

# Species

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**Author Affiliation:**

<sup>1</sup>Botanical Survey of India, Deccan Regional Centre, Room nos. 228–238, Kendriya Sadan, GPOA, Sultan Bazar, Koti, Hyderabad-500095, Telangana, India.

<sup>2</sup>Applied Palynology Laboratory, Department of Botany, Nizam College, Osmania University, Hyderabad-500001, Telangana, India.

**✉Corresponding author:**

Botanical Survey of India, Deccan Regional Centre, Room nos. 228–238, Kendriya Sadan, GPOA, Sultan Bazar, Koti, Hyderabad-500095, Telangana, India.  
Email: nagaraju.siddabathula@gmail.com

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## *Chrysopogon serrulatus* Trin. (Poaceae), an addition to the Flora of Telangana State, India

Nagaraju Siddabathula<sup>1✉</sup>, Paramesh L<sup>2</sup>, Vijayabhaskar Reddy A<sup>2</sup>

**ABSTRACT**

*Chrysopogon serrulatus* Trin. was collected from Telangana State and reported here as an addition to the Flora of Telangana. A detailed description and colour photographs were provided to facilitate identification.

**Key words:** Ananthagirihills, Grass, New record, Poaceae, Wildlife

**1. INTRODUCTION**

The genus *Chrysopogon* Trin. of Poaceae, subfamily *Panicoideae*, supertribe *Andropogonodae* tribe *Andropogoneae* (Soreng *et al.*, 2017). It comprises ca. 47 species worldwide (Tropical & Subtropical Old World to Pacific, U.S.A. to Cuba), of which ca. 23 species exists in India (Prasanna *et al.*, 2020; Kellogg's *et al.*, 2020). Further, only 19 taxa distributed in southern India (Nagaraju, 2020) and they are good fodder sources for wildlife and domestic cattle. The genus is characterized by panicle rather contracted, racemes many-nodded; spikelets in groups of threes, one sessile and 2 pedicelled, awned (Nagaraju *et al.*, 2020). While exploring the Telangana State, under the project entitled "Grasses of Telangana state", an interesting grass sample was collected from Ananthagiri hills, Vikarabad District, Telangana. Literature survey (Bor, 1960; Pullaiah, 2015 and Reddy & Reddy 2016) and consultation of herbaria revealed that, the grass is *Chrysopogon serrulatus* Trin. (Figure 1). Authors reported as a new record to the Flora of Telangana and Identified specimen (BSID008937) deposited at BSID, Hyderabad. This grass supports the local wildlife being a source of fodder and also acts as a great soil binder.

**2. TAXONOMIC TREATMENT**

*Chrysopogon serrulatus* Trin. in Mem. Acad. Imp. Sci. Saint-Petersbourg, Ser. 6, Sci. Math. 2: 318. 1832; Bor, Grasses Burma Ceylon India Pakistan: 118. 1960; Karthik. *et al.*, Fl. Ind. Enum. - Monocot.: 198. 1989; Kellong. *et al.*, Checklist of the grasses of India 337. 2020; Prasanna & al., Poaceae in Mao & Dash (eds.) Fl. Plants of India- an annotated checklist-Monocotyledons 341. 2020. *Andropogon monticola* Roem. ex Schult. var. *trinii* (Steud.) Hook.f., Fl. Brit. India 7: 193. 1896.



**Figure 1:** A. Habit; B. Inflorescence; C. Spikelets (2-pedicelled and 1-sessile); D-I. Sessile spikelet: D. Lower glume; E&F. Upper glume; G. Lower lemma; H. Upper lemma; I. Lodicules, Stamens and Pistil; J-N. Pedicelled spikelet: J. Lower glume; K. Upper glume; L. Lower lemma; M. Upper lemma; N. Lodicules and stamens.

Perennial, rhizomatous, tufted. Culms 25–110 cm high, erect, branched; nodes glabrous. Leaves mostly cauline; sheaths 5–18 cm long, compressed, keeled, glabrous; ligule a rim of hairs; leaf blades linear-filiform 9–65 × 0.2–0.6 cm, base rounded to truncate, margins bulbous based hairs below and entire towards above, apex acute, glabrous-hairy on both abaxial and adaxial surfaces. Inflorescence panicle, 20–28 cm long (including peduncle), rachilla filiform, 1–3.5 cm long. Sessile spikelets lanceolate-elliptic, 4.5–6 × 1–1.5 mm, awned. Lower glume lanceolate-elliptic, 4–4.5 × 0.2–0.4 mm, coriaceous-chartaceous, green in color, margins membranous, apex round to bifid, keeled; rounded on back, hairs on keel below the apex; 4-nerved, lateral nerves not reaches up to apex. Upper glume boat shaped, 4–4.7 × 0.5–0.9 mm, coriaceous-chartaceous, green in color, margins ciliate; apex bifid, rounded lobes; awned, 6–8 mm long, barbed; keeled, rounded on back, hairs on keel below the apex; obscurely nerved, retrorsely barbed veins on abaxial surface. Florets 2, lower barren, upper hermaphrodite. Lower lemma lanceolate-linear, 1.5–2.5 × 0.1–0.3 mm, hyaline, margins ciliate, apex acute and ciliate, nerveless. Palea absent. Upper lemma reduced to a hyaline base of geniculate awn. Lodicules 2. Stamens 3, 2–2.9 × 0.3–0.5 mm. Ovary oblong, 0.2–0.6 mm, stigma plumose. Pedicelled spikelets staminate or neuter, lanceolate-elliptic, 5.5 × 0.9 mm; pedicels ca. 1 mm long, golden brown rufous hairy 1.5–2.8 mm long. Lower glume lanceolate-elliptic, ca. 4.5 × 0.9 mm, 7-nerved, coriaceous-chartaceous, margins entire; apex with aristae 0.9 mm long; hirsute on abaxial surface. Upper glume lanceolate-elliptic, ca. 4.8 × 0.85 mm, hyaline, chartaceous, margins ciliate; 1-nerved, at times obscured; abaxial surface sparsely hairy and shallowly depression from base to apex. Florets 2, lower barren, upper male, epaleate. Lower lemma elliptic-lanceolate, ca. 4.3 × 0.45 mm, hyaline, chartaceous, nerve less, margins ciliate, apex acute. Upper lemma elliptic-lanceolate, ca. 3.5 × 0.45 mm, hyaline, chartaceous, nerve less, margins ciliate, apex acute. Palea absent. Lodicules 2. Stamens 3, anthers ca. 2.2 × 0.4 mm.

*Flowering & Fruits:* July–December.

*Distribution:* Andhra Pradesh, Jammu and Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Uttar Pradesh, Uttarakhand.

*Specimen Examined:* India: Telangana, Vikarabad District, Ananthagiri hills, (N 17.32260°, E 77.86613°, 607 msl), 30.11.2019, S. Nagaraju 008937 (BSID).

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### **Authors Contribution:**

All authors have contributed equally to manuscript.

### **Ethical approval**

The ethical guidelines for plants & plant materials are followed in the study for species collection & identification.

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### **Conflicts of interest:**

The authors declare no conflict of interest.

### **Data and materials availability**

All data associated with this study are present in the paper.

## REFERENCES AND NOTES

1. Kellogg EA, Abbott JR, Bawa KS, Gandhi KN, Kailash BR, Ganeshaiah KN, Shrestha UB and Raven P. 2020. Checklist of the grasses of India. *Phyto Keys* 163: 1–560.
2. Nagaraju S, Prasad K. and Prasanna PV. 2020. *Grass Genera of Southern India, A Field Guide and Checklist*. Vision Educational and Welfare Society, Tadepalligudem, Andhra Pradesh, India. 108 p.
3. Prasanna *et al.* 2020. Poaceae in Mao AA. and Dash SS. (Eds.) *Fl. Plants of India- an annotated checklist–Monocotyledons*. Botanical Survey of India, 341 p.
4. Pullaiah, T. 2015. *Flora of Telangana, the 29<sup>th</sup> State of India*. vol. 3. Regency Publications, New Delhi. 3: 893–1306.
5. Reddy, KN and Reddy, CS. 2016. *Flora of Telangana State, India*. Bishen Singh Mahendra Pal Singh, Dehra Dun, India. 1–824.
6. Soreng RJ, Peterson PM, Romaschenko K, Davidse G, Teisher JK, Clark LG, Barbera P, Lynn J. Gillespie PL and Zuloaga FO. 2017. A worldwide phylogenetic classification of the Poaceae (Gramineae) II: An update and a comparison of two 2015 classifications. *Journal of Systematics and Evolution*. doi: 10.1111/jse.12262.