present collections form an extended distribution of two species to the flora of Andhra Pradesh. A detailed description and photo plates are provided for easy identification.

## Results

***Pancratium verecundum*** Aiton, Hort. Kew. 1: 412. 1810; Hook. f., Fl. Brit. India 6: 285. 1892; Karthik. et al., Fl. Ind. Enum. Monocot.: 4. 1989; Mastakar & S.S. Dash in A.A. Mao & S.S. Dash, Fl. Pl. India Annot. Checkl. Monocot.: 144. 2020; Swamy & Rasingam in J. Econ. Taxon. Bot. 46: 126. 2022. **(Fig.1)**

Perennial bulbous herb, up to 20 cm high; bulbs globose, 3 – 5.5 × 3 – 4 cm; neck cylindric, 3.2 – 4 cm long. Leaves 1 – 2, linear, 20 – 28 × 1.2 - 1.6 cm, thin, apex acute, margin entire, glabrous. Scape 1, 10 – 16 × 0.5 – 0.7 cm, compressed when dry, green, glabrous; spathe 1, 3 – 4.5 × 1 – 1.7 cm, oblong – lanceolate, bifid at apex, membranous, glabrous. Inflorescence umbellate, 12 – 14 cm long, 2 – 6 flowered. Flowers white, fragrant; pedicels short, up to 0.6 cm long. Perianth tube trigonous, throat obconic, 7 – 9 cm long, glabrous; lobes 6, 3.5 – 4 cm long, linear, recurved, glabrous. Staminal cup adnate to segments, obconic, 2 – 4 cm long, with a 12 bifid teeth between filaments at apex; teeth ca. 6 mm long. Filaments 6, 2.2 cm long; anthers yellow, 0.6 cm long, linear, versatile, dorsifixed. Ovary 3 – locular, oblong –

elliptic; ovules many in each cell, axile; style filiform, 13 cm long, longer than the stamens; stigma capitate, 3 mm long. Capsule 3 – angled, 1 X 1 cm, obovoid or orbicular, glabrous.

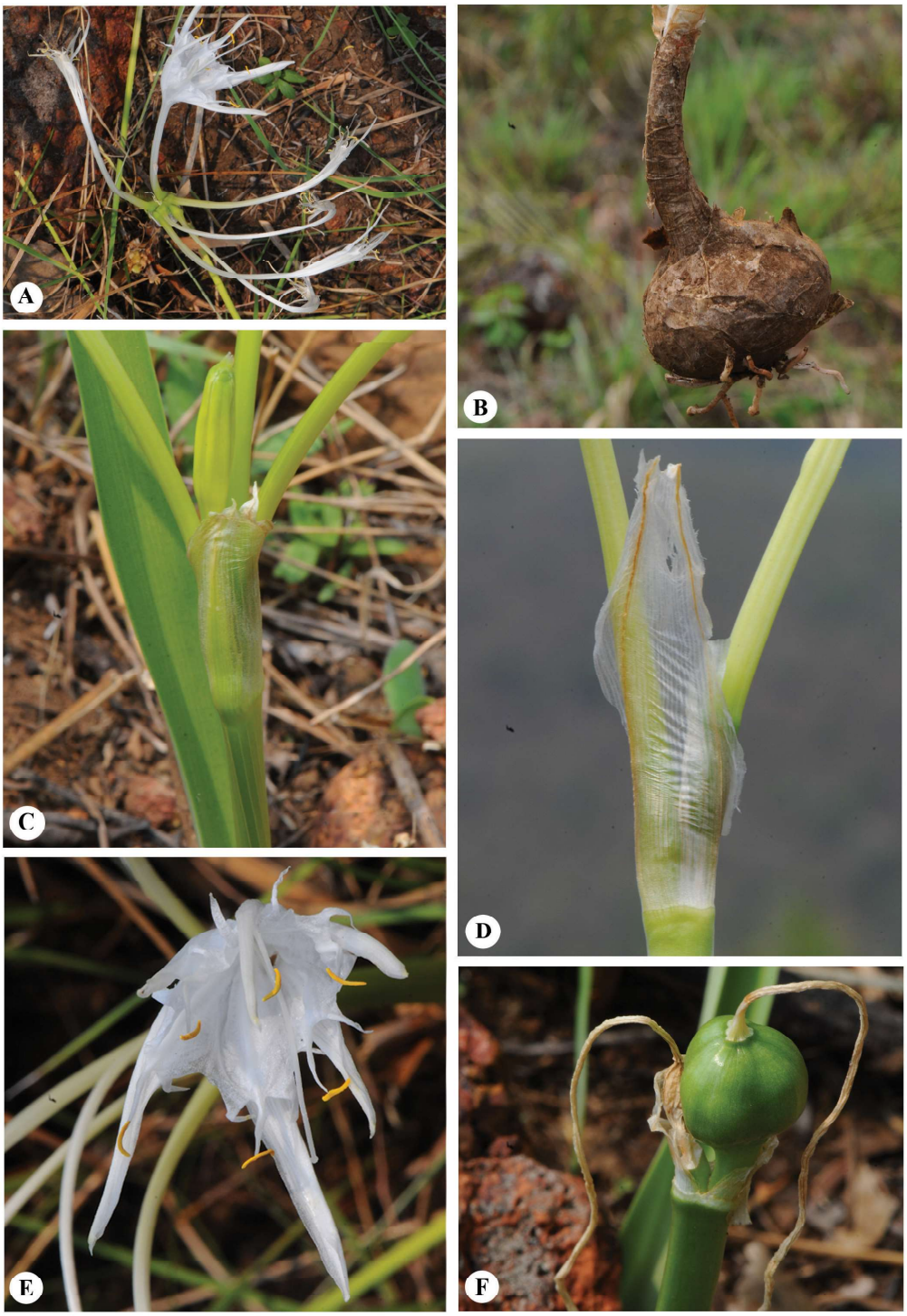


**Fig. 1. Pancratium verecundum** Aiton. A. Habit; B. Bulb; C. Leaf; D. Spathe; E. Flower; F. Fruit.

**Flowering & fruiting:** January - May.

**Habitat:** Rare in open rocky areas in plateau.

**Distribution: INDIA**: Karnataka, Punjab, Sikkim, Telangana and West Bengal; Bangladesh, Nepal and Pakistan.

**Specimen examined:** Andhra Pradesh, Alluri Sitharama Raju district, Booshikonda hills, 17.91236N' 82.13978E', 16.04.2023, *L. Rasingam, K. Nethaji, G. Varshini & P. Ranjithkumar 013046* (BSID).

***Tripogon bromoides*** var. ***anantaswamianus*** (Sreek., V.J.Nair & N.C.Nair) Sang.Dey & Prasanna in Indian J. Forest. 43(2): 151. 2021. *Tripogon anantaswamianus* Sreek., V.J.Nair & N.C.Nair in Bull. Bot. Surv. India 25(1-4): 185. 1985. *Tripogon borii* Kabeer, V.J.Nair & G.V.S. Murthy in Bull. Bot. Surv. India 50(1–4): 115. 2009; Thoiba & Pradeep in Rheedea 30(3): 333. 2020. **(Fig. 2)**

Caespitose perennials; culms up to 40 cm high, terete. Leaf sheath 4-6 cm long, linear, glabrous or hairy, apex densely ciliate; ligules membranous, with a tuft of 1-1.5 mm long hairs at apex; leaf blades 14-22 X 0.1 cm, linear, flat, involute, attenuate at apex, margins light scabrid, nerves prominent, adaxially sparsely long hairy, 1.5-2 mm and small ciliate hairy, abaxially finely scabrellate along ribs. Racemes 9-12 cm long, stiff, straight; rachis stout, glabrous, ribbed; peduncles 5-14 cm long, terete, glabrous; spikelets appressed to concavities in rachis, 4-8 X 1-1.5 mm, ovate - lanceolate, linear, creamy, 5-9 flowered; callus bearded, hairs up to 0.2 mm long; rachilla up to 0.6 mm long. Lower glumes 2-2.5 X 0.8-1 mm, oblong, slightly lobed just above middle, lobes obtuse, 1-nerved, 1-keeled, keels slightly scabrid, acute and mucronulate at apex. Upper glumes 2.5-3 X 1 mm, elliptic–oblong, 1-keeled, 1 nerved, margins hyaline, apex bi-lobed, aristate; arista 0.2-0.4 mm long at sinus. Lemmas 2 X 1.5 mm (excluding awn) oblong-lanceolate, 4-lobed, 3-nerved, 3-awned; median awns 1.3-1.8 mm long with aristate margins; lobes on either side of median awns acute, 0.5 mm long; lateral awns 0.8-1.2 mm long, lateral lobes on either side conspicuous, slightly keeled. Palea 1.6 X 0.7 mm, oblanceolate-elliptic, hyaline, 2-nerved, 2-keeled, keels ciliate, bi-lobed apex. Stamens 3; anthers 0.8-1 X 0.2 mm, oblong, purple tinged at fresh; filaments 0.3-0.5 mm long. Ovary 0.3-0.4 mm, oblong-elliptic; styles 2, 0.8 mm long, slender, hyaline; stigma 0.4-0.6 mm long, plumose, creamy white.

**Flowering and fruiting:** September-November.

**Habitat:** Rare in open rocky edges of scrub forests.

**Distribution:** INDIA: Western Ghats of Tamil Nadu.

**Specimens examined:** Andhra Pradesh, Alluri Sitharama Raju district, Devarapalli-Thimiram road, near Sivaramchainulapalem, 17.928498N' 82.958334E', 05.09.2022, *L. Rasingam, J. Ranjana, K. Nethaji & P. Ranjithkumar 012896* (BSID); on the way to Paderu, 17.95354N' 82.74044E', 94m, 17.04.2023, *L. Rasingam, K. Nethaji, G. Susmitha, G. Varshini & P. Ranjithkumar* 013061 (BSID).

## Discussion

*Pancratium verecundum* Aiton is distributed in Karnataka, Punjab, Sikkim, Telangana and West Bengal states of India and it can be easily distinguished from the other *Pancratium* species by its 6-15 cm long perianth tube, linear perianth lobes and filaments much longer than teeth of staminal cup. *Tripogon bromoides* var. *anantaswamianus* (Sreek., V.J.Nair & N.C.Nair) Sang. Dey & Prasanna is endemic to Western Ghats of Tamil Nadu state and the collection from Eastern Ghats of Andhra Pradesh is noteworthy. This species can be easily distinguished from typical variety *Tripogon bromoides* var. *bromoides* by its prominent four lobed lemma.

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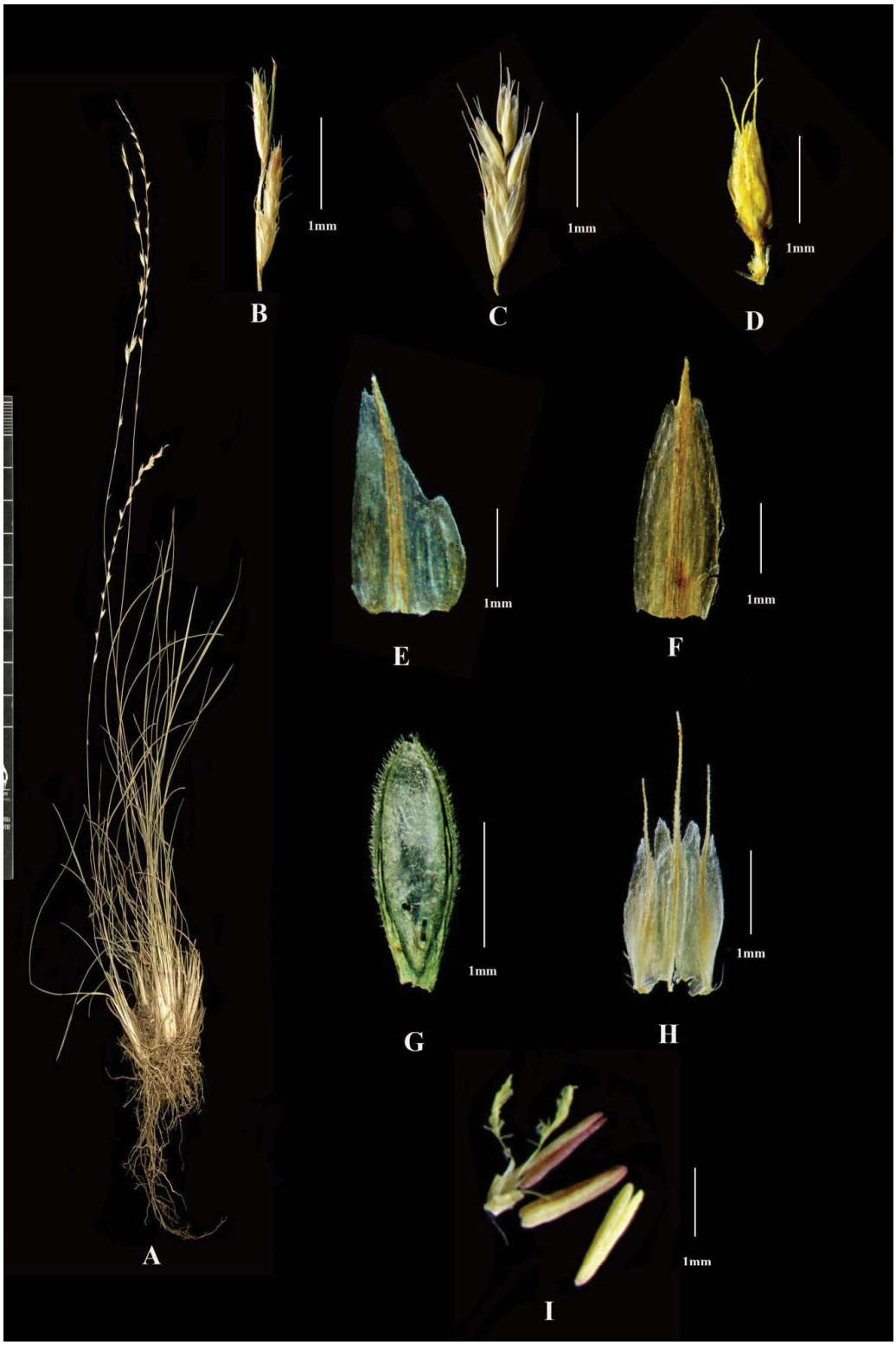


**Fig. 2. Tripogon bromoides** var. **anantaswamianus** (Sreek., V.J.Nair & N.C.Nair) Sang.Dey & Prasanna A. Habit; B. Spike; C. Spikelet; D. Floret; E. Lower glume; F. Upper glume; G. Palea; H. Lemma; I. Stigma & Stamens.

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