

On the occurrence of little known sedge, *Carex walkeri* from Nilgiri Mountains, Western Ghats, India

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ABSTRACT

Carex walkeri Arn. ex Boott, a rare and little known sedge species has been collected from Kinnakorai, Upper Bhavani, Nilgiris, India after a lapse of 118 years its earlier collection from Coonoor by C. B. Clarke. The present collection confirmed its distribution in Nilgiri plateau and therefore provided detailed description, photographs and relevant notes based on fresh collections.

Keywords: Cyperaceae, Nilgiris, rediscovery

INTRODUCTION

Carex L. is one of the largest genera of flowering plants with 2000 species worldwide, of which 160 are distributed in India^{1,5,6,7,8,9}. This is one of the most clearly marked group of sedges in having consistently unisexual flowers and a perigynium². The variation in size, shape, texture and nervation of the perigynium is used as the key characters in the identification of *Carex* spp.

While exploring the sedge Flora of Nilgiri Biosphere Reserve, the authors came across an interesting specimen of *Carex* collected from Kinnakorai near Upper Bhavani, Nilgiri district, Tamil Nadu. On detailed study with literature and authentic specimens (E00393448 Holotype!, E00393449 Isotype!, K000496415!) it was identified as *Carex walkeri* Arn. ex Boott. It was published as a distinct species by Boott based on George Walker Arnott's collection and MSS from Ceylon (Sri Lanka) during 1845. Subsequently this species was included in Flora of British India by C.B. Clarke⁴ citing the occurrence in Nilgiri Hills, Coonoor (Canoor) at an altitude of 5000–7000 ft (K000999063!) and also in Sri Lanka (Ceylon) at an altitude of 7000 ft. by referring Thwaites collection (K000496415!). Koyama while revising the Flora of Ceylon reported its occurrence in Ceylon and South India (Nilgiri Mountains) without quoting any new collections from India. Therefore IUCN while revising the threat status of this species treated it under Near Threatened, since both the Extent of Occurrence (EOO) and Area of Occupancy (AOO) are uncertain and the montane forests of Nilgiris being inadequately protected¹⁰. This species is being known only from the report of Clarke⁴ and there after no collections has been recorded so far from India. The present collection not only confirmed its existence in the Nilgiri Mountains but also recollection of this species after a lapse of 118 years deserves scientific scrutiny. The collection assumes phytogeographical significance confirming the affinity of Indian and Sri Lankan flora and also enhances the conservation value of NBR by protecting this rare species. Hence it is being described along with photographs for recognition of species in the field.

Taxonomic treatment

Carex walkeri Arn. ex Boott, Proc. Linn. Soc. Lond. 1: 257. 1845; Boott. Ill. 1:2, t.4. 1858; Clarke in Hook.f., Fl. Brit. Ind. 6: 725. 1894; Koyama in Dassanayake & Fosberg. Rev. Handb. Fl. Ceylon 5:381.1985.

Perennial herbs. *Rhizome* short-creeping, covered with dark reddish-brown fibrous remnants of old leaf sheaths. *Culms* solitary or loosely tufted, slender, erect, triquetrous, 20–120 x 0.1–0.2 cm, smooth or sparsely scaberulous just below the inflorescence, distantly 1 or 2 noded, surrounded below the leaves by a few ferruginous to dark brown, bladeless sheaths split into reticulate fibres. *Leaves* basal and occasionally 1–2 higher up the culm, equalling or slightly shorter than the culm, stiff, 20–80 cm long, 3–8 mm wide, margins revolute, gradually attenuate to a long acute apex. *Inflorescences* 38–70 cm long; bracts bladed, shorter than inflorescence. *Spikes* linear-cylindric, 2–7 cm long, reddish or purplish brown, androgynous; male part 1–3 cm long; female part 1–4 cm long; sometimes whole spike becoming staminate bearing 1 or 2 female flowers; glumes oblanceolate or obovate-oblong, 4–5 x 1.5–2 mm, boat-shaped, thinly membranous, reddish-brown, margins hyaline, faintly several nerved on both sides, keeled, keel 3-nerved; awn 1–2.5 mm long, scabrous. *Stamens* 3; anthers linear, 2-3mm long. *Ovary* obovoid; style *ca.* 3 mm long, not thickened at base; stigma 3, 3–4 mm long. *Utricles* suberect, lanceolate to linear-lanceolate, 6–8 x 1–1.5 mm, trigonous, thinly membranous, olive green, tinged with rusty-brown above the middle, base shortly stipitate, gradually tapering above forming a long beak, apex two-toothed, hispidulous on margins. Nut subloosely enveloped, linear-oblong, 3-3.5 mm long, trigonous, rusty-brown, base stipitate. (fig 1.)



Fig. 1. *Carex walkeri* Arn. ex Boott. A. Habit; B. Spikelet; C. Female glume; D. Male glume; E. Stamens; F. Pistil; G. Utricle.

Phenology: Flowering and fruiting was observed from May to December

Habitat: Rare in shola forest slopes at high altitude. The associated species in the community are *Carex longipes* D. Don ex Tilloch & Taylor, *C. brunnea* Thunb., *C. bilateralis* Hayata, *C. longicuris* Nees, *Eulalia phaeothrix* (Hack.) Kuntze, *Eragrostis nigra* Nees ex Steud., *Crysopogon nodulibarbis* (Steud.) Henrard etc.

Distribution: Sri-Lanka and Southern India (Nilgiri Mountains)

Specimen examined: India, **Tamil Nadu**, Nilgiri Distr., Kinnakorai, ± 2371 m, 11°13'32.6"N & 76°31'43.6"E, 09-11-2012, A. R. Viji & A. G. Pandurangan 75387 (TBGT).

Acknowledgement

The authors are thankful to the Director, JNTBGRI for constant support and encouragement. The State Forest Authorities of Tamil Nadu are duly acknowledged for giving permission to conduct field studies in the Biosphere Reserve. Thanks are also due to Ms. M. P. Geethakumary for field assistance and Mr. Deepu Sivadas for assistance in making plates.

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