



NOTE

***Eragrostis brownii* (Poaceae: Eragrostidinae), a new record for India**

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ABSTRACT: *Eragrostis brownii* is reported from India for the first time based on a collection made from Karnataka, India. The name *Eragrostis santapau* is reduced to synonymy. Taxonomic description, illustration and a photo plate of *E. brownii* is provided to distinguish it from its allied species *E. cilianensis* and *E. minor*.

KEY WORDS: *Eragrostis santapau*, *Eragrostis spartinoides*, *Eragrostis zeylanica*, India, new record, Poaceae.

INTRODUCTION

The genus *Eragrostis* Wolf (1776) comprises about 423 species distributed in the tropical, subtropical and warm temperate regions of the world (Clayton and Renvoize 1986, Ingram and Doyle 2007, Ingram 2010, Giraldo-Canas *et al.*, 2012, Chaisongkram *et al.*, 2013). Among them, 44 species occur in India (Vivek *et al.*, 2015). The authors during their revisionary work on Eragrostidinae in South India came across a specimen closely resembling *E. santapau* K.G. Bhat & C.R. Nagaendran. Closer examination in consultation with both types revealed *E. santapau* as conspecific with *E. brownii* an Australian species. Hence the former is reduced into the synonymy of *E. brownii*. A detailed description and illustration and photo plate for the species are provided below:

TAXONOMIC TREATMENT

***Eragrostis brownii* (Kunth) Nees**, Cat. Indian Pl.: 105. 1834; Lazarides, Aust. Syst. Bot. 10: 101. 1997; Veldkamp, Blumea 47: 169. 2002; Chaisongkram *et al.*, Science Asia 39: 112. 2013. **Figs. 1 A–O & 2 A–H**

Poa brownii Kunth, Revis. Gramin. 1: 112. 1829; *nom. nov.* for *Poa polymorpha* R.Br. Prodr. 180. 1810, non Wibel 1799. (**Fig. 3**). **Type:** AUSTRALIA, Queensland, Port Curtis District, *R. Brown 6284* (lectotype: BM, K image!).

Uniola spicata Llanos Fragm. Pl. Filip.: 33. 1851 non L. Sp. Pl.: 71. 1753. (**Fig. 4A**) **Type:** PHILIPPINES, Luzon, *E.D. Merrill Sp. Blancoan 170* (neotype: US image!, isoneotypes: BM, K, L, P image!).

Eragrostis spartinoides Steud., Syn. Pl. Glumac. 1: 265. 1854. **Fig. 4B**. **Type:** PHILIPPINES, Luzon, Laguna, *Cuming 668* (holotype: P image!, isotypes: BM, E, G, K, L image!).

Eragrostis santapau K.G. Bhat & C.R. Nagaendran *syn. nov.*, Reinwardtia 10: 127. 1985. **Fig. 4C**. **Type:** INDIA, Karnataka, Coorg District, Mercara, 18 Dec. 1980, *K.G. Bhat 794A* (holotype: CAL!, isotype: K image!).

Description: Perennial, 10–75 cm high, roots fibrous. Culms 10–32 cm long, erect. Leaf sheaths 3–5

cm long, keeled, involute to the culm, ciliate towards apex. Leaf Blades 10–20 × 0.1–0.4 cm long, linear-lanceolate, base slightly cordate, apex acute-acuminate; surfaces villous adaxially and glabrous abaxially; margins scabridulose; ligules a fringe of hairs, hairs 2–3 mm long. Inflorescences panicle, ovate, open, effuse or interrupted, 10–28 × 5–11 cm long, branches alternate. Peduncles 5–16 cm long, glabrous; rachis 0.5–6 cm long, glabrous. Primary pedicel 0.5–2 mm long, axis pilose; secondary pedicel 1.5–3 cm long, flat or quadrangular, glabrous. Spikelets ovate-lanceolate, 5–10 × 1.5–2.8 mm, pale green to purple coloured, 05–25-florets, arranged alternately, disarticulate from below upwards, margins serate. Glumes deciduous, unequal, purple tinged; lower glumes ovate-lanceolate, 0.8–1.5 × 0.5–0.7 mm, 1-nerved, 1-keeled, keels scabrid, acute to acuminate at apex. Upper glumes ovate-lanceolate, 1–1.8 × 0.5–0.8 mm, 1-nerved; 1-keeled; keels scabrid, purple tinged, acute at apex. Lemmas 1.4–2.8 × 1–1.5 mm, oblong-lanceolate, keeled, keels scabrid, 3-nerved, lateral nerves prominent, deciduous, chartaceous, acute at apex. Paleas elliptic-oblong, 1.2–1.8 × 0.6–0.9 mm, persistent, winged, 2-nerved, keeled; keels ciliate, obtuse at apex. Rachilla minutely zig zag, 0.3–0.75 mm long. Lodicules 2, 0.25–0.5 mm long, 2 or 3 toothed, cuneate. Stamens 3; anthers 0.4–0.6 mm long, purple. Ovary 0.2–0.5 mm long, globose; style 0.2–0.5 mm long, slender; stigma plumose, 0.3–0.8 mm long. Caryopsis 0.4–0.75 × 0.3–0.5 mm long, ellipsoid, slightly flattened, pericarp finely striate, dark tea-coloured.

Distribution, habitat and ecology: *Eragrostis brownii* is widely distributed in tropical to temperate regions of the world. Occasionally, the genus is found in open habitats and sometimes in forests from sea level to high altitudes. The present collections are from south-west Karnataka (**Fig. 5**). Due to its notorious



Fig. 1. *Eragrostis brownii* (Kunth) Nees. **A:** Habit. **B:** Panicle. **C:** Ligule. **D & E:** Spikelets. **F:** Lower glume. **G:** Upper glume. **H:** Floret. **I & J:** Lemma-lateral view & dorsal view. **K:** Palea. **L:** Palea with stamen & pistil. **M:** Stamen, pistil & lodicules. **N:** Lodicule. **O:** Caryopses. Photo plate by Thoiba K.

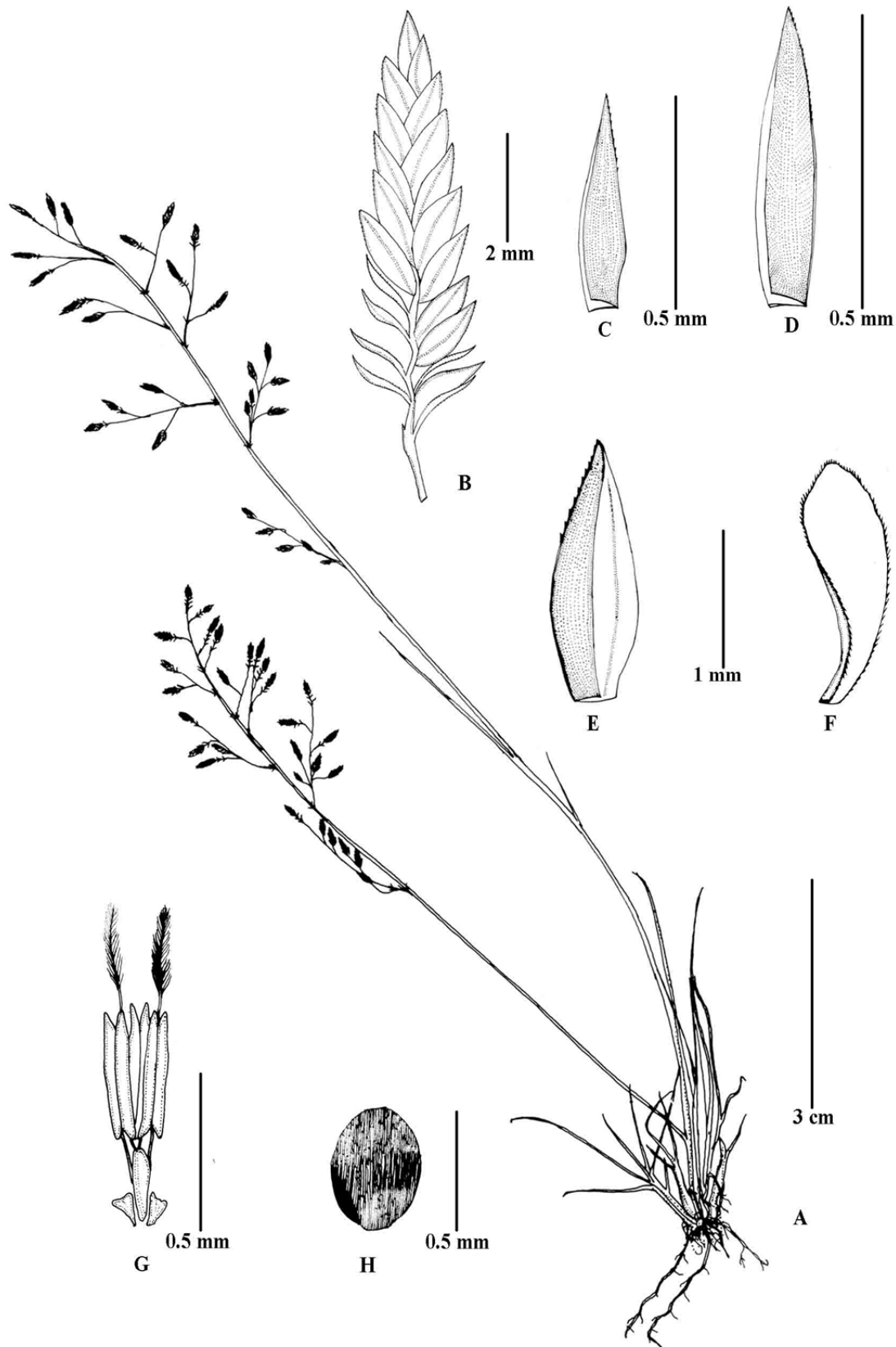


Fig. 2. *Eragrostis brownii* (Kunth) Nees. (from Thoiba K. 137522) A: Habit. B: Spikelet. C: Lower glume. D: Upper glume. E: Lemma-lateral view. F: Palea. G: Stamen, pistil & lodicules. H: Caryopsis. Illustrations by Thoiba K.

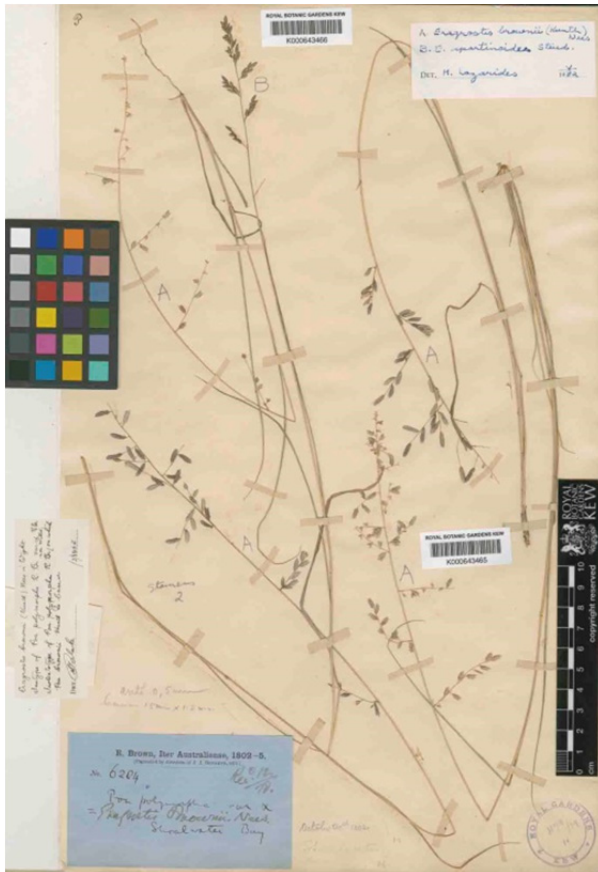


Fig. 3. Lectotype of *Eragrostis brownii* (Kunth) Nees.

diversity no threat factor was observed against the habitat of the species. The populations are represented by many healthy individuals. The Flowering period is in August–December. It grows on open ground, road sides and also along forest margins in association with *Anisomeles malabarica* (L.) R.Br. ex Sims., *Aristida adscensionis* L., *Calotropis gigantea* (L.) Dryand., *Croton bonplandianus* Baill. *Eragrostis atrovirens* (Desf.) Trin. ex Steud., *Eragrostis cilianensis* (All.) Vignolo ex Janch., *Eragrostis nutans* (Retz.) Nees ex Steud., *Eragrostis uniolooides* (Retz.) Nees ex Steud., *Lantana camera* L., *Leucas aspera* (Willd.) Link, *Parthenium hysterophorus* L., *Mimosa pudica* L., *Themeda tremula* (Nees ex Steud.) Hack., *Ischaemum* sp. and *Pteridium aquilinum* (L.) Kuhn.

Specimens examined: INDIA: India, Karnataka. Kodagu District, Somvarpet, Mallalli Falls, 24 Nov. 2014, *Thoiba K. CU 137556* (CALI!); Chikmagalur District, Kudremukh, Kudremukh National Park, 14 Sep. 2014, *Thoiba K. CU 137506* (CALI!); Dekshina Kannada District, Kadaba, HBSS Kadaba Campus, 15 Sep. 2014, *Thoiba K. CU 137522*, *Ibid.*, 22 Jan. 2015, *Thoiba K. CU 144111* (CALI!); Hassan District, Belur, 13 Sep. 2014, *Thoiba K. CU 137512*, *Ibid.*, 13 Sep. 2014, *Thoiba K. CU 137518* (CALI!); Sakalaeshpur, 13 Sep. 2014, *Thoiba K. CU 137513* (CALI!). Sri Lanka, *s. loc.*, 1882, *s. coll. C.P. 176* (MH!).

Notes: *Eragrostis brownii* is often been confused with *E. minor* Host (= *Eragrostis pooides* P. Beauv.)



Fig. 4. Type specimens of synonyms [*Eragrostis brownii* (Kunth) Nees] (A–C) A: Isonotype of *Uniola spicata* Llanos. B: Isotype of *Eragrostis spartinooides* Steud. C: Isotype of *Eragrostis santapau* K.G. Bhat & C.R. Nagendran. D: Holotype of *Eragrostis zeylanica* Nees & Meyen.

and *E. cilianensis* (All.) Vignolo ex Janch. However, the former can easily be distinguished by its linear acute leaf blades, panicle without crateriform glands, branch axis being pilose; spikelets being purple tinged, linear lanceolate with 05–25-florets, anthers being 0.4–0.6 mm long. Bhat and Nagendran (1985) compared their new species, *Eragrostis santapau* with *E. cilianensis* and *E. minor* (*E. pooides*), probably without being aware of the occurrence of the Australian *E. brownii* in India. It also share some similarity with *E. cumingii*, but differs from it is being tufted perennial, panicle branches more or less appressed to patent, anthers more or less globose, 0.3–0.6 mm long.

Many authors (Eg. Veldkamp 2002, Chaisongkram *et al.*, 2013) considered *E. zeylanica* Nees & Meyen (1841) as conspecific with *E. brownii* (Kunth) Nees. An examination of the protologue and type (*Macrae s.n.* BM, image!) of *E. zeylanica* (Fig. 4 D) showed it is a distinct species. *E. zeylanica* is characterized by its short spreading habit (“*ramis brevibus patentibus*”), more or less fascicled spikelets on the primary or secondary branches, very short (less than 3 mm) pedicels and up to 25 mm long, 10–60-florets in each spikelets.

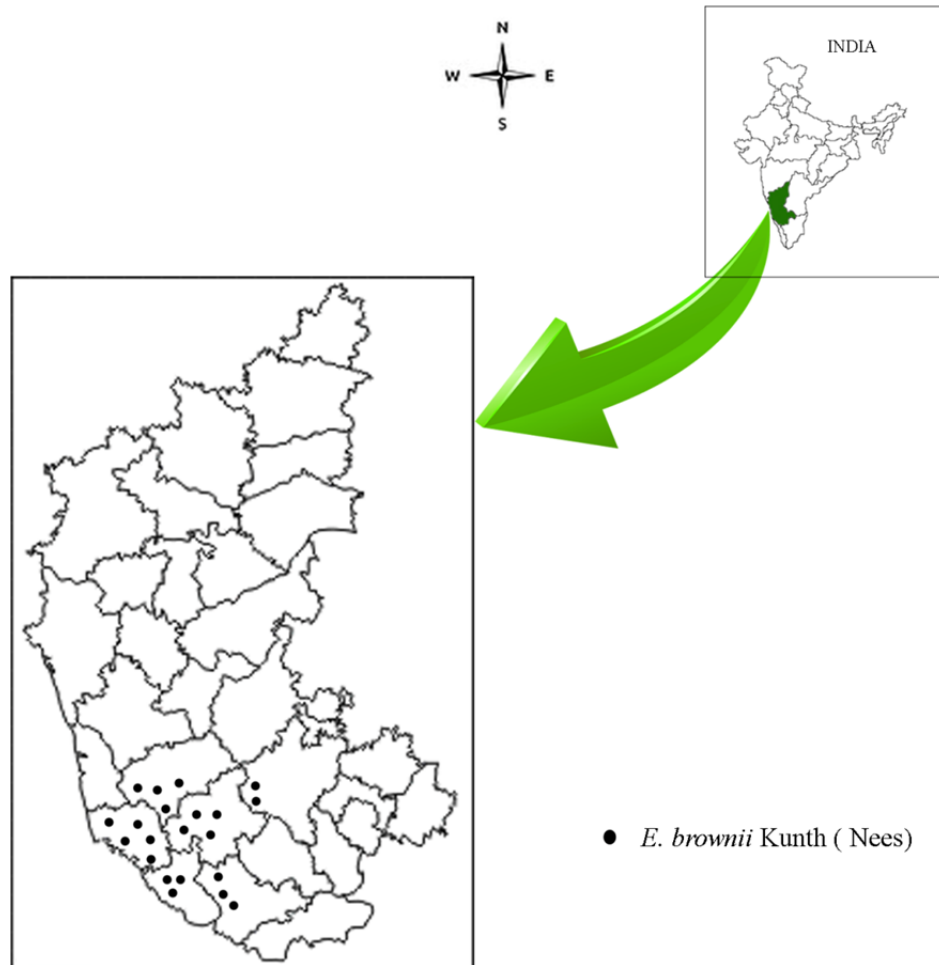


Fig. 5. Distribution map of *Eragrostis brownii* (•) in Karnataka, South India

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