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Cyperus arenarius Retz. var. *nairii* (Cyperaceae), a new variety from South India

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ABSTRACT: *Cyperus arenarius* var. *nairii* is described here as a new variety from India. The differences between this and the typical *C. arenarius* are explained and a detailed description of the new variety is provided along with information on its habitat, distribution and illustration.

KEY WORDS: Cyperaceae**,** *Cyperus*, India, New variety, Tamil Nadu.

INTRODUCTION

While revising the genus *Cyperus* L. for the Flora of Tamil Nadu, a few interesting specimens were collected by P. Daniel from Gulf of Mannar Biosphere Reserve were found in MH. A detailed study of these specimens and perusal of literature (Clarke, 1893; Fischer, 1928; Henry *et al*., 1989; Karthikeyan *et al*., 1989; Prasad, 2002) revealed that these can be treated as a distinct variety of *Cyperus arenarius* Retz., because of its differences by having 3–4 globose heads with long rays 4–4.5 cm long. Daniel's collection was originally identified as *C. arenarius* Retz., but due to differences mostly in vegetative and floral characters it can be differentiated from typical *C. arenarius*. Normally inflorescence in the typical species is a single terminal head of spikelets. Both these variety grow in similar habitats, on sandy seashores. Also the specimens in question were collected from within the distribution range of the typical *C. arenarius*.

The protologue (Type: **India**, Barcode: B-W01279–010; Image Id: 321556; **B**) of *Cyperus arenarius* Retz. (1786) has clearly mentioned '*Capitulum sessile*' and this is the correct condition in all the specimens from the southern coast of the mainland India and Sri Lanka but some specimens with umbellate inflorescence with long rays mentioned above are distributed in Tamil Nadu, South India.

Further, it is clarified that considerable differences are available between the typical *C. arenarius* and the present specimens. These specimens vary mainly in the nature of the inflorescence and some vegetative characters (Table 1). Based on the differences, the plant collected by P. Daniel from Tamil Nadu is described here as a new variety (Plate 1).



Plate 1: ***Cyperus arenarius*** var. ***nairii*** var. nov.

TAXONOMIC TREATMENT

Cyperus arenarius Retz. var. ***nairii*** K. Yarrayya, G.V.S. Murthy & P.K. Ratna Kumar, ***var. nov.***
Type: **INDIA**: Tamil Nadu, Gulf of Mannar Biosphere reserve, Appa Island, MSL, 31 January 1994, *P. Daniel* 101581 (Holotype: MH). **Fig. 1**

Perennials. Rhizome horizontally long creeping, slender, 1–2 mm thick, branching, clothed with brownish

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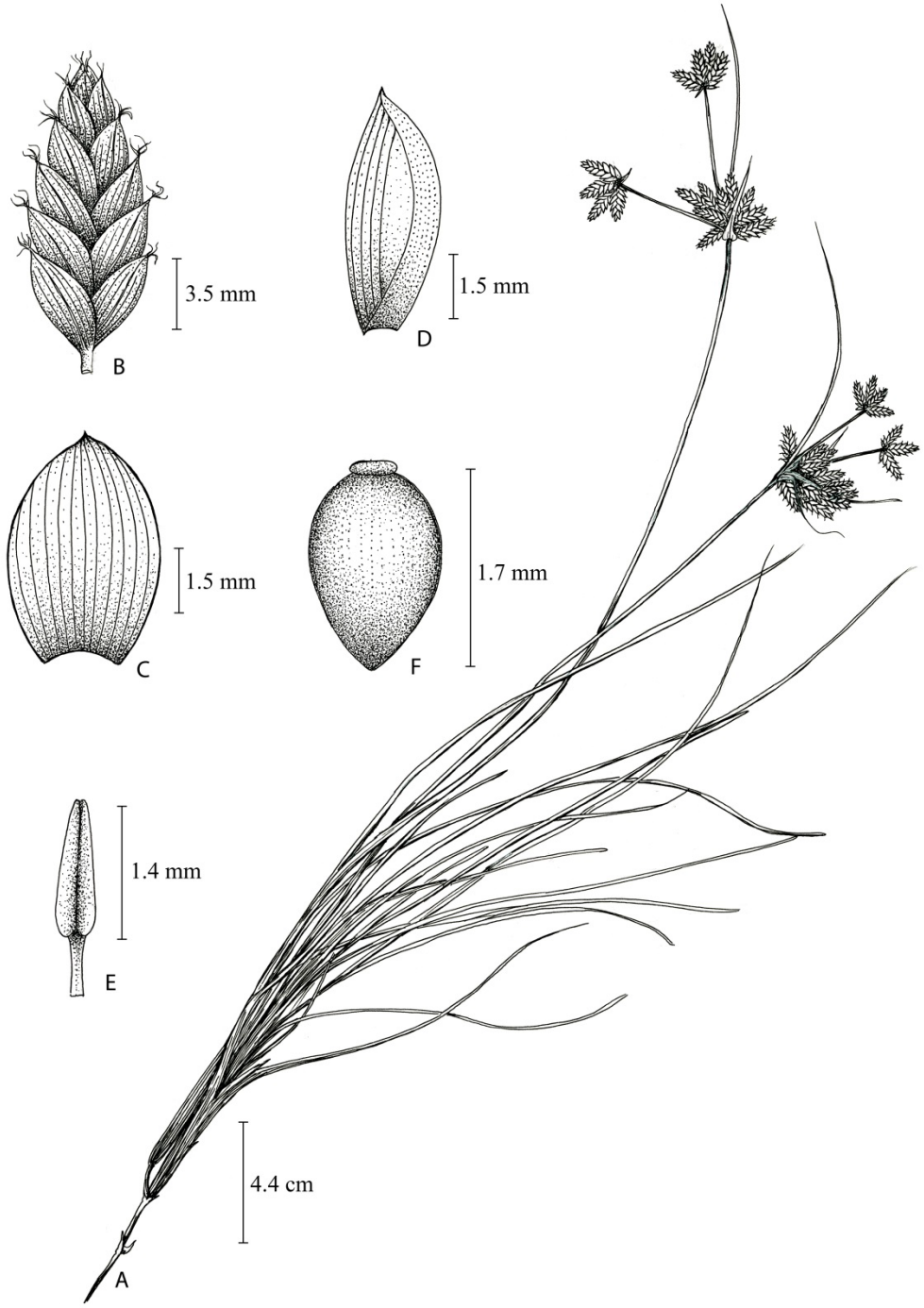


Fig. 1: ***Cyperus arenarius*** var. ***nairii***. A. Habit. B. Spikelet. C & D. Glumes. E. Stamen. F. Nutlet.

scales. Culms usually solitary, at times 2–3 together, obtusely trigonous, 28–44 cm high, 1.5–2 mm thick, smooth, densely covered with leaf sheaths towards base, up to 8 cm long. Leaves few to many per culm, shorter than inflorescence, linear, recurved, thick, canaliculate or at times fused at margins, 18–24 cm × 1–2 mm thick, often scabrous on margins towards base, lower leaves reduced to bladeless sheaths, stramineous, striate, splitting into fibres at later stage. Inflorescence umbellate with 3–4-globose heads, 4.5–6.0 cm across, having 2–3 primary rays up to 4.5 cm long; involucral bracts 1–3, suberect to reflexed, lowest 8–10 cm long, usually much overtopping the inflorescence, each globose head bearing 5–15 spikelets. Spikelets compressed, ovate to ovate-lanceolate, subacute at apex, 10–14 × 4–6 mm, 10–22-flowered, stramineous to light brownish; rachilla straight, wingless,

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Table. 1: Differences between ***C. arenarius*** and ***C. arenarius*** var. ***nairii*** *var. nov.*

	Cyperus arenarius Retz.	***C. arenarius*** Retz. var. ***nairii*** *var. nov.* (*P. Daniel 101581*)
Leaves	About 32 cm long, equal or mostly overtopping the inflorescence	About 24 cm long, shorter than inflorescence
Inflorescence	A single globose head, 1.8–2.2 cm across.	Umbellate with 3–4 globose heads, 4.5–6.0 cm across.
Rays	Absent or rarely 1 cm long	Present, 3, 4–4.5 cm long
Spikelets	Each globose head bearing up to 21 spikelets	Each globose head bearing up to 15 spikelets
Florets	Each spikelet bearing 18–20 florets	Each spikelet bearing 10–22 florets
Glumes	13-nerved	16-nerved
Nutlet	Smooth, puncticulate, 1.0–1.6 × 0.8–1.1 mm.	Smooth, slightly puncticulate, 1.5–1.8 × 1.0–1.3 mm.

excavated. Glumes densely imbricate, oblong-ovate to broadly ovate, obtuse at back, obtuse or shallowly emarginated and mucronate at apex, 5–6 × 2–3 mm, 13–16-nerved, membranous and hyaline at margins in upper half, stramineous to reddish brown. Stamens 3; filaments elongate, up to 5.5 mm long; anthersoblong, 1.2–1.4 mm long. Style 0.8–1.0 mm long; stigmas 3, 1.8–2.1 mm long. Nutlet broadly obovate, 1.5–1.7 × 1.0–1.3 mm, concave-convex with weak angulate dorsal side, rounded to umbonulate at apex, contracted at base, smooth, minutely puncticulate, maturing blackish-brown.

Flowering & Fruiting: December - April.

Habitat: Seashore of Islands with sandy soil.

Specimens examined: **INDIA**: Tamil Nadu: Gulf of Mannar Biosphere reserve, Appa Island, 31 January, 1994, *P. Daniel* 101581; Tiruchi, Coleroom river, 65 m, *D.I. Arockiasamy 6132.*

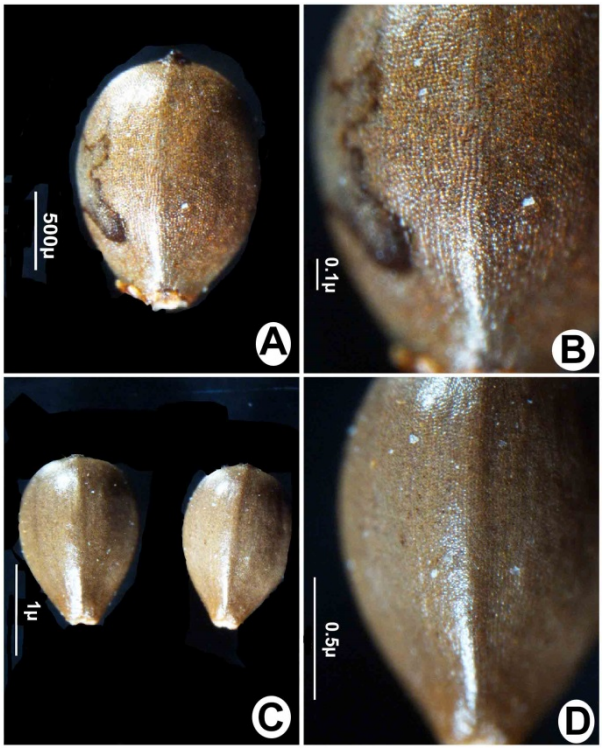


Plate 2: Surface pattern of the nutlets of A & B. ***Cyperus arenarius*** Retz. C & D. ***Cyperus arenarius*** var. ***nairii*** var. nov.

Etymology: The specific epithet is named in honour of Dr. V.J. Nair, Former Joint Director of BSI, SRC, Coimbatore for his contributions in Indian Plant Taxonomy.

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LITERATURE CITED

Clarke, **C.B**. 1893. Cyperaceae. In Hooker, J.D., (ed.) The Flora of British India L. Reeve & Co., London.**6**: 453–663.

Fischer, **C.E.C**. 1928. Cyperaceae. In Gamble, J.S., (ed.) Flora of Presidency of Madras Adlard & Sons, London. **3**: 1662–1667.

Henry, **A.N.**, **Chitra**, **V. and N.P. Balakrishnan**. 1989. Cyperaceae. In Flora of Tamil Nadu Analysis, India. BSI. Coimbatore. Ser **1** (3): 65–86.

Karthikeyan, **S.**, **Jain**, **S.K.**, **Nayar**, **M.P.**, **and M. Sanjappa**. 1989. Cyperaceae. In Flora Indicae Enumeratio: Monocotyledonae. Botanical Survey of India, Calcutta. pp. 32–73.

Prasad, **V.P. and N.P. Singh**. 2002. Sedges of Karnataka, (India). J. Econ. Tax. Bot. Addl. Ser. **21**: 1–355.

Retzius, **A.J**. 1791. Fasciculus Observationum Botanicarum fasc. **4**. 1786/87; fasc. **5**. 1788; fasc. **6**. 1791.

Ropert, **D**. (ed.) 2000. Digital specimen Images at the herbarium Berolinense. – Published at http://www.bgbm.org/herbarium/ (Barcode: B-W01279-010/Image Id: 321556), (Accessed 16 May 2016).

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