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Research Article

SPOROBOLUS WALLICHII AND *UROCHLOA BRIZANTHA* (POACEAE) – TWO NEW RECORDS FOR KERALA

***Geetha G. Nair[1], P. Dileep[1] and R. Meera Raj[2]**
[1]Regional Institute of Education (RIE), Mysore-6, India
[2]Community Agrobiodiversity Centre, M.S. Swaminathan Research Foundation, Puthurvayal, Kalpetta 673577
**Author for Correspondence*

ABSTRACT
While exploring the wetland Andropogonoid grasses of Kerala, the authors came across the interesting specimen of *Sporobolus wallichii* and *Urochloa brizantha* from the Western Ghats of Wyanad district, Kerala. These are the first reports of these species for the state.

Keywords*: Poaceae, New record, Kerala, Sporobolus wallichii and Urochloa brizantha*

INTRODUCTION
The Poaceae (also called Gramineae or true grasses) are a large and nearly ubiquitous family of monocotyledonous flowering plants. With more than 10,000 domesticated and wild species, the Poaceae represent the fifth-largest plant family, following the Orchidaceae, Asteraceae, Fabaceae, and Rubiaceae. Poaceae live in many other habitats, including wetlands, forests, and tundra.
The importance of grasses as objects of botanical research is mainly due to their biogeographical presence and economic as well as ecological importance since the very beginning of human civilization. In the current scenario of global climatic change, the ecophysiological study of grasses has attracted much attention of researchers worldwide. Poaceae are an important family playing significant role in the life of human beings and other animals. The importance of it is that, it provides the grasslands, which occupy one third of the land surface (Schantz, 1954) and cereals upon which much of the world population depends on its food. Grasslands are estimated to compose 20% of the vegetation cover of the Earth.
Agricultural grasses are known as cereals and provide the world half the amount of calories they consume daily. They are the major sources of carbohydrates. Sugarcane, a grass, is the major source of sugar production. Grass stems provide forage and fodder. Bamboo, the tallest of grasses is used as timber for construction purposes and also for several tools and implements. Grass fiber is used for making paper and biofuel. *Phragmites australis* (common reed) is important in water treatment, wetland habitat preservation and land reclamation in Afro-Eurasia. Grasses have long had significance in human society. They have been cultivated as feed for domesticated animals for up to 10,000 years. Also, the primary ingredient of beer is usually barley or wheat, both of which have been used for this purpose for over 4,000 years.
The data given herein have been compiled and documented during the course of our work on the taxonomic account on the tribe Andropogoneae of Poaceae in South Western Ghats of India. The objective here is to provide comprehensive description and illustration of new species resulting from the study.

MATERIALS AND METHODS
The present study was based on extensive and intensive plant exploration trips conducted in different parts of South Western Ghats. Attention was given to gather specimen with flowering, fruiting or both the stages. Field data included date of collection, place of collection, habit, and habitats. The specimens were studied for their morphology and variation using a stereo microscope. The entire plant specimen collected during the course of work is to be deposited in the Herbarium of the Department of Botany, University of Mysore. Intensive Lab work was carried out to bring out the structural characters using stereo microscopes and scientific illustrations using camera lucida. Detailed taxonomical descriptions were prepared as given below. Identification of the taxa was done by comparison with authentic herbarium

specimen, by referring relevant taxonomic literature, and in consultation with experts in the field of taxonomy.

RESULTS AND DISCUSSION

Botanical description of the new genera

Sporobolus wallichii Munro ex Trin., has not been reported so far from Kerala (Sreek & Nair. 1991). It was reported earlier from Karnataka (Mathew, 1983). The present collection forms a distributional record for the plant from Kerala. Detailed description with illustration is provided.

The genus *Sporobolus* of about 150 species occurs mainly in the tropics and subtropics of the world. 20 species occur in India. With the addition of the present taxon, the genus is represented in Kerala by 6 species. Members of the genus are usually called dropseed grasses or sacaton grasses. They are typical prairie and savanna plants, occurring in other types of open habitat in warmer climates.

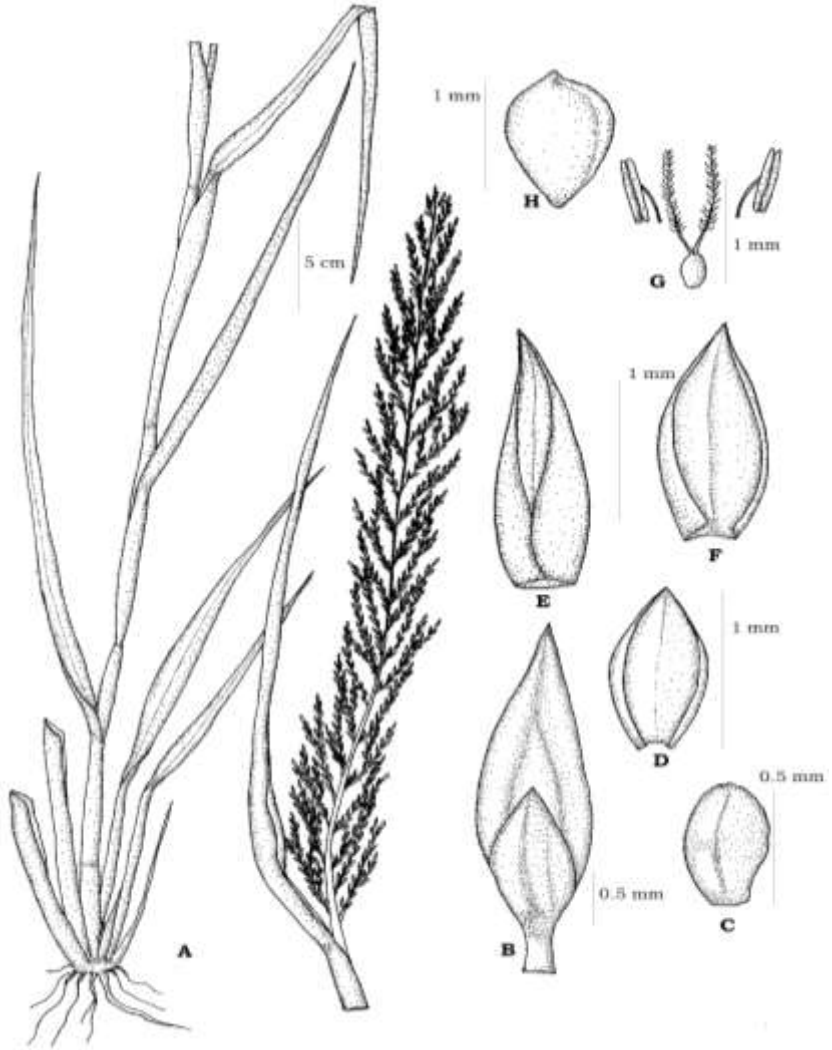

Figure 1 (a): Sporobolus wallichii: A. Habit; B. Spikelet; C. Lower glume; D. Upper glume; E. Lemma; F. Palea; G. Stamens and pistil; H. Grain

Sporobolus wallichii Munro *ex* Trin. J. Bot. 27:171. 1889; Hook. f. Fl. Brit. Ind. 7:248. 1896; Fischer in Gamble, Fl. Pres. Madr. 3:1817. 1934; Bor, Grass. Bur. Cey. Ind. Pak. 629. 1960; Mathew, Mat. Fl. Tamilnadu Carnatic 401. 1981; S. Moulik, Grass. Bamb. India 2: 482. 1997. (Figure 1 a,b). Annual, or perennials. Culms erect, or geniculately ascending; 50–90 cm long. Culm and nodes are glabrous. Lateral

branches lacking. Leaf sheaths glabrous on surface; outer margin hairy. In leaf sheath oral ciliate hairs, 0.5 mm long. Leafblade margins smooth, glabrous. Leaf blade apex attenuates. Inflorescence a panicle. Panicle open; 25–45 cm long; 10–20 cm wide. Spikelets solitary, or in pairs. Fertile spikelets pedicelled. Pedicels 3–8 mm long. Spikelet with 1 fertile florets. Spikelets lanceolate; 2 mm long; breaking up at maturity. Glumes deciduous; lower glume elliptic, or oblong; 0.5–0.75 mm long; upper glume 0.5–0.75; membranous; veins absent. Lower glume margins are ciliolate. Upper glume elliptic; 1 mm long; membranous; veins absent. Fertile lemma ovate; 2 mm long; membranous; without keel; 1-veined. Palea 2-veined. Palea keels approximate. Anthers 3; 1 mm long. Caryopsis obovoid; quadrangular; 1 mm long; dark brown; truncate.

*Distribution:*Myanmar, Thailand, Sri Lanka, India.

Flowering and fruiting: Aug - March.

Habitat: The species has been found on the banks of streams.

Specimen examined: India, Kerala, Wayanad District, Varyad, 21.10.2010, *dileep 9045*(SMCH); 15.11.2010, *Dileep 9070* (SMCH).

The genus *Urochloa* comprises 12 species world over (Sreek & Nair, 1991) with addition of the present taxon; the genus is represented in Kerala by 2 species. The genus is commonly known as signal grasses.

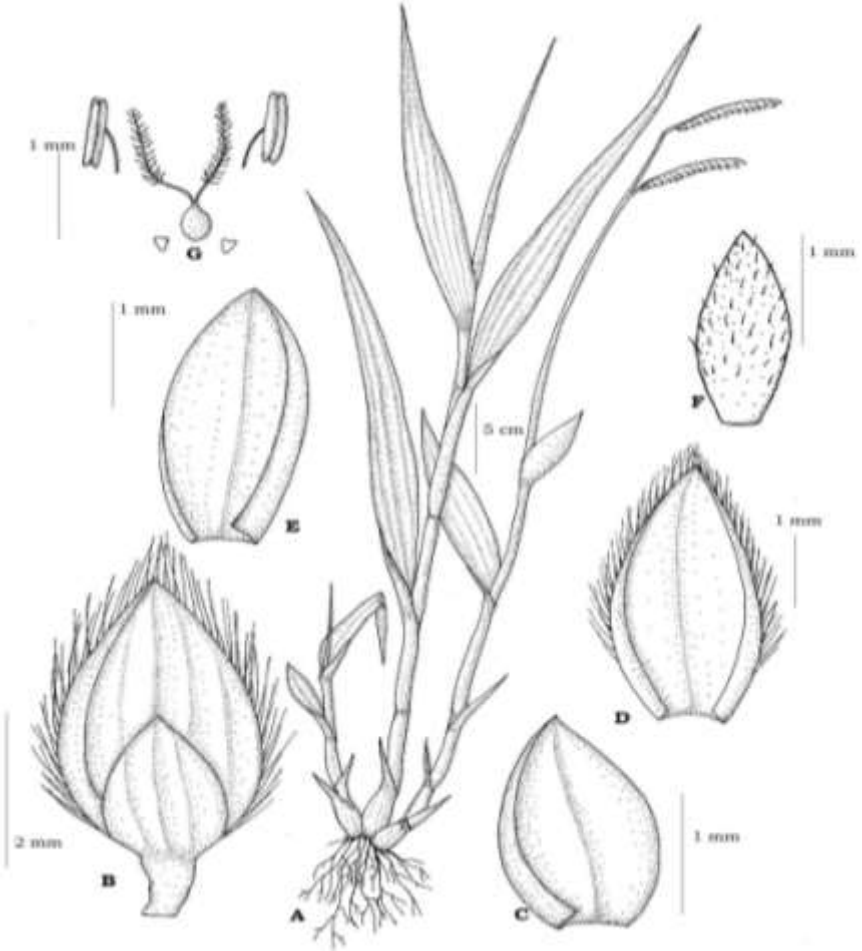

Figure 1 (b): Urochloa brizantha: A. Habit; B. Spikelet; C. Lower glume; D. Upper glume; E. Palea; F. Lemma; G. Lodicules, stamens and pistil

Urochloa brizantha (Hochst. ex A. Rich) R. Webster. Austral. Paniceae, 233. 1987. *Brachiaria brizantha* (Hochst. Ex A. Rich.) Stapf in Prain, Fl. Trop. Afr. 9, 531 (1919); *Panicum brizanthum* Hochst. Ex A. Rich., Tent. Fl. Abyss. 2. 363 (1851); *Brachiaria brizantha* (Bor) Grass. Ind. Bur. Cey.

281. 1960. Perennials up to 120 cm high, with stout erect culms and broadly lanceolate leaf-blades. Two to five racemes, up to 15cm long, with two rows of almost sessile. Overlapping rounded spikelets, 4-6mm long on the underside. It differs from *Brachiaria decumbens* in that the spikelets have a sub-apical fringe of long purplish hairs, and the spikelets are longer than those of *Brachiaria decumbens*.
Distribution: Native to tropical Africa but now introduced into most tropical countries.
Flowering and fruiting: Throughout the year.
Ecology: The species has been found on the hilly areas at a height of 800 and 920 m. In Africa it has an excellent reputation as a pasture grass which is much relished by cattle. It is also said to be of use for making hay.
Specimen examined: Kerala, Wayanad District, Kuppadi hill, 800m, 15.12.2010, *Dileep 7048* (SMCH).

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