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RESEARCH ARTICLE

Dendrocalamus Brandisii (Munro) Kurz., A Report

Narasimhamurthy, Pandey C. N. and Nath, S. K.

Dendrocalamusbrandisii (Munro) Kurz., A Report on Gregarious Flowering from South India

*Corresponding Author: murthy_simha59@rediffmail.com

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Most bamboo species flower infrequently, in fact, many bamboos only flower at intervals as long as 65 or 120 years. These taxa exhibit mass flowering (or gregarious flowering), with all plants in a particular species flowering worldwide over a several year period. The longest mass flowering interval known is 130 years, and is found for all the species *Phyllostachys bambusoides* (Sieb. & Zucc.) The origin of *Dendrocalamusbrandisii* is not known. Its native area extends from north-eastern India (Manipur), Myanmar, to northern Thailand, Indo-China, China (Yunnan Province) and the Andaman Islands (India). It is also frequently planted in botanical and experimental gardens in the tropics and subtropics. This species was introduced from South East Asia into the plantations and homesteads of south India probably in the early part of the last century. It was introduced from Burma /Myanmar to Makut of Kodagu District in the present Karnataka State in 1907. It was flowered in 1960s and started flowering slowly in Karnataka during 1994. *Dendrocalamusbrandisii*, a species with large diameter culms is undergoing gregarious flowering in the Karnataka and Kerala states in the south of India. This is probably the first time the species has flowered in the region. There is a strong probability that the species was in flower in some parts of the natural range of the species in the region of Myanmar and Thailand indicating the original source of the clumps flowering in India. *Dendrocalamusbrandisii* species sapling was collected from north east part of India and planted by IPIRTI Ex-Director Dr. Joseph George during the year 1972-78. During the month of October- November, 2011 it was flowered in IPIRTI campus and this was recorded with photographs as mentioned in Figures.

Dendrocalamusbrandisii is very large evergreen tufted bamboo. Culms ashygray to greenish-gray, 19-33 m high and 13-20 cm diameter; nodes slightly swollen, lower ones with rootlets. Internodes are 30-38 cm long. Culm-sheaths up to 60 cm long, 30-35 cm broad, thick, leathery with white pubescence on the back, otherwise smooth, rounded and depressed at the top; Leaves are 20-30 cm long and 2.5-5 cm broad, oblong-lanceolate, glabrous petiole; leaf-sheath is striate, pubescent when young with long deciduous ciliae at mouth; ligule is long, fimbriate and 1-2 cm high, deeply lacerate; auricles small, plaited; leaf blade is 15-46 cm long with 8-13 cm broad, linear-lanceolate, recurved, appressed-hairy within, base rounded. An inflorescence is a group or cluster of flowers arranged on a stem that is composed of a main branch or a complicated arrangement of branches. It is a huge much-branched panicle, with long spicate flagella form branches, bearing bracteate heads of 1-1.3 cm diameter with many small spikelets. Most of these spikelet clusters showed an arrested growth and only a few developed into mature florets and each spikelet includes a full bracteates florescence as well as glumes or gemmiporous bracts. As the grass spikelet is rather consistent, so is the florescence, it is simple sessile and bracteates is always a spike. Rachis is densely pubescent, flattened on one side, segments 2.5-4 cm long. Spikelet's are 5-7.5 mm long, nearly as broad, ovate, depressed, minutely pubescent; the empty glumes are 1-2 and broadly ovate, mucronate, nearly glabrous. The flowers are 2-4 and flowering glume is similar, prominently few-nerved, ciliate on the edges, hairy near the tip. Palea oblong, acute or bi-mucronate, 3-nerved, ciliate on the keels and side wings are



Bamboo Culms



Bamboo Culms with Flowering

narrow; lodicules 1-2, lanceolate or spatulate, 3-nerved, long-ciliate. The flowers are sessile and borne in a spike, there is never any true pedicel. The species is known to flower sporadically as well as gregariously. It was collected in flower from Myanmar in 1862 by Brandis, in 1870 by Kurz and in 1890 and 1894 by Oliver. Gregarious flowering was reported from Coorg during 1961-62 and from Manipur in 1987-88. *In vitro* flowering and seed set has been reported (Nadgauda *et al.*, 1993). *Dendrocalamus brandisii* (Munro) Kurz, For. Fl. Burma 2: 560. 1877; Gamble, Ann. Roy. Bot. Gard. Calcutta 7: 90. 1896; Brandis, Indian Trees 678. 1906; Camus, Les Bambuses 157. 1913; Bennet and Gaur, Thirty Seven Bamboos Growing in India 49. 1990; Tewari, Monogr. Bamboo 57. 1992. (Fig.). *Bambusa brandisii* Munro, Trans. Linn. Soc. London 26: 109. 1868. This species is used for house building, baskets and decorative applications.

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