FREREA INDICA DALZ. (ASCLEPIADACEAE) – A CRITICALLY ENDANGERED PLANT, NOW COLLECTED FROM AHMEDNAGAR DISTRICT, MAHARASHTRA

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INTRODUCTION

According to IUCN (International Union for Conservation of Nature and Natural Resources) *Frerea indica* Dalz is one of the World's 12 most endangered species. Earlier this species was included in Appendix II of the CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) but due to insufficient trade information it has been excluded from this list in the 11th Conference of Parties (COP). However, this species is still figured in the negative list of export [public Notice No.47(PN) 92-97 dated 30th March 1994] and as such its collection from wild is completely banned. This species was first collected in 1864 by Nicol Alexander Dalzell from the hill near Heware in Junnar taluka of Pune district and described by him in 1865. Based on this collection Hooker (1883) also included this species in his Flora based on collections made by Dalzell, Ranade and Woodrow. McCann (1939) published a complete and illustrated description of this plant. Subsequently, its distribution was reported from Purandhar, Pune district, on the slope just below Vazirgarh Fort, the twin fort of Purandhar (Santapau, 1951a). According to Santapau (1951b), Acland had seen *Frerea indica* at Kate's point of Mahabaleshwar in Satara district in October 1924. Bombay (1924) collected it later on from the same spot. Further intensive exploration revealed its extended distribution up to Sajjangad in Satara district (Kumbhojkar, *et al.*, 1993) and Shivthalgarh at Varandha ghat in Raigad district (Kothari & Moorthy, 1993).

This species has been included in the Red Data Book (1987) under Endangered category and its distribution is mentioned only at few places (Junnar and Purandhar in Pune district). According to Santapau (1958 & 1962) and Hemadri (1970) it is a very rare plant at Purandhar and Junnar respectively.

Recently, the senior author collected this interesting species (Fig.1) from Randha falls near Bhandardara in Akola taluka of Ahmednagar district on 10th September 1998 (*D.K. Mishra*, 177000 BSI). Thus Randha falls becomes its new locality extending its distribution to the fourth district in Maharashtra. Only 10 mature individuals were observed in this place on steep slope in rocky crevices near waterfalls associated with *Euphorbia neriifolia*.

Sundararaghavan (1976) reported the chromosome number of *Frerea indica* to be 2n = 44 and seed germination percentage to be 50% under experimental cultivation. He also suggested its introduction in garden as an ornamental pot plant for its conservation. Tetali, *et al.* (1997a,b) conducted several experiments on this plant at Naoroji Godrej

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Fig.1 *Frerea indica* Dalz.

Centre for Plant Research's laboratory at Shindewadi. They have found that in nursery condition the germination percentage of fresh seeds is between 90-100%. The association between *Frerea indica* and *Euphorbia neriifolia* was termed as a complete association as the latter is found growing in all its earlier localities including the new one (Randha falls). They collected different ecological data of these two plants from Junnar and Purandhar and calculated their frequency, density, abundance and association index in these two places. But from Sajjangad and Shivthalgarh the entire data could not be collected due to disturbance of the habitats by fire. So only frequency, density and abundance of *Frerea indica* at Sajjangad was calculated and at Shivthalagarh only one *Frerea indica* plant was located which may be a possible case of introduction in wild. They also concluded that *Euphorbia neriifolia* protects *Frerea indica* population from the caterpillar or plain tiger in its natural habitat. So, from conservation point of view there is great importance of growing these two species together.

Recently the multiplication and conservation of *Frerea indica* has also been studied in detail (Chakraverty, 1999). It has been suggested that a mixture of fine sand, garden soil and leaf manure (10:2:2) would be the most suitable rooting media for its multiplication through vegetative means using stem cuttings. Different chemicals like IBA. IPA and NAA have been reported to enhance the initiation of rooting and the commercial formulation 'PhytonolMi' to stimulate the

vegetative growth and early onset of flowering.

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