



## **AFFECT OF BETTLE IN THE TYPE HABITAT OF *RHODODENDRON NIVEUM* HOOK. F.**

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### **ABSTRACT**

The conservation of the natural habitat of *Rhododendron niveum* Hook f. was the topmost priority in the Sikkim state as it is the state tree. However, the report of beetle's affect on the *Rhododendron niveum* Hook f. is alarming and causing harm to the plant.

The occurrence of beetle, *Dermestes lardarius* L. 1758, was not reported earlier and the exotic species is threatening the type habitat of plant.

**Keywords :** Beetle, *Dermestes lardarius*, Endemic, *Rhododendron niveum*, Sikkim Himalaya.

### **INTRODUCTION**

*Rhododendron niveum* Hook f is a small barked tree having tubular, campanulate, lobed corolla which is locally "Heu patay Guras", in nepali language. The plant is endemic to Yumthang Valley.

The species is grown in close association with *Tsuga brunoniana* (Wall.) Carriere, *Abies densa* Griff., *Rhododendron hodgsonii* Hook. f, *Rhododendron trifolium* Hook f. *Rhododendron tubiforme* (Cowan & Davidian) Davidian, *Rhododendron thomsonii* Hook. f. *Rhododendron campanulatum* D.Don, *Rhododendron cinnabarium* Hook.f. name a few, across Yakchey and Yumthang valley.

### **MATERIALS AND METHODS**

The field survey conducted at the site of *Rhododendron niveum* Hook. f. of Sikkim (Yumthang valley) and collected the sample along with the affected leaves with the beetles for the identification.

The identified sample deposited in the Sikkim State Forest Herbarium-Quality Control Laboratory, HARC.

### **RESULTS AND DISCUSSION**

Hooker (1849) reported that the plant, *Rhododendron niveum* Hook. f found in rocky valleys and ridges of Lachen, Lachoong and Chola at the ranges of 10000 to 12000 feet mentioning its fruit period in November though he had not mentioned the flowering period.

Further, he reported that the small barked tree, *Rhododendron niveum* Hook, resembling with *Rhododendron arboretum* Sm. found in the association with *Rhododendron campbelliae* Hook.f, which can be differentiated by snow white

colour under the abaxial surface of leaf. Furthermore, the upper surface of leaves reported opaque having short capsule, more cylindrical, blunt and straight fruit.

The protologue of the *Rhododendron niveum* Hook. f. is as under :

*Rhododendron niveum* Hook. f., Rh. Sikkim Himal. 4 (1849); Bot. Mag. T 4730(1853); C.B. Clarke in Fl. Brit. Ind. 3: 466 (1882); J.Cullen & D.F. Chamberlain, Notes R.B.G. Edinb. 37(2): 328(1979); Rh. Hb. 29 & 181 (1980); Alph. Check. Rh. Sp (1981); U.C. Pradhan in Himal Plant Journ. 3 (8): 123 (1985).

Coll No. K000789470 K., *Rhododendron niveum* var. *fulva* Hook f. April 9<sup>th</sup>, 1885.

### DIAGNOSTIC CHARACTERS

The plant attains the high of 2.5- 5 metres branching from the base with cracked bark. Leaves size ranges from 90-150 mm long and 35-55 mm broad. Inflorescence bearing 18-23 smoky blue or purple mauve flowers has the cymbiform, light greenish yellow bract of 18-21 mm long and 14-16 mm board. The five lobed calyx present. Tubular campanulate corolla( 5 in number) of 35-40 mm long present. The flower bears the ten stamens having length 15-25 mm with dark purple red stigma pistil. The fruit type is capsule, more cylindrical, blunt and straight. (Hooker, 1849; Pradhan and Lachungpa, 1990).

The species is endemic to Sikkim and adjoining Himalayas of Darjeeling, Nepal and Bhutan (Hara, 1966; 1971; Hooker, 1854; 1872-1897, 1855; Maity et al., 2018) and the type habitat of *Rhododendron*, as reported, was the mountainous range of Lachung.

Therefore, the field survey was made at the habitats and found that the species was affected by the larvae of beetle, *Dermestes lardarius* L. 1758

Reporting of the larva underneath of abaxial surface of leaf of *Rhododendron niveum* Hook. f. drew the attention that the species affected the population of *Rhododendron niveum* Hook f. in its type habitat. So far there was no such reporting of beetle from the location. Although there are few researches in these aspects of beetle diversity in Sikkim, some studies suggested that the *Rhododendron* and oak forest affected by beetle larvae in the canopy where the vertical stratification of beetles observed the highest number of species in the shrub stratum and the migration of beetles occur from the crown and the ground strata to the shrub stratum (Kuprin & Drumont, 2016).

The migration of exotic species may be resulted due to the climatic effect thus, to ascertain its effect and correlation with the climate change, it warrants further researches.

## CONCLUSION

The type habitat of *Rhododendron nivetum* Hook. f. needs to be protected for the conservation of species and the affect of the larva of *Dermestes lardarius* L. ought to be minimized as it is destroying the habitat.

The report of the occurrence of *Dermestes lardarius* L. at 10000-12000 feet in the Rhododendron forest was not reported earlier so the eating habits of the insects, specially natural fibres, need to be discourse which warrants further research.

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