Species

Setaria viridis (L.) P.Beauv.: A new record to the grass flora of Odisha, India

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To Cite:
Kumar S, Marndi S, Mishra S, Devi RS, Singh RK. *Setaria viridis* (L.) P.Beauv.: A new record to the grass flora of Odisha, India. *Species* 2025; 26: e44s3197
doi: https://doi.org/10.54905/disssi.v26i78.e44s3197

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Peer-Review History
Received: 03 August 2025
Reviewed & Revised: 12/August/2025 to 01/October/2025
Accepted: 05 October 2025
Published: 07 October 2025

Peer-Review Model
External peer-review was done through double-blind method.

Species
pISSN 2319–5746; eISSN 2319–5754

DISCOVERY SCIENTIFIC SOCIETY

ABSTRACT

Setaria viridis (L.) P.Beauv., is reported here for the first time from the state of Odisha, India. This addition contributes to the diversity of Poaceae in the region. A brief description, habitat notes, and photographic documentation are provided to confirm its identification and occurrence.

Keywords: Grass flora, new record, Odisha, Poaceae *Setaria viridis*

1. INTRODUCTION

The cosmopolitan grass genus *Setaria* P. Beauv. (family Poaceae) comprises approximately 136 species globally (POWO 2025). In India, the genus is represented by 19 species (Prasanna *et al.*, 2020), of which 10 species have been documented from the state of Odisha (Saxena & Brahmam, 1996; Chorghe & Prasanna, 2021; Behera *et al.*, 2025). The species *Setaria viridis* (L.) P.Beauv. commonly known as green foxtail or green bristle grass or wild foxtail millet, is native to the Old World and Australia, and has subsequently been introduced to various parts of the New World (POWO, 2025). In India, *S. viridis* has been reported from Delhi, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Maharashtra, Meghalaya, Mizoram, Uttar Pradesh, Uttarakhand and West Bengal (Prasanna *et al.*, 2020). However, this species has not been previously documented in Odisha, rendering the present report a novel contribution to the state's grass flora.

2. MATERIAL AND METHODS

During a field expedition conducted in June–July 2025 as part of a grass flora survey in Cuttack district, Odisha, the research team from the Ambika Prasad Research Foundation encountered an unfamiliar grass species in multiple locations across the study area. The collected specimens were subjected to detailed morphological examination using standard regional floras and reference materials (Saxena & Brahmam, 1996; Chorghe & Prasanna, 2021; Behera *et al.*, 2025), as well as authenticated specimens at Central National Herbarium (CAL), Howrah, online resources including the Plants of the World Online (POWO) and digital herbarium repositories (e-Herbarium), (Figure 1). Following a thorough comparative analysis, the species was identified as *Setaria viridis* (L.) P. Beauv. (Figure 2). A detailed taxonomic description, notes on phenology, habitat, associated species, geographical distribution, and herbarium specimen data are provided below to validate this new record for the state.

3. RESULTS AND DISCUSSION

Taxonomic Treatment: *Setaria viridis* (L.) P.Beauv., Ess. Agrostogr. 51. 1812. *Panicum viride* L., Syst. Nat., ed. 10. 2: 870. 1759. Lectotype (designated by Meikle, Fl. Cyprus 2: 1861. 1985): Unknown locality, *s.d.*, *Patrick Browne s.n.* (LINN-HL80-12!).

Morphology:

Annual caespitose herb; culms robust, tufted, erect or geniculately ascending, 30–120 cm high; nodes glabrous, not rooted at base. Leaf sheaths glabrous or glabrate, densely ciliate along the margins; blades linear-narrowly lanceolate, 8–20 × 1–1.5 cm, flat, scabrous on adaxial surface, glabrous or scaberulous on abaxial surface, apex acuminate, base truncate, margins entire; ligule 1.5–2 mm long, ciliate. Panicle 4–16 cm long, cylindrical, dense, tapering towards apex; axis pubescent; bristles 2–7 per spikelet, 5–12 mm long, antrorsely scabrous, greenish or brownish on maturity; spikelets 2–2.5 mm long, elliptic, apex obtuse, unawned; lower glume 0.6–0.8 mm long, 3-nerved; lower floret sterile; lower lemma as long as the spikelet, 5–7-nerved; lower palea as long as the lower glume; upper glume as long as the spikelet, 5-nerved; upper lemma equal or slightly shorter than the lower lemma, finely rugulose, upper palea reduced. Caryopsis 1.5–2 mm long, ellipsoid, brownish.

Flowering and fruiting:

June–October.

Habitat and ecology:

It is mainly found mostly along the roadsides, agricultural fields and near rivers.

Distribution:

Australia, Eurasia, North Africa and introduced in New World. In India, it is reported from Delhi, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Maharashtra, Meghalaya, Mizoram, Uttar Pradesh, Uttarakhand, West Bengal and presently in Odisha.

Species Examined:

India, Odisha, Cuttack, near Mahanadi River, 20°28'10" N, 85°46'32" E, 44.19 m MSL, 25th July 2025, *Sanjeet Kumar 177* (Herbarium of Ambika Prasad Research Foundation).

Associated grasses:

Digitaria ciliaris (Retz.) Koeler, *Eleusine indica* (L.) Gaertn., *Panicum sumatrense* Roth, *Setaria flavida* (Retz.) Veldkamp, *S. pumila* (Poir.) Roem. & Schult., *S. verticillata* (L.) P.Beauv., *Urochloa distachyos* (L.) T.Q.Nguyen, and *Urochloa ramosa* (L.) T.Q.Nguyen.

Notes:

Setaria viridis resembles *S. verticillata* (L.) P.Beauv. in the field, but can be distinguished by its antrorsely barbed bristles, which do not readily stick to clothing. In contrast, *S. verticillata* has retrorsely barbed bristles that adhere tenaciously to clothing.

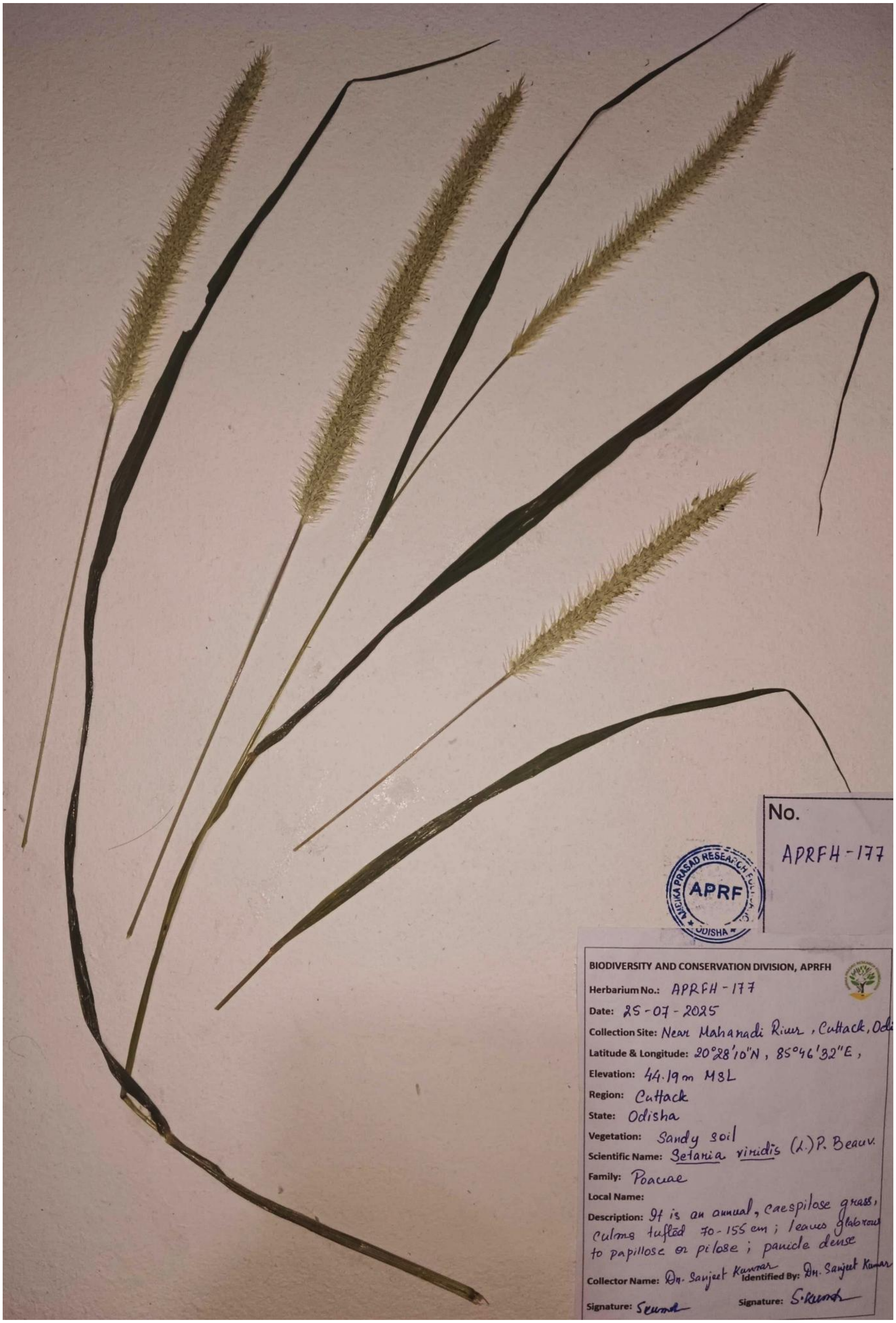

Figure 1: Herbarium specimen of *Setaria viridis* (L.) P.Beauv from Cuttack, Odisha, India.

Figure 2: *Setaria viridis* (L.) P.Beauv from Cuttack, Odisha, India.

Authors contributions

SM, SM and RSD carried out field study; SK and RKS supervised and written the manuscript.

Acknowledgment

The authors express their gratitude to the PCCF (WL) & Chief Wildlife Warden, Forest Environment and Climate Change Department, Govt. of Odisha, Odisha & Divisional Forest Officers Cuttack and Aathgarh Forest Division, Odisha. Authors are also thankful to the team members of the Ambika Prasad Research Foundation, Odisha, for their valuable assistance during the botanical explorations.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or nonprofit sectors.

Conflict of Interest

The authors declare that they have no conflicts of interests, competing financial interests or personal relationships that could have influenced the work reported in this paper.

Informed consent

Not applicable.

Ethical approval & declaration

In this article, as per the plant regulations followed in the Botanical Survey of India, Arid Zone Regional Centre, AIIMS Road, Jodhpur, Rajasthan, India & Biodiversity and Conservation Laboratory, Ambika Prasad Research Foundation, Cuttack, Odisha, India; the authors observed the species *Setaria viridis* (L.) P.Beauv. (A new record to the grass flora of Odisha, India). The ethical guidelines for plants & plant materials are followed in the study for species observation, identification & experimentation.

Data and materials availability

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

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