Indian J. Pl. Genet. Resources 5(2): 93-94, 1992
Short Communication

FLORAL POLYMORPHISM IN *VALERIANA JATAMANSI* JONES

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Valeriana belonging to family *Valerianceae*, is represented by 210 species where most of them are temperate to alpine ornaments. Species of this genus are characterised by sexual polymorphism i.e. male, female and hermaphrodite flowers occurring on separate plants. This character makes it a cross-pollinated crop with the result that a lot of variability is encountered in its populations.

V. jatamansi Jones (syn. *V. wallichi* DC), commonly known as Mushkbala or Tagar has considerable medicinal properties. Its root is used as incense and in perfumes. Medicinally the root is also used as stimulant, carminative, anti-spasmodic and useful in hysteria, epilepsy, cholera, shell shock and neurosis. Roots also contain monoterpenic derivative known as valepotriates used as tranquillizers and sedatives (Chopra *et al.*, 1956; Anon, 1986). This species is widespread in sub-temperate and temperate regions of Himachal Pradesh. A review of literature reveals that the plants of *V. jatamansi* are dioecious with male and female flowers occurring on separate plants (Collett, 1921, Blatter, 1928-29, Lawrence, 1960).

However, on the basis of extensive surveys in Himachal Pradesh it has been observed that although sexual polymorphism is encountered in with plants but in nature mostly two types of plants viz. hermaphrodite and female flowers are found. No male plant could be observed. The hermaphrodite flowers are larger with well developed male and female parts as compared to female flowers which are characterised by well developed pistil only apart from rudimentary anthers. This phenomenon, known as 'gynodioecism' has been earlier reported form any species of

Valeriana but the exact name of the species has not been listed (Weberling 1989). The purpose of this communication is to put on record the phenomenon of gynodioecism in *Valeriana jatamansi* Jones.

Apart from the earlier mentioned two types, few plants bearing both female and hermaphrodite flowers on the same plant (composed in the same inflorescence) were also observed (gynomonoecism). So, there are three types of plants in *V. jatamansi* i.e. : (i) Female only, (ii) hermaphrodite, and (iii) female and hermaphrodite both on the same plant. Hence in *V. jatamansi*, both the phenomenon of gynodioecism and gynomonoecism are encountered although the frequency of gynomonoecism is very low. Since *V. jatamansi's* roots are important medicinally it would be interesting to compare the root chemistry of all the three types of plants. If any noticeable differences are observed, then the flower composition will have a maker value. Efforts in this direction are continuing in this department.

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