

## Biological and climatic factors responsible for dieback of juniper in Ziarat, Balochistan

**Muhammad Arif Chaudhary and Muhammad Aslam**

*Pakistan Forest Institute, Peshawar*

### **Abstract**

Study of biological threats in relation to climate causing dieback of *Juiperus excelsa* M.B., in Ziarat was carried out by selecting 4 localities out of 15 during 2004. The selected localities were Sasnak, Kharwari Baba, Bastargai and Kirbee Kach. Three plots each of 1.22 ha/locality were selected at random. There were 954 Juniper trees in these selected localities. Each individual tree was studied for mistletoe, fungus and insect infestation. Fungal attack was recorded at all the 4 localities and intensity of infection in descending order was 61.59%, 40.55%, 39.56% and 25.04% in Kirbee Kach, Kharwari Baba, Bastargai and Sasnak, respectively. *Arcethobium oxycedri* attack was limited to Sasnak valley only and infested 32.77% trees. Insect attack was observed on fruit berries of 31.13% trees in 4 selected localities. Data also indicated an increase of 2.4 °C in temperature, reduction of 316 mm in precipitation, increase of 71% in livestock heads, increase of 3.5% in human population, fungal infection and insect infestation of trees of the selected localities might be the dieback causing climatic and biological threats to Juniper in Ziarat valley.

**Key words:** Dieback, Biological factors, Juniper, Ziarat, Balochistan