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Short Communication *Chapter – 2*

CAPSULE MATURATION TIMING AND SEED GERMINATION IN *RHODODENDRON ARBOREUM* SMITH AT SUB-ALPINE REGION OF WESTERN HIMALAYA, UTTARAKHAND

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Abstract

The genera of Rhododendron belong to the Ericaceae family and are found at an altitudinal range of 1500–3500 m in the Himalayan region.*Rhododendrons* are the ecologically and economically important group of plants of Himalayan ecosystems. Due to human interference and natural calamities, the natural populations of *Rhododendrons* are gradually diminishing. *Rhododendrons* are one of the most exploited species due to its multifarious nature. The regeneration of various such multifarious species is very poor in nature due to their over exploitation and other climatic causes. The present study reports the capsule maturation time and seed germination status of *R. arboreum* in the high altitudes areas. The study site was located at 30°11´N and 79°39´E between 3233 and 3446m elevation in the western Himalaya. Physical parameters, capsule size, number of capsules, weight and mass of capsule were taken and germination was carried out in a dual chamber seed germinator for each collection date in laboratory. The tree density of *R. arboreum* was 80 ha^{-1}. The mean capsule size during collection ranged from 76.81 to 236.82 mm^2,the mass per 100 capsules during study varied between 21.23and 33.43g. The weight, number and mass of 100 capsules was 36.33 g, 288.33 and 33.43 g at the time of maximum germination. Maximum germination 40.00% occurred at 25.90% moisture content. Capsule colour change, decline moisture content and change physical parameter is a reliable indicator of maturity.The capsule maturation timing of treeline *R. arboreum* was two or three weeks delayed as compare to those grow at sub-tropical and temperate region.

Keywords: *R. arboreum,* Maturity, Moisture Content, Germination, Treeline

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