



Infestation of *Viscum album* Linn. on *Prunus armeniaca* Linn. in Chakrata Forest Division of Uttarakhand

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ABSTRACT

Prunus armeniaca Linn. is a valuable oil seed producing tree species, planted in hilly parts of the Chakrata region of Dehradun district of Uttarakhand, India. Mistletoes attack various tree species and severely affect productivity. Aim of the study was to identify attack of mistletoe to important tree species. A survey was conducted in the Kathiyan and adjoining areas of Chakrata Forest division. It was reported that all the mature trees were invariably infested by the mistletoe. Species is identified as *Viscum album* Linn. Suitable preventive measures are suggested to prevent the spread of mistletoe.

Key words: Mistletoe, Partial parasite, Genetic improvement

INTRODUCTION

The wild apricot (*Prunus armeniaca* Linn.) is an important tree borne Oil seed of mid hills and dry temperate regions of the country. It belongs to the family Rosaceae and sub-family Prunoidea. It is a deciduous plant and can tolerate temperature as low as - 30°C. It is chiefly grown in the Mediterranean countries, Central Asia, Russia, USA, Iran, Iraq, Afganistan, Pakistan, Syria and Turkey. In India, it is mainly cultivated in North West Hills Region, Jammu & Kashmir, Himachal Pradesh and Uttarakhand and also in North Eastern Hills Region comprising the state of Arunachal Pradesh, Nagaland, Meghalaya, Sikkim and Manipur. The cultivated apricot has its origin in North-Eastern China, whereas, wild apricot appears to be indigenous to India. Wild apricot locally called Chullu is found in the dry temperate regions of North-Western Himalayas particularly in the valleys of Jammu & Kashmir (especially Ladakh), Chenab; Kullu and Shimla regions of H.P. and Garhwal hills of Uttarakhand at altitudes up to 3000 m. Oil is used in folk medicine for a number diseases. Bark is used as an astringent for skin. Kernel paste is used to heal vaginal infections and its oil is used in cosmetics to protect skin from UV radiations (Raj *et al.*, 2012). Mistletoes are destructive partial parasites. They attack different types of trees and shrubs and causes great damage in both natural

and plantation forests, orchards and parks throughout the world. They severely damage their hosts in various ways such as timber, fruit, oil content etc.

METHODOLOGY

A floristic survey of Kathiyani and adjoining areas of Chakrata Forest Division, Uttarakhand was carried out in August 2017. All the trees of chullu alongside the road were observed for mistletoe infestation.

RESULTS AND DISCUSSION

Extent of Attack of Mistletoe

Prunus armeniaca Linn. was invariably found in the area. It was observed that all trees of chullu were infested by Mistletoes in varying degrees. In most of trees, infestation is in initial stage. However, some of the trees are in high level of infestation. It is locally known as Banda and was identified as *Viscum album* Linn.

Species description:

Species Description: Erect, parasitic, tufted, glabrous shrub; branches jointed. Leaves 4-6 x 1-2 cm, sessile, opposite, oblong or narrow elliptic, obtuse-rounded, entire, obscurely 3-5 nerved, glabrous, yellowish-green, and leathery. Flowers yellowish-green, dioecious, in stalkless clusters in the axils of branches, within a cup-shaped, fleshy, ciliate bract. Perianth 6 mm long in male flowers, smaller in female flower, 3 or 4 parted; segments acute, thick. Anther sessile. Berry 7mm long, white, almost translucent.

Various researchers have reported the attack of mistletoe on economically tree species (Gill and Hawksworth, 1961; Hawksworth, 1963; Pundir, 1979; Ghosh *et al.*, 1984; Kalita and Chandra, 2002; Kalita *et al.*, 2006; Chandra *et al.* 2010; Chandra, 2014; Chandra and Naithani 2017). In the present study, infestation was observed on branches of *P. armeniaca* trees wherever it was found. Infestation was seen in initial stage, however, in few trees, it was in advance stage.



Fig. 1:



Fig. 2

Fig. 1: ???

Fig. 2 : ???

CONCLUSION

Prunus armeniaca Linn. is one important tree of the rural communities in the area. However, due to infestation by the mistletoe, quality and quantity of seeds is being affected. As infestation progresses, quality and quantity may drastically be deteriorated. It is, therefore, essential that proper management strategies should be adopted to check spread of mistletoes. Manually removal of mistletoes can be an apt approach to curb the infestation. Removal of mistletoes in mature stages can damage the whole tree. Therefore, mistletoes should be removed in initial stage. It will be helpful in increasing yield and quality of the chullu oil. Massive genetic improvement programme of *P. armeniaca* should be carried out for selection of mistletoe resistant superior genotypes. New plantation of *P. armeniaca* should be raised through genetically improved mistletoes resistant material.

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