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RECENT FLOWERING OF BAMBOOS IN BANGLADESH

Some species of bamboos produce flowers once in their life and die after flowering. The seeding cycle is said to be 6 to 120 years. Some other species produce flowers annually throughout the year and do not die after flowering. In order to keep record on the nature of flowering of bamboos, Government of India issued a circular in 1893 which has been incorporated in Bangladesh and other Forest Manuals (Hasan 1973). For Bangladesh, there is no regular report of the flowering of bamboos. Hasan (1973) reported and analysed the flowering of 5 species of Bangladesh bamboos which flowered till 1973. Banik (1979) reported the flowering of "Baijjya Bansh" (*Bambusa vulgaris* Schrad

Table 1. Particulars of bamboo flowering in Bangladesh

Name of species	Year of flowering	Locality	Remarks
Bambusa arundinaceae (Retz.) Willd.	1976–1979	FRI arboretum, Chittagong	Flowering occurred in different culms of the same clump in different years. Clumps died after flowering (FRI arboretum, 17.5.1976, S. M. Hasan SN ; FRI arboretum, 8. 12. 1979, M. K. Alam 39/2.)
Bambusa longispiculata Gamble ex. Brandis	1976–1982	FRI arboretum, Chittagong	It has been flowering sporadically since 1978. Flowering occurred in almost all the culms of the clump.
	1982	Rajshahi	(Noted from herbarium sheet). Sporadic flowering.
Bambusa nutans Wall. ex. Munro	1978	Near Hakaluki Haor, Sylhet	Amtail, on the way to Hakaluki Haor, from Juri. 19. 11. 1978, M. K. Alam SN ; Purbadhala Mymensingh 9. 7. 1974. A. Hai 7.
	1979	Purbadhala, Mymensingh	
Bambusa polymorpha Munro	1979–1982	Sylhet	Flowering of this species was not reported earlier in this region. It started flowering in 1979. But some clumps flowered in that year. Most of the clumps flowered gregariously in 1981 and 1982. The clumps died after flowering and the culms were broken from the mid (Authors' observation).
Bambusa teres Ham. ex Munro	1981–1982	Kaptai, Chittagong Hill Tracts	Most of the culms died after flowering. Herbarium sheet and also authors' observation (Kaptai, 17. 7. 1982, M. K. Alam 4411 ; Kaptai, 27. 6. 1981, R. L. Banik SN).
Bambusa tulda Roxb.	1976–1977	Adampur, Sylhet	
	1978–1979	Ghagra, Chittagong Hill Tracts	(Ghagra, Chittagong Hill Tracts, 25. 11. 1979 R. L. Banik SN)

Name of species	Year of flowering	Locality	Remarks
Bambusa tulda Roxb. (Contd.)	1982	Kote Bari Comilla	
	1982	Narail, Jessore	(Chandimapur, Narail Jessore, 10. 3. 1982, Akram SN)
	1982	Sylhet	Bosti Bharaura, Srimangal, 23. 8. 1982, M. K. Alam 4435
Bambusa vulgaris Schrad ex Wendl.	1979–1982	Baddarhat, Chittagong	Banik (1979) reported that out of 7 clumps five flowered completely and died after 18 months of flowering. The remaining 2 clumps were found to be partly flowering.
Bambusa Sp. Local names : Tengal (Dhaka), Tengra, Tetua, Konkoi (Sylhet)	1978	FRI arboretum	Flowered gregariously and died after flowering.
	1982	Sripur, Dhaka	Flowered gregariously (Sonakor Haji Bari, Sripur, Dhaka, 16. 2. 1982, M. K. Alam 4238).
Dendrocalamus longispathus (Kurz) Kurz	1978	FRI arboretum, Chittagong	Gregarious flowering, died after flowering (FRI arboretum Chittagong, 24. 4. 1978, M. K. Alam 26/3).
Melocalamus compactiflorus (Kurz) Benth	1975	Chainda, Cox's Bazar, Chittagong	Flowered gregariously ; died after flowering (Chainda 29. 9. 1975 SC, SN)
	1981	Cox's Bazar Forest Div.	Reported by A. C. F. Cox's Bazar
Oxytenanthera nigrociliata Munro	1961	Dulhazara, Chittagong	Dulhazara, Chittagong, 4. 5. 1961, D. K Das, SN
	1978	Chittagong Hill Tracts	Died after flowering. (Publakhali, Chittagong Hill Tracts, 26. 6. 1978, Nurun Nabi SN)

ex Wendl). In the present report the flowering of bamboos in recent years and also the occurrence of flowering which were not reported earlier have been incorporated. The report is based on the information available to us and from the specimens housed in the herbarium of Forest Research Institute, Chittagong. The informations are given in Table 1.

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NEW FORMULATION OF A 'BBC' PRESERVATIVE

Copper salts, borax and boric acid individually provide good to excellent protection to wood against fungal and insect attack. A new formulation has been developed at the Forest Research Institute, Chittagong, Bangladesh with borax, boric acid and copper sulphate (BBC) in mixture. Immediate precipitation of copper borate occurs when borax is added to a clear solution of copper sulphate and boric acid in mixture. The precipitate dissolves in ammonium hydroxide and an intense blue solution is obtained. On vaporization of ammonia from the solution copper borate is reprecipitated.

This formulation has three distinct advantages over other water-borne-preservatives :

1. This is well adapted to Boucherie process of preservative treatment of wood because the blue colour of the solution makes it easy to determine when treatment is complete.

2. Ammonia vaporizes rapidly from the treated wood and deposits salts in the wood ultrastructure.

3. Because the salts deposited in the wood are insoluble in water, it does not need any further addition of expensive leach-resistant fixing agents.

Moreover, all the components are locally available and comparatively inexpensive. Further work on various aspects of preparation and efficacy of the preservative is in progress.

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