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STREBLOCHAETE HOCHST. EX PILGER (POACEAE): A NEW GENUS RECORD FOR INDIA WITH A NEW SPECIES *S. SANJAPPAE* K.A.A. KABEER & V. J. NAIR

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ABSTRACT

The paper reports the genus *Streblochaete* Hochst. ex Pilger (Poaceae) for the first time from India. A new species of it, *Streblochaete sanjappae* K. A. A. Kabeer & V. J. Nair is described here.

INTRODUCTION

The grass genus *Streblochaete* Hochst. ex Pilger was known earlier only from the submontane and montane evergreen forest scrubs of various tropical African countries like Cameroun Republic, Ethiopia, Malawi and South Africa. It is also reported from Indonesia, Philippines and Reunion (Clayton, 1968, 1970; Launert, 1971; Clayton & Renvoize, 1986). Some plants belonging to this genus have now been located from Dodabetta near Ooty of Nilgiri district in Tamil Nadu. This is the first record of occurrence of this genus in India. The discovery of this predominantly tropical African genus from India is of great phytogeographical significance. However, plants of the present collection were found to be quite distinct from the earlier known species of the genus namely *Streblochaete longiarista* (A. Rich.) Pilger.

The genus *Streblochaete* Hochst. ex Pilger comes under Meliceae, a tribe consisting of "a little group of genera with variable external morphology but united by their connate sheath margins, peculiar lodicules and a typical chromosome number" (Clayton & Renvoize, 1986). *Glyceria* R. Br. and *Melica* L. are the other genera of the tribe available in India. These can be distinguished by the following key :

1a.	Upper glume 1 nerved	...	*Glyceria*
b.	Upper glume 3 or more nerved	...	2
2a.	Floret callus glabrous; lemma awnless	...	*Melica*
b.	Floret callus pungently hairy; lemma awned, awn long and coiled	...	*Streblochaete*

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Relevant details on the genus are given below, as these are not available in any of the works related to the flora of India.

Streblochaete Hochst. ex Pilger, in Engl., Bot. Jahrb. 37, Biebl. 85: 61. 1906; Tateoka, Bot. Mag. Tokyo 78: 289. 1965; Clayton & Renvoize, Gen. Gram.: 115. 1986. *Koordersiochloa* Merr., Philipp. J. Sci. Bot. 12: 67. 1917. *Pseudostreptogyne* A. Camus, Bull. Bot. Fr. 77: 476. 1930.

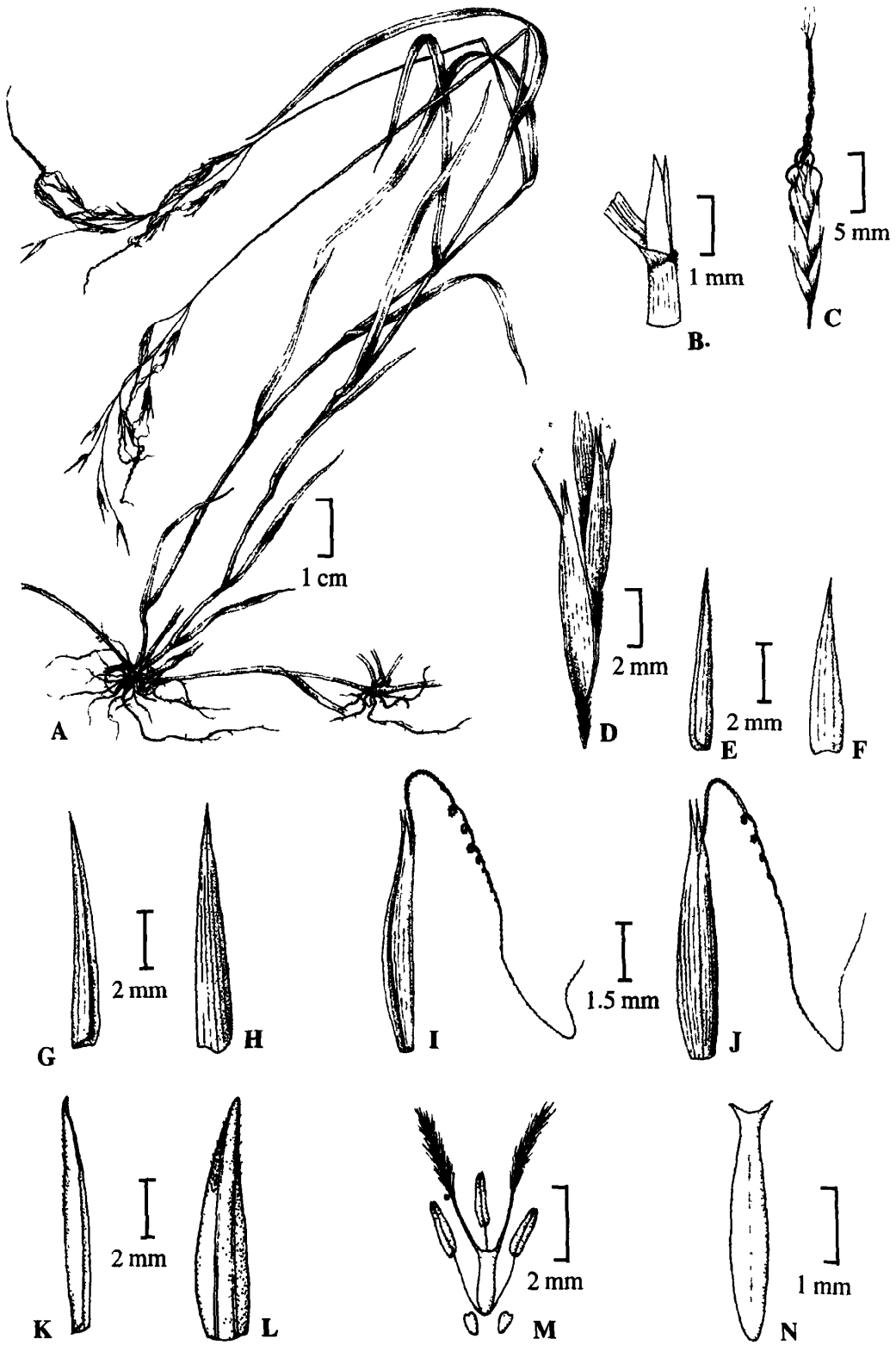
Perennial, stoloniferous or loosely caespitose. Leaf-blades flaccid, linear-lanceolate; ligules prominent, membranous, 3.5-12 mm long; leaf-sheaths connate along margins. Panicle narrow. Spikelets laterally compressed, 3-6-flowered; lower florets bisexual, upper ones male or reduced lemmas often forming a lanceolate cluster; rachilla disarticulating above glumes and below florets. Floret callus linear, *ca* 2 mm, densely covered with short stiff pungent bristles. Glumes subequal, persistent, acute, acuminate or aristate at apex, membranous, 3-5-nerved. Lemmas much exceeding glumes, herbaceous, 7-9-nerved, bidentate to bilobed at apex, awned on back just below lobes; awns filiform, hygroscopic, flexuous, becoming coiled and entangled with awns of other lemmas. Palea shorter than lemma, linear, 2 -nerved, 2 -keeled. Lodicules 2, free, minute, truncate at apex, cuneate, glabrous, fleshy. Stamens 3; anthers linear-oblong. Ovary glabrous, oblong in outline; styles distinct; stigmas plumose and laterally exerted. Caryopsis linear-oblong, almost terete, dorsally grooved, crowned by persistent stylar base at apex.

Species 2 (including the present new species), in open areas of montane forests; 1 in India.

Distrib. : India : Tamil Nadu (Nilgiris); Tropical Africa; Reunion; Indonesia; Philippines.

Note : The method of dispersal in this genus is so unusual and extraordinary that it will be of great interest to mention it briefly. The hygroscopic coiled awns get intertwined and thereby the florets get withdrawn from the panicle in clusters. The barbed and pungent callus readily adheres to passing animals and the whole clusters of florets thus get dispersed. *Streptogyna* P. Beauv. and *Streptochaeta* Schrad. are the only other two genera in Poaceae having a comparable type of dispersal mechanism where some spikelet part gets elongated, coiled and entangled with each other to effect dispersal. In *Streptochaeta* the awns get modified as in the case of *Streblochaete* whereas in *Streptogyna* it is the elongated and modified stigmas that take up this function. *Streptochaeta* is not reported from India.

Streblochaete was thought to be unispecific with only one species namely *Streblochaete longiarista* (A. Rich.) Pilger. Present collection from Ooty shows significant differences (see table below) from this species and as such is described here as a new species.



Streblochaete sanjappae K.A.A. Kabeer & V.J. Nair *sp. nov.*: A: Habit; B: Ligule; C: Spikelet; D: Spikelet with glumes removed showing 2 florets, callus and rachilla internodes; E & F: Lower glume (lateral and dorsal views); G & H: Upper glume (lateral and dorsal views); I & J: Lemma (lateral and dorsal views); K & L: Palea (lateral and dorsal views); M: Stamens, pistil and lodicules; N: Caryopsis in dorsal view.



Habitat of *Streblochaete sanjappae* K. A. A. Kabeer & V. J. Nair



Streblochaete sanjappae K.A.A. Kabeer & V. J. Nair – Close-up view of the inflorescence showing dispersal mechanism

Table showing differences between the two species

Sl. no.	Characters	*S. longiarista* (A. Rich.) Pilger	*S. sanjappae* sp. nov.
1.	Ligule	6-12 mm long	*ca* 3.5 mm long
2.	Glumes	subacute to acute	acuminate, shortly aristate
3.	Lemma	7-nerved	7-9 -nerved
4.	Lobes of lemma	1-2 mm long	*ca* 3 4 mm long
5.	Anthers	2.5-3 mm long	1-2 mm long

Streblochaete sanjappae K. A. A. Kabeer & V. J. Nair *sp. nov.*

S. longiaristae (A. Rich.) Pilger affinis, sed glumis acuminatis ad curte aristatis; lemmatibus ad 9-nervatis; lobis lemmatis longioribus, 3-4 mm longis; ligulis brevioribus, *ca* 3.5 mm longis; antheris brevioribus, 1-2 mm longis differt.

Typus : India : Tamil Nadu, Nilgiri District, Ooty, Dodabetta, ± 1240 m, 4.3.2002, *K. Althaf Ahamed Kabeer* 114021 (Holo., MH; Iso., CAL, MH).

Perennial, stoloniferous, straggling; culms geniculately ascending, up to 65 cm high. Leaf-blades linear lanceolate, 8-15 × 0.4-0.6 cm, slightly narrowed towards base, acuminate at apex, sparsely hairy on both surfaces, midnerve prominent; ligules *ca* 3.5 mm long, acute and lacerate at apex, membranous, hyaline, scabridulose on dorsal surface; leaf-sheaths 4.5-6 cm long, tubular, margins connate, striate, scaberulous, mouth auricled, auricles adnate to ligule. Panicle often contracted, *ca* 11 × 2 cm; rachis glabrous on nodes; pedicels 0.9-1.8 cm long. Spikelets 4-8 per raceme but usually paired and directly on rachis towards apex, laterally compressed, 1.5-2 cm long, 3-6-flowered, florets loosely imbricate, lower 2-4 usually bisexual, the rest either male or reduced lemmas often represented as a cluster at tip; rachilla internodes *ca* 2 mm long, slender, oblique at apex, glabrous, disarticulation above glumes and between florets. Callus *ca* 2 mm long, linear, pungent, densely clad with short stiff whitish bristles. Glumes 2, subequal, usually shorter than spikelets, divergent, persistent; lower glume lanceolate, *ca* 9.5 × 0.4 mm, acuminate to shortly aristate, hyaline on margins, chartaceous, greenish, prominently 3 -nerved, keeled, keel barbellate towards apex; upper glume similar to lower glume in shape and texture, *ca* 12.5 × 0.7 mm, prominently 5-6-nerved, keeled, keel scaberulous towards apex. Lemma oblong-lanceolate, *ca* 10.5 × 0.8-1.2 mm, acuminate, with two 3-4 mm long apical lobes, margins flat and hyaline, prominently 7-9-nerved, awned from dorsal side just beneath sinus of lobes; awn 2.9-3.5 cm long, barbellate, twisted and entangled with awns of other florets, whitish brown. Palea oblong lanceolate, *ca* 7.8 × 0.7 mm, obtuse or acute, margins flat and hyaline, otherwise

chartaceous, greenish, ciliolate-scabrellate towards apex and margins, prominently 2 -nerved, 2 -keeled. Lodicules 2, truncate, *ca* 0.3 mm long, membranous, hyaline. Stamens 3, anthers 1-2 mm long, yellow; filaments 0.6-3.5 mm long, hyaline. Ovary oblong, glabrous; styles 2, distinct; stigmas plumose, yellowish white. Caryopsis *ca* 3.4 mm, linear-oblong, dorsally shallowly long-furrowed, brownish.

Fl. & Fr.: March.

Habitat : In forest floor along the margins of evergreen forests.

Distrib. : India : Tamil Nadu (Nilgiri district), endemic.

Etymology: The species is named in honour of Dr. M. Sanjappa, a very well-known plant taxonomist and Director, Botanical Survey of India, Kolkata.

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स्ट्रेब्लोचिटी होस्ट एक्स पिल्जर (पोएसी) : भारत के लिए एक नये जीनस के साथ एक नयी जाति एस. संजप्पाई का अभिलेख

के. ए. ए. कबीर व जी. जे. नायर

सार संक्षेप

इस आलेख में भारत से पहली बार जीनस *स्ट्रेब्लोचिटी* होस्ट एक्स पिल्जर (पो ए सी) की एक नई जाति *स्ट्रेब्लोचिटी संजप्पाई* के ए ए कबीर एवं वी जे नायर का वर्णन है।