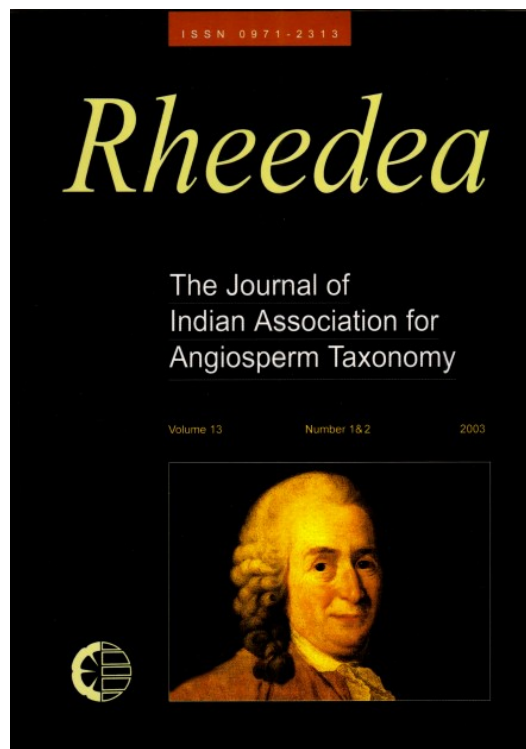




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A New Species of *Glyphochloa* W.D. Clayton (Poaceae) from Goa, India

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Abstract

A new species of *Glyphochloa*, viz.: *G. veldkampii* M.A. Fonseca et Janarth. is described from Goa. It is allied to *G. talbotii* (Hook. f.) Clayton and *G. henryi* Janarth. et al. but is distinct from the two species in having a prominent single transverse, cap-like collar on the lower glume of the sessile spikelet. The species is so far known only from the type collection. The type locality has now been covered with fresh soil for afforestation programme.

Keywords: *Glyphochloa veldkampii*, New species, Habitat loss

Introduction

The Indian endemic genus *Glyphochloa* W.D. Clayton is represented by nine species. They are confined to the Central and Peninsular parts of India. All the species of *Glyphochloa* were earlier treated under *Manisuris* L. Since 1960 four new species and one new variety have been added to *Manisuris* from India (Bor, 1960; Rao and Hemadri, 1968; Jain and Deshpande, 1969; Jain and Hemadri, 1969; Jain, 1972; Kulkarni and Hemadri, 1974). Clayton (1981) transferred all the species of *Manisuris* except *M. myuros* L. and *M. clarkei* (Hack.) Bor ex Sant. to the newly erected genus *Glyphochloa* W.D. Clayton. Later, *Manisuris* became a monotypic genus when *M. clarkei* (Hack.) Bor ex. Sant. was transferred to *Mnesithea* under a new combination *M. clarkei* (Hack.) de Koning and Sosef (Veldkamp et al., 1986). Janarthanam et al. published a new species in *Glyphochloa* in 2000. In 2001 the authors happened to collect a few specimens of *Glyphochloa* different from all other known species of the genus. This species is described and illustrated here as a new species.

Glyphochloa veldkampii M.A. Fonseca et Janarth., sp. nov. Fig. 1.

Glyphochloa talbotii et *G. henryi* similis, a priori collo unico prominenti pileato in spiculae sessilis gluma inferiore, articulis subtumidis, spiculae pedicellatae gluma inferiore ala longa, a posteriori collo unico

pileato prominenti in spiculae sessilis gluma inferiore differt.

Type: INDIA, Goa, Kasauli, along the Panaji-Belgaum highway (NH 4A) in the outskirts of Bhagwan Mahavir Wildlife Sanctuary, 15°21'30.9" N & 74°11'37.1" E, c. 85 m above msl, 21 October 2001, Janarthanam & Fonseca 1901 (Holotype, CAL; Isotypes, BSI, MH).

Tufted annual, up to 50 cm tall. Culms erect to geniculate at base, branching at 3rd and 4th node, channeled, ridged, 4- or 5-noded; nodes swollen, constricted on drying, yellowish to faintly pink when fresh and brown on drying; internodes 1-11 cm long. **Leaf blade** linear, upto 12 cm long, c. 9 mm wide, truncate at base, entire and smooth along margins, acute at apex, 5-9 nerved, glabrous; leaf sheath 1.5-5.5 cm long, covering often upto ½ the portion of internode; ligule membranous with a fringe of hairs, c. 1.5 mm long. **Racemes** solitary, 4.5-7 cm long, c. 5 mm wide; peduncle 6-14 cm long, distally and gradually enlarging, whorledly ciliate at the junction of raceme and peduncle; joints and pedicels fused, subtumid, 2.5-3 mm long, apex c. 2 mm broad, edges ciliate, pedicel slightly shorter than the joint. **Sessile spikelets:** lower glume c. 1.5 cm long (including awn), with a single transverse collar towards the base and 9 or 10 faint vertical furrows at base; collar pointing upward, cap-like, erecto-patent with a gap between

the body of the glume and the collar, entire or broken at one place, ciliate on the lateral edge, rarely with one or two lateral hooks; upper glume c. 3 x 0.75 mm, hyaline, 3-nerved, elliptic-oblong, margins incurved.

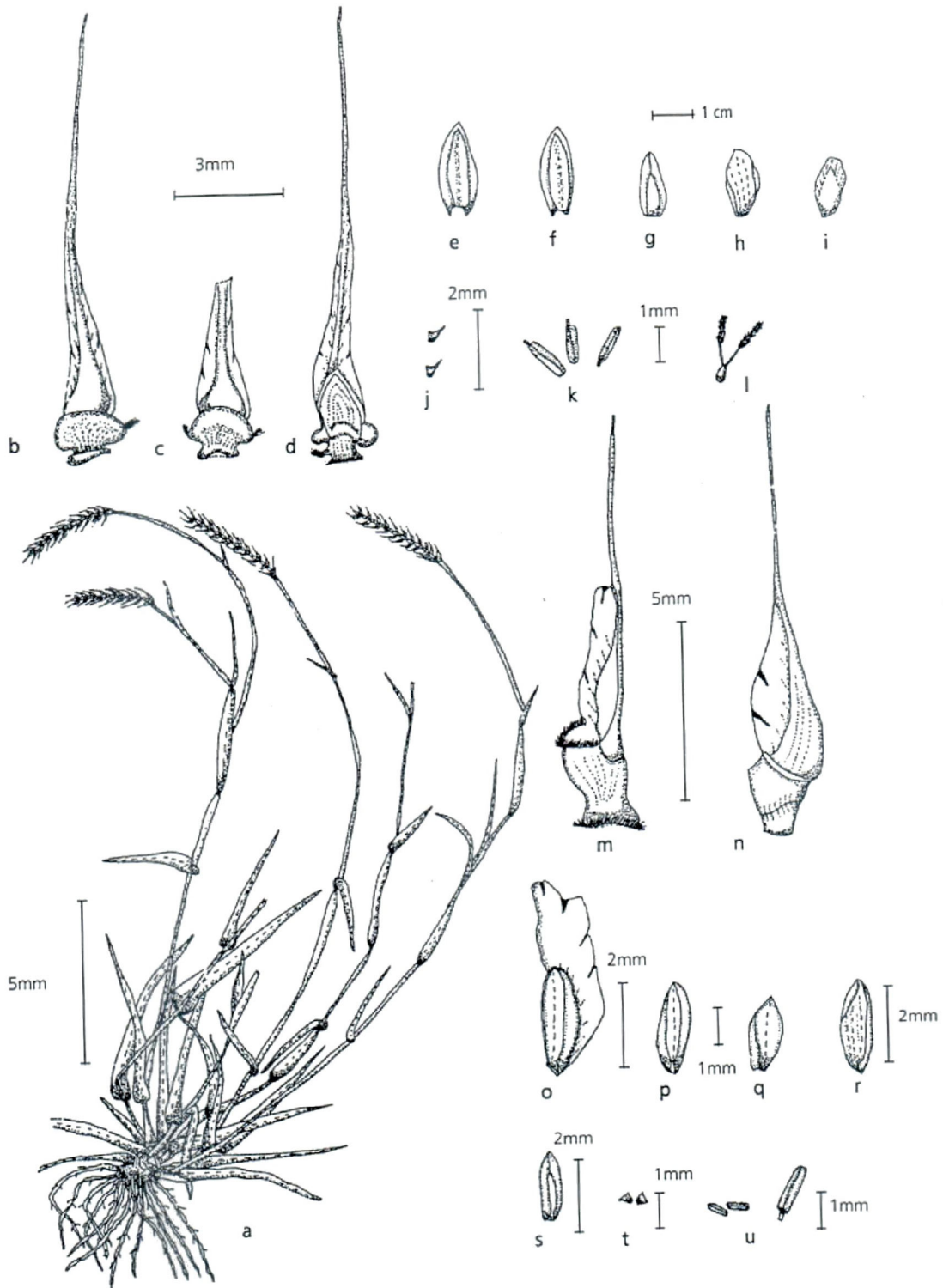


Figure 1. *Glyphochloa veldkampii* Fonseca & Janarth. – a. Habit; Sessile spikelet; b. Lower glume with one lateral hook, adaxial view; c. Lower glume - part with two lateral hooks, adaxial view; d. Lower glume abaxial view; e. Upper glume; f. Lower lemma; g. Lower palea; h. Upper lemma; i. Upper palea; j. Lodicule; k. Stamens; l. Pistil; Pedicelled spikelet; m. Pedicelled spikelet with joint; n. Lower glume with pedicel; o. Upper glume; p. Lower lemma; q. Lower palea; r. Upper lemma; s. Upper palea; t. Lodicules; u. stamens

Sl. No.	Character	<i>G. talbotii</i>	<i>G. veldkampii</i>	<i>G. henryi</i>
1	Habit	12-25 cm tall	25-50 cm tall	25-90 cm tall
2	Internode	0.5-5 cm long	1-11 cm long	1-10 cm long
3	Joint and pedicel	Fused to form a tumid, stout structure	Fused to form a sub-tumid structure	Fused to form a long, straight structure
4	Lower glume of sessile spikelet	With $\frac{1}{2}$, 1, 2 or 3 transverse overlapping collars pointing upward	With a single cap-like transverse erecto-patent collar	With a broad transverse ridge at base turning upward along the margin
5	Wing of upper glume of pedicelled spikelet	c. 0.5 mm long from apex	c. 2 mm long from apex	c. 2 mm long from apex
6	Pedicelled spikelets	Upper floret staminate	Upper floret staminate	Upper floret hermaphrodite

Lower floret staminate; lemma c. 2×0.75 mm, hyaline, elliptic-oblong, margins incurved; palea c. 2×0.55 mm, ovate, hyaline, margin incurved at apex; stamens 3, anthers c. 0.6 mm long. Upper floret hermaphrodite; lemma c. 2×1 mm, ovate, apex acute; palea c. 1.75×0.75 mm; lodicules c. 0.5 mm long, triangular, hyaline; anthers 1.2-1.5 mm long; ovary obovate, stigma c. 2 mm long, feathery towards the apex. *Pedicelled spikelets*: pedicel c. 2.5 mm long; lower glume c. 1.2×0.2 cm (including awn and without pedicel), winged on one side; upper glume c. 5×2 mm, strongly keeled, boat-shaped, margins unequal, dorsally winged, wing c. 2 mm long, broad at apex with wavy margin,

hyaline. Lower floret staminate; lemma c. 2.5×1 mm, margin incurved at apex, hyaline; palea c. 2×1 mm, hyaline, incurved to one side; anthers c. 0.75 mm long; lodicules rarely seen. Upper floret staminate; lemma c. 2.5×1 mm, lanceolate, margins incurved, hyaline; palea c. 2×1 mm, oblong, hyaline; anthers c. 1.5 mm long.

Similar to *G. talbotii* (Hook.f.) Bor and *G. henryi* Janarth. *et al.* but differs from the former in having a prominent single transverse cap-like collar on the lower glume of the sessile spikelet, sub-tumid joints and a long wing on the lower glume of the pedicelled spikelet, and differs from the latter by its prominent single transverse cap-like collar on the lower glume of the sessile spikelet. (Table 1 & Fig. 2).

Etymology: The new species is named after Dr. J. F. Veldkamp, Rijksherbarium, Leiden, The Netherlands for his contributions to the agronomy.

Habitat: Lateritic rocks in open areas at the periphery of moist deciduous forest, at an altitude of 85 m above msl.

Note: The type locality, Kasauli, along the Panaji - Belgaum highway at the outskirts of Bhagwan Mahavir Wildlife Sanctuary (hard laterite) has now been covered with a layer of soil almost one meter in height for afforestation programme. Recently the species has been collected from adjacent localities.

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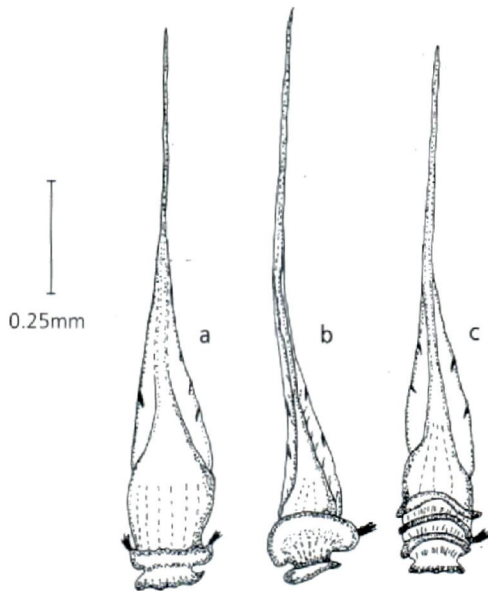


Figure 2. Lower glumes of sessile spikelets: a. *Glyphochloa henryi*; b. *G. veldkampii*; c. *G. talbotii*

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