Short Communication



Albino seedlings in bamboo (*Ochlandra travancorica* (Bedd.) Benth. ex Gamble)

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Ochlandra travancorica (Bedd.) Benth. ex Gamble is an erect, shrubby, gregarious reed bamboo, growing in Western Ghats of India above 609 m. It is economically very important and the culms are largely used for mats, baskets and for constructing huts by hillmen. The leaves are used for thatching and also as elephant fodder. Besides, it is widely used for paper making [1].

Breeding system of this species was studied by Venkatesh [2] and concluded that like other bamboos and grasses generally, this species is also typically anemophilous. He also pointed out that seed derived from wild populations of this bamboo arising after gregarious flowering shows considerable genetic variability due to out breeding.

Occurrence of albino seedlings has been reported in many forest tree species viz., *Eucalyptus grandis* [3] *E. nitens* [4], *Bombax* [5] *Gmelina arborea* [5] *Pterocarpus santalinus* [7], *Calocedrus formosana*, [8], *Populus* [9], *Elaeis guineensis* [10], *Dandrocalamus strictus* [11, 12], *Bambusa bambos* [13], *Melocanna baccifera* [14] and *Artocarpus hirsuta* [15]. Albino seedlings are produced either by selfing of an albino carrier or by mating of two albino carriers or by mutations. However, under natural conditions, the frequency of such albinos will vary depending on the extent of selfing or mating of albino carriers and are generally lethal. This paper reports the occurrence of albino seedlings in *Ochlandra travancorica* which has not so far been reported.

Seeds were collected from Nanattupara in Ranni Division of Kerala State during May 2000. Seeds were sown horizontally in a shaded nursery bed, at KFRI, Peechi. Watering was done regularly twice in a day and germinating seedlings were counted daily.

Germination was characteristic as in other monocots and commenced after 10 days of sowing. Of the 2265 germinated seeds, 22 (0.97%) were albino seedlings. In another experiment, of the 80 seeds sown, three (3.75%) developed in to an albino seedling. Usually germinating seedlings of this species are green in colour while the reported albinos are white in colour. The albinos survived up to 30 days after potting. The albinos were potted in transparent polybags of size 22.5×17.5 cm filled with soil together with the normal green seedling and maintained in the shaded nursery.

As albinism is governed by single recessive gene and the trait is expressed only when it is in homozygous recessive condition, this may be the result of inbreeding or by mating of two albino carriers.

References

- Somasundaram T. R. 1963. A Handbook on the identification and description of trees, shrubs and some important herbs of the forests of the southern states for the use of the Southern Forest Rangers College, Coimbatore. S.F.R.C., Government of India press, Calcutta, P 65.
- Venkatesh C. S. 1985. Dichogamy and Breeding System in a Tropical Bamboo (*Ochlandra travancorica*). Biotropica, 16: 309-312.
- Anon. 1971. Annual Report for the period ended 31st March 1971. Department of Forestry, South Africa.
- 4. **Anon.** 1975. Eucalyptus. Report 1974-1975, Wattle Research Institute, South Africa.
- Venkatesh C. S. and Emmanuel C. J. S. K. 1976. Spontaneous chlorophyll mutations in *Bombax* L. Silvae Genet., 25: 137-139.
- Venktesh C. S., Arya R. S. and Thapliyal R. C. 1978. An albino- type natural chlorophyll mutant in *Gmelina arborea* Roxb. Silvae Genet., 27: 40-41.
- 7. Vakashasya. 1981. Short Note : On mutant Albino in Red Sanders. Silvae Genet., **30**: 163.
- Hwang S. G., Hwang F. H. and Lu C. M. 1983. Investigation on natural self-pollination in Taiwan incense cedar (*Calocedrus formosana* (FI) Florin), Bulletin no. 401, Tai. For. Res. Inst.

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- 9. **Rajora O. P. and Zsuffia L.** 1986. Atypical seedlings of *Populus* L.: their genetic significance and value in breeding. Silvae Genet., **35**: 122-124.
- 10. Kushairi A., Rao V and Rajanaidu N. 1992. A note on the inheritance of albinism in oil palm. Elaeis, 4: 19-20.
- 11. Yadav V. K., Khare P. K. and Mishra G. P. 1987. Abnormal seedlings in *Dendrocalamus strictus* Nees. J. Trop. For., **3**: 179-180.
- Kumar A., Sharma V. K. and Beniwal B. S. 1993. Albino seedling in *Dendrocalamus strictus* Nees. Ind. For., 119: 507-509.
- 13. Indira E. P. and Koshy M. P. 1986. A Report of monohybrid ratio for albino expression in *Bambusa arundinacea* (Retz.) Willd., Cur. Sci., **55**: 993-994.
- 14. Dakshindas S. D. 1995. Albino seedlings of *Melocanna* baccifera (Roxb.) or *M. bambusoides* Trin., Ind. For., 121: 768-769.
- 15. Abdul Kader S., Bindu K. R. and Chacko K. C. 1999. Occurrence of mono and polyembryonic albino seedlings in *Artocarpus hirsuta* Hk.f. Ind. For., **125**: 1167-1168.