

***ERAGROSTIS JAINII* (POACEAE: ERAGROSTIDEAE)
A NEW SPECIES FROM KERALA, INDIA**

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ABSTRACT

Eragrostis jainii, a new species collected from Manjeshwar, Kannur District of Kerala is illustrated and described. This species is allied to *E. unioloides* (Retz.) Nees ex Steud. and *E. mokensis* Pilg. From the former species it differs mainly by the linear panicle with branches adpressed to the main axis, more compact and sharply acute spikelet, thick and wavy rachilla, acuminate lemma, narrow and acuminate palea with ciliate keels. It differs from *E. mokensis* by the inflorescence branches adpressed to the main axis, spikelets apex not bluntly acute, lemma not orbicular, palea keels ciliate, stamens 2 and absence of a glandular ring below the nodes.

Keywords: *Eragrostis*, Poaceae, New species, Kerala, India.

INTRODUCTION

The genus *Eragrostis* Wolf with about 423 species is distributed in the tropical, subtropical and warm temperate regions of the world (Clayton & Renvoize, 1986; Ingram & Doyle, 2007; Ingram 2010; Giraldo-Canas & al., 2012). Bor (1960) described 39 species of it from India, but Karthikeyan & al., (1989) consider this number to be only 36. Sreekumar & Nair (1999) while providing a comprehensive account on the grasses of Kerala described 17 species of this genus. The authors located some interesting collections of an undescribed species of *Eragrostis* in MH gathered from Manjeshwar of Kannur district of Kerala. On further study they located 19 sheets of 6 different collections of the same species, which interestingly were found to be restricted in distribution to the northern districts of Kerala and southern parts of Karnataka. These specimens have some similarity to *E. unioloides* (Retz.) Nees ex Steud. and *E. mokensis* Pilg. but distinctly differs from both by the characters given in tables 1 & 2. *E. mokensis* Pilg. is a native of Western Africa, but introduced and naturalized in tropical regions like South America, Brazil etc. However, so far it has not been reported from India. A comparative study with the relevant literature and available specimens proved that the specimens mentioned above belonged to a species new to science and is described here.

***Eragrostis jainii* C.P. Vivek, G.V.S. Murthy & V.J. Nair sp. nov.**

(Figs. 1 & 2)

Allied to *E. unioloides* (Retz.) Nees ex Steud. and *E. mokensis* Pilg. It differs from the former species by the presence of stiff leaves with villous hairs on upper surface; panicle narrow and linear, not wider than 2cm with branches adpressed to main axis; spikelets smooth and sharply acute with compactly packed florets distinctly overlapping one another at base; rachilla thick and wavy to almost straight; lemma acuminate, not keeled at base but almost rounded; palea narrower, distinctly curved on back, acuminate, lateral nerves reaching only up to $\frac{3}{4}$ of its total length and with ciliate keels. From *E. mokensis* it differs by the inflorescence branches adpressed to the main axis; spikelets apex not bluntly acute; lemma not orbicular; palea keels ciliate; stamens 2 and absence of a glandular ring below the nodes.

(Tables 1 & 2)

Type : (here designated) India : Kerala-Kannur dist.: Manjeshwar, 100m, 13. 10. 1979, R. Ansari 64888 (Holo : CAL; Iso : MH). Paratypes: India: Kerala state, Kannur dist.: Muzhappilangad, 50m, 16.12.1979, V.S. Ramachandran 65258; Thalassery, 18. 11. 1977, V.S. Ramachandran 52200; Kasaragode dist.: Nileshwar, 7.12.1919, Coll. ign. 16288; Nileshwar, 8.11.1917, Coll. ign. 15310; Karnataka state - South Kanara dist.: Mangalore, C.A. Barber 4808 (All in MH).

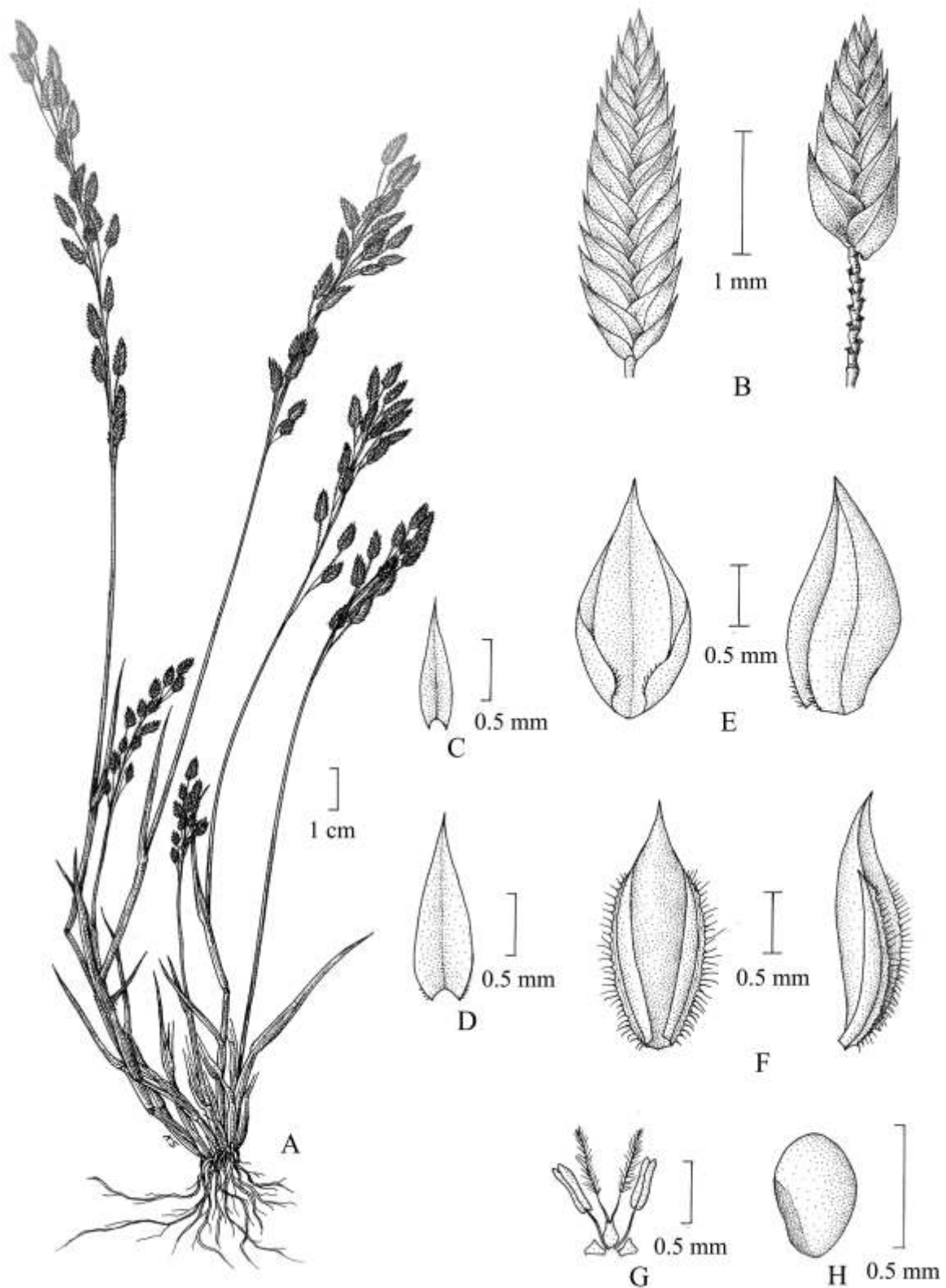


Fig. 1 : *Eragrostis jainii* sp. nov.: **A.** Habit; **B.** Spikelets; **C.** Lower Glume; **D.** Upper Glume; **E.** Lemma- ventral & lateral views; **F.** Palea- ventral & lateral views; **G.** Lodicules, Pistil & Stamens. **H.** Caryopsis

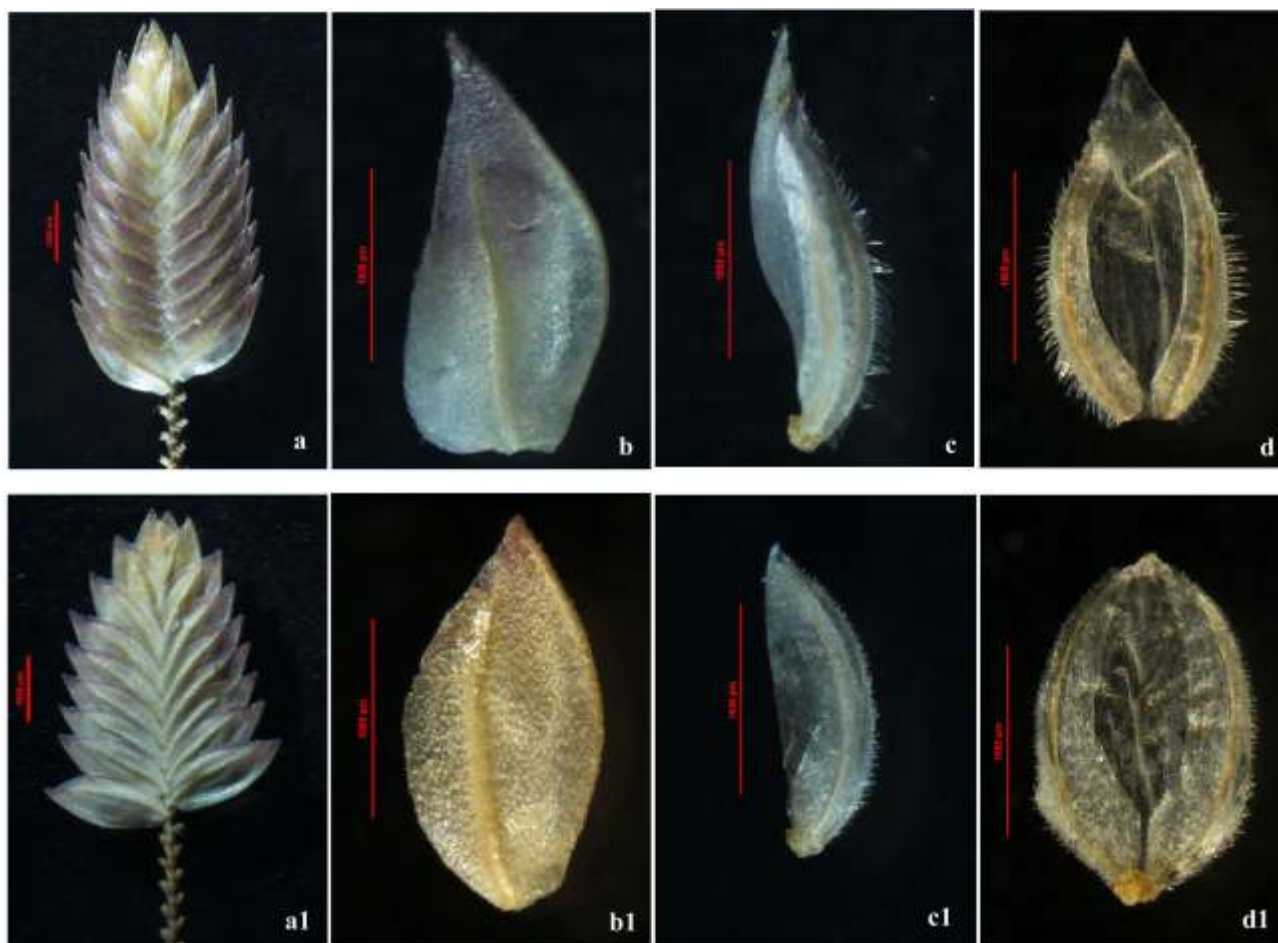


Fig. 2 : Comparison of floral parts of *Eragrostis jainii* sp. nov. (a-d) and *Eragrostis unioides* (a₁-d₁): a & a₁, Spikelets; b & b₁, Lemma- lateral views. c & c₁, Palea- lateral views; d & d₁, Palea - ventral views.

Table 1. : Distinguishing characters of *Eragrostis jainii* sp. nov. and *Eragrostis unioides* (Retz.) Nees ex Steud.

	<i>Eragrostis jainii</i> sp. nov.	<i>E. unioides</i>
Leaf	Involute, stiff, upper surface always villous hairy	Flat, upper surface glabrous to sparsely ciliate hairy
Panicle	Narrow, linear, not more than 2 cm wide, with branches adpressed to main axis	Broadly ovate to oblong, lax, open, up to 10 cm wide, branches widely spreading or narrowly compressed
Spikelet	Ovate to lanceolate or elliptic, smooth, apex sharply acute	Broadly ovate to oblong, rough, apex bluntly acute
Floret	Very compactly arranged on rachilla, distinctly overlapping one another at base	Loosely or closely arranged on rachilla, slightly overlapping one another or free at base
Rachilla	Wavy or almost straight, terete	Conspicuously zigzag, angled
Lemma	Ovate to lanceolate, apex acuminate, dorsal side almost rounded at base, 1-keeled towards apex, lateral nerves not raised, distances from lateral nerve to margin and to midnerve are almost equal	Ovate to elliptic, apex acute to slightly mucronate, dorsal side not rounded at base, 1-keeled throughout, lateral nerves raised, distance from lateral nerve to margin is distinctly much less than the distance from midnerve
Palea	Elliptic to lanceolate, with up to 0.5 mm long acuminate projection at apex, nerves reach only up to ¾ length of palea, keels prominently ciliate	Broadly ovate to elliptic, apex acute, without extra projection, nerves reach up to apex, keels scabrid to scaberulous
Caryopsis	Less than 0.5 mm long	Up to 0.75 mm long

Table 2. : Distinguishing characters of *E. jainii* sp. nov. and *E. mokensis* Pilg.

	<i>E. jainii</i>	<i>E. mokensis</i>
Node	Eglandular	Glandular ring below the node
Leaf	Involute, upper surface villous hairy	Flat, sparsely pilose with papillose based hairs
Panicle	Narrow, linear, not more than 2 cm wide, branches adpressed to main axis	Open, elliptic, or ovate, 3 - 7 (-10) cm wide, branches widely spreading
Spikelet	Ovate to lanceolate or elliptic, apex sharply acute	Ovate, apex bluntly acute
Lemma	Ovate to lanceolate, apex acuminate	Oblate, orbicular, apex obtuse
Palea	Elliptic to lanceolate, keels ciliate	Orbicular, keels scaberulous
Stamens	2	3

Culms tufted, erect to decumbent, cylindrical, 20 - 60cm high; nodes brownish; internodes 2 - 8cm long, eglandular, glabrous. Leaves basal, linear to involute, stiff and attenuate to a point, 2 - 9 × 0.2 - 0.5cm, base more or less rounded, margins eglandular, upper surface villous hairy; leaf sheaths c. 3cm long, eglandular, mouth bearded; ligule membranous with fine ciliate margins. Panicle narrow, linear, 4 - 23 × 1 - 2cm, branches alternate, adpressed to main axis, effuse, eglandular, angled, scabrous along angles; peduncle 5 - 25cm long, eglandular, glabrous. Spikelets ovate to lanceolate or elliptic, smooth, 5 - 10 × 2 - 3.5mm, apex sharply acute, purplish; pedicels slender, 1 - 5mm long, eglandular, angled, scabrous along angles. Glumes deciduous, unequal, lanceolate, apex acuminate to subacuminate, margins with or without short hairs at base, chartaceous, 1-nerved, keeled, scabrous along keel; lower glume 1 - 1.5 × 0.2 - 0.25mm; upper glume 1.5 - 2 × 0.3 - 0.4mm. Florets 6 - 80, disarticulating from below upwards, compactly packed on rachilla, distinctly overlapping one another at base; rachilla persistent, thick, terete, wavy to almost straight. Lemmas deciduous, ovate to lanceolate, 1.7 - 2 × 0.7 - 1mm, apex acuminate, margins with or without minute hairs at base, membranous, 3-nerved, lateral nerves appressed, distance from lateral nerves to margins and to midnerve are almost equal, dorsal side narrowly keeled towards apex, more or less rounded at base. Paleas deciduous, narrow, elliptic to lanceolate, curved on back, 1.7 - 2 × 0.4 - 0.8mm, with up to 0.5mm long acuminate projection at apex, at times split opened in to 3 minute lobes, 2-nerved, nerves reach only up to $\frac{3}{4}$ length of palea, 2-keeled, ciliate along keels, cilia curved backwards towards base. Lodicules 2, c. 0.1mm long, apex truncate, white. Stamens 2; anthers c. 0.3mm long, purplish. Ovary ovoid, c. 0.1mm long, cream coloured; style c. 0.3mm long, white; stigma c. 0.3mm long. Caryopsis obovoid, 0.4-0.5 × 0.25 - 0.35mm, brownish.

Flowering & Fruiting : October-December.

Distribution : INDIA, Kerala-Kannur dist.: Manjeshwar, Muzhappilanagad and Thalassery; Kasaragode dist.: Nileshwar; Karnataka - South Kanara dist.: Mangalore.

Habitat : Growing along sandy beaches at an altitude of 50 - 100m.

Conservation status : Restricted in distribution, so far reported only from Northern Kerala and Southern Karnataka.

Etymology : The specific epithet is in honour of Dr. S.K. Jain, FNA, former Director, Botanical Survey of India and INSA Hon. Scientist, in recognition of his immense and invaluable contribution to the study of Indian Grasses.

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इरेग्रोस्टिस जैनी (पोएसी: इरेग्रोस्टीडी) : केरल, भारत से एक नयी जाति

सी पी विवेक, जी वी एस मूर्ति एवं वी जे नायर

सारांश

केरल के मंजेश्वर, कन्नूर जिले से संग्रहित एक नयी जाति *इरेग्रोस्टिस जैनी* का वर्णन एवं चित्रांकन किया गया है। यह *इरेग्रोस्टिस यूनिओल्वाइडिस* तथा *इरेग्रोस्टिस मोर्केसिस* की समवर्गी जाति हैं। इन दो जातियों में मुख्य अक्ष से लगी हुई शाखाओं के साथ रेखीय पुष्पगुच्छ, अधिक सघन एवं तीक्ष्ण शूकिका, मोटे एवं तरंगवत रेचिला, लम्बाग्र प्रमेयिका, (लेम्मा) रोमक पठाणों के साथ संकीर्ण एवं लम्बाग्र अंतः पुष्पकवच में मुख्य अन्तर है। *इरेग्रोस्टिस मोर्केसिस* से मुख्य अक्ष से लगे हुए पुष्पक्रम शाखाओं, शूकिका शीर्ष में अल्प तीक्ष्णता, अवर्तुल प्रमेयिका (लेम्मा), रोक अंतः पुष्पकवच, दो पुंकेसर तथा पर्णसंधि के नीचे वर्तुल वलय के अभाव के कारण अन्तर है।