

EXTENDED DISTRIBUTION OF *HEMISORGHUM VENUSTUM* (THW.) CLAYTON – A RARE GRASS OF SRI LANKA AND INDIA IN WESTERN GHATS

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ABSTRACT

Hemisorghum venustum (Thw.) Clayton, a grass species is known only from Sri Lanka and a single collection from Central Western Ghats. The species with its rare occurrence is of phytogeographical importance. The present paper discusses its collection from Northern Western Ghats, ecology, morphological variations and taxonomic position. Elaborate description and illustrations are provided

INTRODUCTION

Hemisorghum C.E. Hubb. ex Bor, a Karthikeyan *et al.* (1989), Nair (1989) and tropical genus consisting of two species viz. Clayton (1994) included Southern India *H. mekongense* (A. Camus) C.E. Hubbard under distribution, the former two solely and *H. venustum* (Thw.) Clayton, is based on Bor's work. However, Bor (1960) distributed mainly in India, Burma, South-east Asia (Watson & Dallwitz, 1994). The taxonomic position of *H. venustum* (Thw.) Indian herbaria it is inconclusive whether Clayton has always been doubtful and was treated under various genera, viz. *Andropogon*, *Bothriochloa*, *Capillipedium* and *Vetiveria* till Clayton (1972) showed firm relationship with *Hemisorghum*. Earlier works point to its distribution to Sri Lanka (Hooker, 1897), but Bor (1960) mentioned Maharashtra forms an extended "Madras" and later works such as distributional record for this species.

Compared to other species the number of specimens quoted for this in Flora of Ceylon (Clayton, 1994) are very few indicating that the species is rare even in Sri Lanka. Considering its phytogeographical importance, its full description and illustrations are provided in this paper.

Hemisorghum venustum (Thw.) Clayton in Kew Bull. 27: 448. 1972; Henry *et al.* Fl. Tamil Nadu 3: 120. 1989; Bhat & Nagendran in Indian J. Forestry 6: 332. 1983 & Sedges and Grass. 246. 2001. *Andropogon venustum* Thw. Enum. Pl. Zeyl. 367. 1864; Hook. f. Fl. Brit. India 7: 178. 1896. *Vetiveria venusta* (Thw.) Willis, Rev. Cat. Pl. Ceyl. No 2713. 1911. *Bothriochloa venusta* (Thw.) A. Camus in Ann. Soc. Linn. Lyon (n. s.) 76: 184. 1931. *Capillipedium venustum* (Thw.) Bor, Grass. Bur. Cey. Ind. & Pak. 113. 1960.

Perennial grass, caespitose, clothed with basely aggregated pubescent sheaths. Culms up to 85 cm high; internodes solid, terete. Leaf-sheath slightly compressed, keeled, lower very short, aggregated, upper up to 23 x 1.5 cm, greenish yellow and shiny on outer surface, yellow on inner surface, brittle. Ligule a fringe of hairs, up to 6 mm long, white. Leaf-blade linear-lanceolate, up to 65 x 2 cm, upper truncate at base, lower narrowed, convolute, pale green, scaberulous on ventral surface, dorsal surface dark green, glabrous with prominent ca 2 mm wide midrib, acuminate at apex. Panicle elliptic-lanceolate to ovate, up to 13 x 5 cm, open, dull purplish green in colour; primary panicle branches whorled at most nodes, up to 6 cm long, hairy at base, hairs white, up to 2 mm long. Racemes up to 2 cm long. Joints of rachis linear, sub-angular, ca 3.5 mm long, ciliate below middle on both sides, discoid at apex. Spikelets two, one sessile, hermaphrodite, the other pedicelled, staminate. Sessile spikelets linear-lanceolate, ca 5 mm long, awned, yellowish green to dull purplish in colour, lower floret empty, upper floret bisexual. Callus ca 0.5 mm long, stellately

bearded, hairs ca 1 mm long, white. Lower glume linear-lanceolate to lanceolate, ca 5 x 1 mm, chartaceous to subcoriaceous, 2-keeled, glabrous, slightly convex, nerveless, keels scabrid above the middle, with two short cusps at hyaline apex, margins incurved below middle. Upper glume elliptic, boat-shaped in profile, ca 5 x 1 mm, cuspidate at apex, chartaceous, 1-nerved, 1-keeled, keel scabrid, margins incurved, ciliate. Lower floret epaleate, barren : Lower lemma lanceolate, ca 3 x 1 mm, subhyaline, 2-keeled, 2-nerved, margins infolded along the nerves, obtuse, lacerate at apex. Upper floret epaleate, bisexual : Upper lemma oblong, ca 3 x 0.5 mm, subhyaline, lobed at apex, 1 to 3-nerved, lobes acute at apex, awned in sinus; awn ca 11 mm long, twisted, geniculate, scabrid, with ca 4 mm long column, golden brown in colour. Lodicules 2, denticulate at apex, ca 0.5 x 0.5 mm, fleshy, glabrous. Stamens 3; anthers ca 2 mm long, yellow. Ovary elliptic, ca 1 mm long; style ca 0.5 mm long; stigma plumose, ca 1.5 mm long. Pedicelled spikelets elliptic, unawned, longer than the sessile spikelets. Pedicel ca 3 mm long, linear, subangular, discoid at apex, hairy below the middle on both sides, hairs ca 1.5 mm long, white. Lower glume elliptic to elliptic-lanceolate, ca 6 x 1.5 mm, hairy at base, chartaceous, 7-nerved, 3-towards the margin on each side, 2-keeled, scabrid along keels, acuminate at apex. Upper glume elliptic-lanceolate, ca 5 x 1.5 mm, chartaceous, 5-nerved, 2-keeled, margins hyaline, ciliate above the middle, acuminate-aristate at apex. Lower floret epaleate, barren: Lower lemma oblong-lanceolate, ca 4 x 1 mm, hyaline, delicate, margins winged, wing infolded, ciliate. Upper floret epaleate, staminate: Upper lemma elliptic-lanceolate, ca 5 x 1.5 mm, chartaceous, 3-nerved, 2-keeled, winged on margins above middle, acuminate at apex; wings hyaline, delicate, ciliate, acuminate. Stamens 3; anthers ca 2 mm long, yellow.

Flowering & Fruiting : January (October, Bhat & Nagendran 2001).

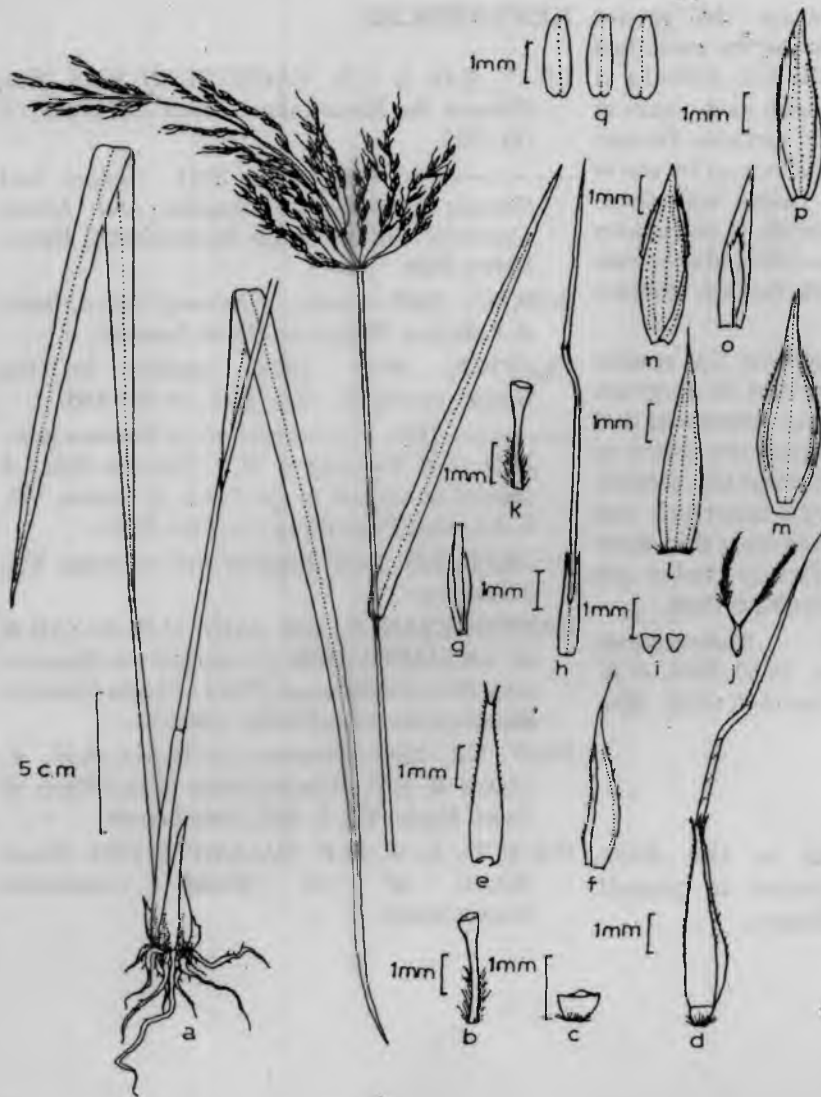


Fig 1. *Hemisorghum venustum* (Thw.) Clayton : a. habit, b. joints of rachis, c. callus, d. sessile spikelet, e-j. sessile spikelet : e. lower glume, f. upper glume, g. lower lemma, h. upper lemma, i. lodicules, j. pistil, k-q. pedicelled spikelet : k. pedicel, l. lower glume (dorsal view), m. lower glume (ventral view), n. upper glume, o. lower lemma, p. upper lemma, q. stamens.

Habitat : Lithophyte, occurring on vertical faces of rocks, withstanding heavy flow of waterfall.

Note : Roots forming thick tufts in order to remain adhered to the vertical surfaces of rocks. Species is found withstanding heavy down pour of

water from waterfall. Although the species flowers during post monsoon when the water just drips or flow is scanty from the fall, difficulty is faced for collection of the specimen as it occurs at great heights on slippery rock surfaces. Occurrence of this species in such habitat may be one of the reason for its rarity in Indian collections. Bhat & Nagendran (2001) reports its occurrence as very rare as the species was collected only once from Kodachadri Hills, South Kanara district, Karnataka.

Clayton (1972), while placing the species under *Hemisorghum* observed that in *Sorghum* ciliate nature is seen in pedicels, internodes and lodicules whereas these characters are absent in the former genus. In our specimens the pedicels and internodes are ciliate in the upper half and lodicules are glabrous, thus, indicating that these characters are variable and further studies are required to ascertain its taxonomic position.

Specimen examined: Maharashtra: Sindhudurg district, Ambolim, 21.01.2006, M.K. Janarthanam & Harshala Gad 345 (BSI, MH, Goa University Herbarium).

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