

**DWINDLING POPULATION OF  
*PSILOTUM NUDUM* (L.) P. BEAUV. –A CASE STUDY**

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Loss of habitat due to various anthropogenic and natural factors has posed serious threat to our natural flora and fauna. The continuous dwindling population of *Psilotum nudum* (Fig.1) is an example of this phenomenon. This plant has witnessed series of upheavals in the geological times and now the dwindled number of this fern-ally in nature has brought the plant to the category of endangered species of flora of our country.

This plant is the member of a primitive family Psilotaceae. The family Psilotaceae is one of great interest to morphologists because its representatives are at a stage of evolution scarcely higher than that of some of the earliest land plants, despite the fact that they are living today. The family comprising of 3 species in the world, 2 species namely *Psilotum complanatum* Sw. and *P. nudum* (L.) P. Beauv. are reported to occur in India. *P. nudum* is of wide spread occurrence and is collected from Pachmarhi, Darjeeling, Andaman and Nicobar Islands, Himachal Pradesh and Uttaranchal. Some tribal communities of India also use the whole plant as purgative.

The increased activity of plants exploration during the past four to five decades in various sectors of N.W. Himalaya by different botanical institutions has contributed appreciably rich information as well as exhaustive material on the flora of Himalaya which are in the holdings of different herbaria of our country like Botanical Survey of India (B.S.I.), Central National herbarium, Howrah (CNH); B.S.I., Northern Circle, Dehra Dun (BSD); National Botanical Research Institute, Lucknow (LWG); Forest Research Institutes, Dehra Dun (DD) etc.

Based on studies on the materials housed in herbaria and also field studies, it is possible to find out the causes of declining number of the natural populations of *P. nudum* as observed at two sites in N.W. Himalaya. The first instance of destruction of the said species was noticed in 1985, at one spot near Quarab in Almora district (Uttaranchal) amidst a rocky

boulder, where it was growing profusely. After a short interval of about two months or so on subsequent visit at the same spot, it was disappointing to find that the whole clump of *P. nudum* has disappeared and no trace of plant could be found, enquiring upon this vanishing of the plant material to the local inhabitants of Quarab (Almora) it was learnt that some person who have been engaged in trade of plant cum biological material supply to educational institutions had been there, and he dugged out the whole clump of *Psilotum* for the same.

Yet in another instance it came into notice during 1973 when a floristic survey team of B.S.I., Dehra Dun had been to Kinnaur district of Himachal Pradesh, there the said team spotted one site at Karcham the luxurient growth of *P. nudum* on an enormously huge rock formation. In August 2001 to one of the team member; "of 1973" from B.S.I., Dehra Dun when again had a chance to visit the same spot, it is astonishing to note for him that whole clump of *Psilotum* as well as enormous rock, upon which the fern ally had been growing were no more at the site. In this case it appears that the inhabitants of the surrounding village of Karcham might have been in need of stones for building works and as such it is evident that during this operation of villagers the whole clump of *P. nudum* got destroyed and no more remnants of the plant is there.

For the above mentioned modes of destruction of *P. nudum* a timely check on reckless destruction of flora uncaring for the gravity of the importance of rare and endangered species of plants/animals has to be strictly monitored by the environmental managers. On the recommendation of Botanical Survey of India and other concerned agencies, the Government of India, has imposed ban on export of *P. nudum*. However without people's co-operation ban can not save the population of rare taxa. Therefore an awareness programme for educating local people is must. The best way of conserving endangered taxa like *P. nudum* is *ex-situ* conservation at experimental Botanical Gardens of reputed scientific institutions where infrastructure and expertise are available; as it is being done at humble scale right now by Northern Circle, B.S.I. Dehra Dun.

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