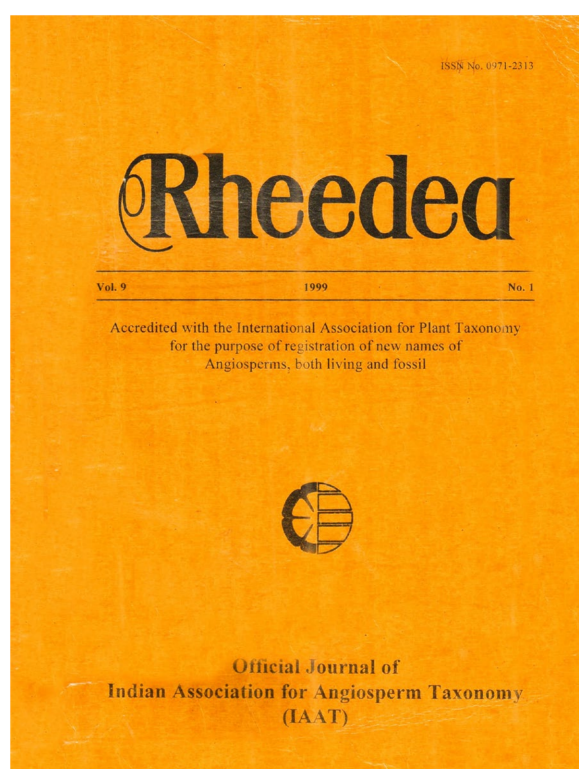




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Two New Species of *Ochlandra* Thw. (Poaceae - Bambusoideae) from Southern India

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Abstract

Two new species of *Ochlandra* Thw. are described from Kerala State, India.

INTRODUCTION

The genus *Ochlandra*, originally described by Thwaites (1864) to accommodate the Sri Lankan *Bambusa stridula* Moon (= *Ochlandra stridula*) is now known to have 9 species and 1 variety of which 8 species are endemic to Western Ghats of Southern India and one to Sri Lanka (Kumar, 1995).

During the survey on the bamboos of Western Ghats, the authors could collect two species of *Ochlandra* from the tropical forests of Kerala. The critical study revealed that the present collections are additions to the flora of India which have been described and illustrated here.

***Ochlandra spirostylis* Muktesh, Seetha. & Stephen *sp. nov.* (Fig. 1)**

Ochlandra setigera et *O. talboti* affinis, sed lemmatis margine ciliato, palea apicaliter incisura fimbriata margine destaliter ciliato, lodiculis 3 sulcatis apicaliter ciliatis, staminibus roseis connective apice 1 vel 2 spiculis, ovario rotundato porcato stylo torsivo, stigmatibus 6-8 plumosis differt, caryopside 10-10.5 cm longa 5.5 cm lata.

Type : India, Kerala, Idukki Dist., Adimali, Chattuparakudy, 900m, 16.6.1998, Stephen 008884 KFRI, (Holotype-KFRI) 30.5.1998, Seethalakshmi 008881 KFRI (Paratype - KFRI, Isotype - 008884 MH).

A gregarious shrubby bamboo. Culms erect upto 6 m in height, greyish green, rough in texture; nodes some what raised, a greyish band with brown appressed hairs below on each node, which is more prominent towards the apex of the shoot; internode upto 47 cm long, 2.5 cm in diameter, hollow, culm-sheath thin, papery, 13-15 cm long, striate when old, wrinkled, greyish

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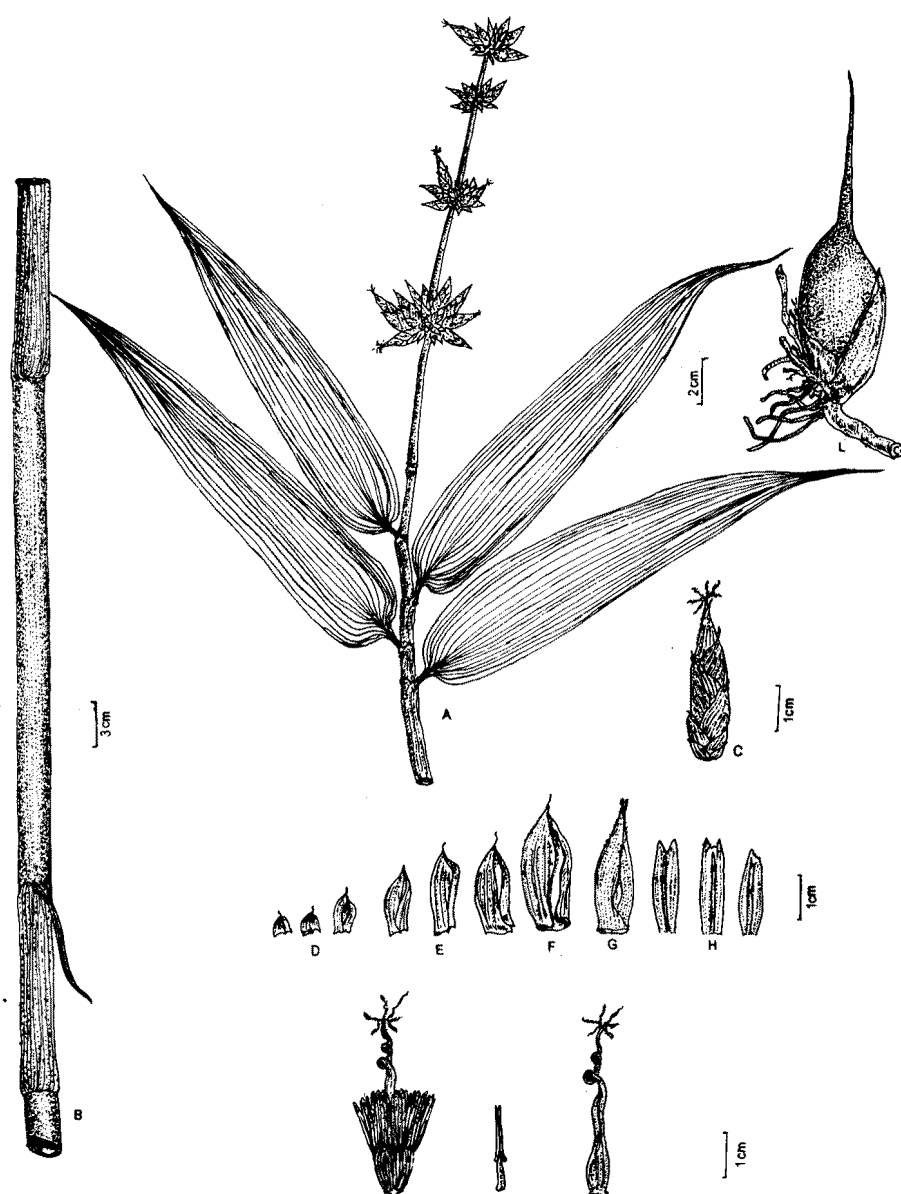
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Fig. 1. *Ochlandra spirostylis* Muktesh, Seetha. & Stephen sp. nov. : A. Flowering twig; B. Nodal portion with culm sheath; C. Single spikelet; D. Empty glumes; E. Sterile glume; F. Lemma; G. Palea; H. Lodicules; I. Androecium and Gynoecium; J. Stamen; K. Pistil; L. Caryopsis.

***Ochlandra* sp. (Poaceae)**

appressed hairs near the base. Leaves alternate, linear-lanceolate, 25-32 x 4.5-5.8 cm, acuminate at apex, base truncate, margin serrulate towards base, midvein prominent, secondary veins 12 or 13 pairs, distinct; petiole upto 1 cm long, grooved above; rounded below, glabrous; inner ligule brownish, cartilaginous; outer ligule prominent, straw coloured, flap like, ensheathing the petiole; leaf-sheath glabrous, shiny, striate. Inflorescence terminal or axillary subverticillate spicate panicle; spikelets few, 1.5-5 x 0.3-1 cm, ovate-lanceolate, glabrous; bracts 3, 0.5-1 x 0.5-0.7 cm, ovate, mucronate, many veined; sterile glumes 3, 1.4-3 x 1.2-2.2 cm, ovate, firm, with a 2 mm long mucronate, upto 56-veined, glabrous, margin ciliate towards apex, overlapped; lemma membranous towards the base, upper firm, 3.1-3.5 x 2.2 - 2.4 cm, ovate, acuminate, margin ciliate towards apex, overlapping, upto 48-veined with transverse veinlets; palea membranous, 3.1-3.5 x 1.5-1.7 cm, ovate-oblong, with a notch at the apex, fimbriate along notches, ciliate along overlapping margins, upto 48-veined with transverse veinlets; lodicules 3, membranous, 1.5-2 x 0.4-0.5 cm, bifurcated, bifurcated tip fimbriate or ciliate, 18-veined with a sulcus in each lodicule; stamens upto 70, free, subequal, pink; anther upto 1.1 cm long with 1 or 2 spicules at the apex of the connective, filaments free, filiformis, basifixed; ovary glabrous, rounded and some what ridged at base, gradually narrowed to a spirally twisted style, style divided into 6 plumose stigma, some times 1 or 2 stigma again divided to produce a total of 8 plumose stigmas; caryopsis ellipsoid, 10-10.5 cm long with a 5.5 cm long awn like beak.

Allied to *Ochlandra setigera* Gamble and *O. talboti* Brandis but differs in having ciliate margin lemma; palea with a fimbriate notch at the apex, ciliate on upper margin; lodicules 3, ciliate at apex, with a sulcus; stamens pink coloured with 1 or 2 spicules at the apex of the connective; ovary rounded and ridged; style spirally twisted with 6-8 plumose stigmas.

Distribution : So far known from the type locality.

Habitat and Ecology : Growing intermingled with Cardomom and evergreen trees near small water course in the evergreen forests at an altitude of 900 m.

Flowering and Fruiting : April - August

Etymology : This new species has been named based on the characteristic twisting of the style.

***Ochlandra soderstromiana* Muktesh & Stephen sp. nov. (Fig. 2)**

Ochlandra talboti affinis, sed gluma sterili lemmate paleaque glabra, lodiculis 3 bifurcatis apice fimbriato 12 nervatis, staminibus and 68 subequalibus, anthera apiculata basi sagitata, ovario rotundato glabro, stigmatibus 7 plumosis, caryopside 10 cm longa 2.5 cm lata, rostri basi bulbosa differt.

Type : India, Kerala, Idukki Dist., Kallar, Kallar Valley Estate, 1000 m, 15.6.1998, *Stephen* 008883 KFRI (Holotype - KFRI, Isotype - 008882 MH).

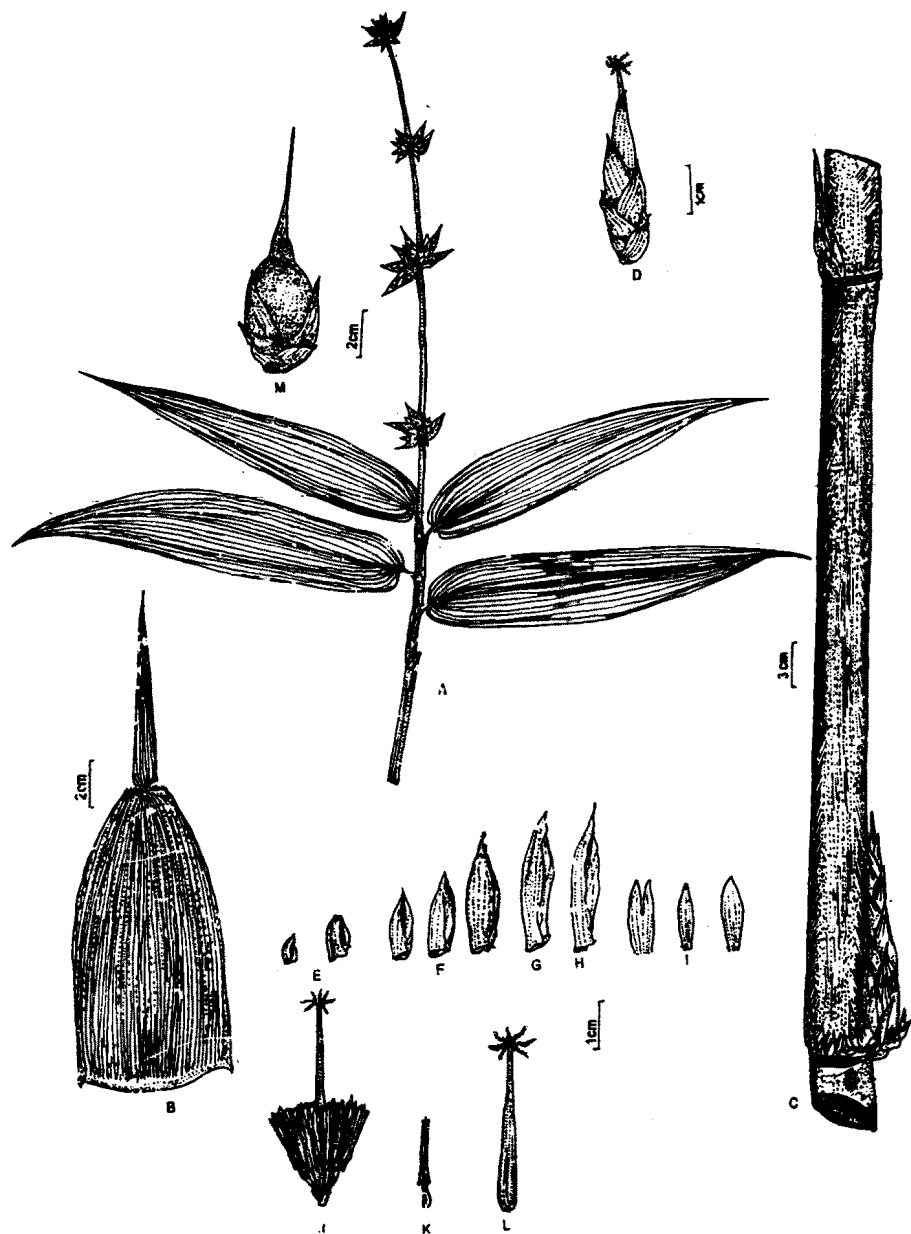
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Fig. 2. *Ochlandra soderstromiana* Muktesh & Stephen sp. nov. : A. Flowering twig; B. Culm sheath; C. Nodal portion with axillary shoot; D. Single spikelet; E. Empty glumes; F. Sterile glumes; G. Lemma; H. Palea; I. Lodicules; J. Androecium & Gynoecium; K. Stamen; L. Pistil; M. Caryopsis.

***Ochlandra* sp. (Poaceae)**

Small straggling bamboo. Culms erect upto 5 m height, 2-3.5 cm in diameter, smooth; nodes prominent, internode 41-51 cm long, smooth, glabrous. Culm-sheath persistent, ovate, 15-19 cm long, thin, striate, wrinkled when old, inside shiny, smooth; ligule short, 3 mm long, auricle 15-ciliate, blade narrow, linear-lanceolate, upto 13.5 cm long, striate. Leaves linear-lanceolate, 12-28 x 2.3 - 4.7 cm, acuminate at apex, truncate at base, margin serrulate towards apex, 12-nerved; petiole 3-6 mm long, grooved above, glabrous, attached to a shiny, smooth, striate leaf-sheath; inner and outer ligule present, outer ligule rounded, rigid. Inflorescence terminal or axillary spicate panicle; spikelets few, 2-4.8 x 0.5-0.9 cm, ovate-lanceolate, glabrous; bracts 2, 0.4-1.1 cm long, ovate, acuminate, many veined; sterile glumes 3-4, ovate, 0.9-2.8 x 0.6-1.5 cm, ovate, mucronate, glabrous, margin overlapping, 48-nerved; lemma membranous towards base, firm towards upper side, 2-3 x 0.6-1.7 cm, ovate, acuminate, margin overlapping, upto 70-nerved with transverse veinlets; palea membranous, linear-ovate, 2-2.8 x 0.5-0.6 cm, acute, upper margin overlapping, 33-nerved with transverse veinlets; lodicules 3, membranous, unequal, ovate, acute, bifurcated, fimbriate on apex, 12-nerved; stamens upto 68, subequal, ivory, anther upto 1.3 cm long, apiculate apex, sagittate at base, filaments free, filiformis; ovary glabrous, rounded, gradually narrowed to a cylindrical style; style divided into 7 plumose stigmas, subequal; caryopsis upto 10 cm long, 2.5 in diameter, elliptic-oblong, beak 5 cm long, bulbous at base, awn like.

Allied to *Ochlandra talboti* Brandis but distinct in being glabrous sterile glumes, lemma and palea; lodicules 3, bifurcated, tip fimbriate, 12-nerved, stamens upto 68, subequal, anther apiculate, sagittate at base, ovary rounded, glabrous and stigmas 7, plumose; caryopsis 10 x 2.5 cm and beak with bulbous base.

Distribution : So far known from the type locality.

Habitat and Ecology : Growing near open riverine area at an altitude of 900 m.

Flowering and Fruiting : April - August

Etymology : This new species has been named after Late Dr. T.R. Soderstrom, a noted bamboo taxonomist, Smithsonian Institution, Washington DC, to commemorate his vast contribution in bamboo systematics.

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