

# Miracle Plants of Rhododendron in North-Western Himalaya

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## Abstract

Rhododendron is produced attractive and lovely blossoms nearly 1000 species in the world and India, 92 species, Western Himalaya 06 species. the Uttarakhand state there are people extract juice, it is beneficial in many diseases such as heart problem, etc. even there is people at many places use flower for vegetable and 'athani' or 'remoli'. It is wood use for different purpose like boxes, spoons, and curved knife. Rhododendron flowers use for new dishes in hotels whereby it helps in a business establishment. The important point is artificial regeneration is not possible of the Rhododendron so we have to fluke out flower very care full, don't collect the worthless amount of flower, as per as requirement it should collect.

**Keywords:** miracle, burans, rhododendron and flower tree

## Introduction

Rhododendron class has a place from the Ericaceae family <sup>[1]</sup>. Rhododendron was determined from the Greek word Rhodo means "rose" and Dendron implies "tree" <sup>[2]</sup>. The Rhododendron initially found from north-central India and disseminated within the Himalayas from Kashmir to Bhutan and within the slopes of Assam and Manipur at elevations of 1200-1400 m <sup>[3]</sup>.

The sort of Rhododendron is produced attractive and lovely blossoms nearly 1000 species in the world and secured good country range like Nepal, India, China, Bhutan and Malaysia <sup>[4]</sup>. The China having the most elevated differing qualities of Rhododendron (571 species) and are endemism <sup>[5]</sup>. In India, 72 species of Rhododendron were detailed by Paul *et al.*, <sup>[6]</sup>. Again in India, 92 species, 8 subspecies and 9 assortments are reported in 2010, which are disseminated from Arunachal Pradesh to Jammu and Kashmir and one subspecies from the Western Ghats as well as the Eastern Himalayan locale.

Representation of Rhododendron species in Indian states are Arunachal Pradesh (61), Darjeeling in West Bengal (12), Himachal Pradesh (01), Jammu and Kashmir (03), Manipur (05), Mizoram (03), Nagaland (02), Sikkim (36), Tamil Nadu (1), and Uttarakhand (3) <sup>[4]</sup>. Later think about appeared that six species of Rhododendron was detailed in Uttarakhand western Himalaya such as *R. arboreum*, *R. anthopogon* <sup>[8]</sup>, *R. campanulatum* <sup>[9]</sup>, *R. barbatum* <sup>[10]</sup>, *R. lepidotum* <sup>[11]</sup> and *R. nivale* <sup>[12]</sup> or *R. rawatii* is unused species detailed by Rai and Adhikari <sup>[13]</sup>.

*Rhododendron arboreum* is one the foremost critical species distributed in Uttarakhand slopes. Bloom of *R. arboreum* (Burans) was announced state tree by Government of Uttarakhand and national blossom of Nepal. It is evergreen shrubs or little tree most extreme stature 15 m <sup>[4]</sup>.

## Forest type of rhododendron

The *Rhododendron arboreum* and united trees happen as associate of distinctive timberland types in different parts of the Western Himalaya. The most forest types of these species

shape a noteworthy portion are Mountain Temperate Woodland (12/C1 Lower West Himalaya Temperate Forest, 12/C1a Banj Oak Woodland, 12/C1b Moru Oak Forest, 14/C1 West Himalaya Subalpine Birch/Fir Woodland, 14/C1b West Himalaya Birch/Fir Timberland, 15/C1 Birch Rhododendron Scrub Woodland and 15/C2 Deciduous Elevated Woodland) Forest type <sup>[15]</sup>.

## Rhododendron arboreum status in forest

Tree density totally different environment like stream bank habitat (157 ind./ha), dry environment 86 ind./ha, edge environment 223 ind./ha and sodden environment 230 ind./ha. Was detailed by Rawat and Chandra <sup>[19]</sup>. Mean values of density (175 ± 75 ha-1) was recorded by Hussain *et al.*, <sup>[10]</sup> another (67 ind./ha) at the 2100 meter (165 ind./ha) at the 1700 m and (40 ind./ha) at 1550 m recorded by Sharma *et al.*, <sup>[16]</sup>. Another location wise density first site recorded (213 ind./ha), second (80 ind./ha), third site (53 ind./ha), fourth site (390 ind./ha), fifth site (380 ind./ha), sixth site (120 ind./ha), seventh site (220 ind./ha) and last site (20 ind./ha) trees were detailed by Kumar *et al.*, <sup>[17]</sup>. Our think about had been conducted at distinctive area in Garhwal locale, where as recorded *Rhododendron arboreum* tree density most extreme (930 ind./ha-1) at Kharpatya Rudrpryag taken after by Pharakhal Puri (890 ind./ha-1) and minimum (670 ind./ha-1) thickness appeared at Ranichauri Tehri <sup>[7]</sup>.

## Utilization of rhododendron

This is a very important plant that brings every part in use, but place-to-place uses are different. I talk about the Uttarakhand state there are people collect the flower then extract juice, it is beneficial in many diseases such as heart problem, etc. even there is people at many places use flower for vegetable. Some people separate androecium to flower, take salt and green chili all these are all item mix with flowers and coriander of fine spinning or cutting, then eat it without cook it is known at local 'athani' or 'remoli'.

In a Uttarkashi at Ranwai valley, there are people who eat flowers with horse gram fritter it is a very delightful taste. Generally, Rhododendron flowers use in religious places like temples, monastery mainly in ritual services.

The Monpase community use leaf of Rhododendron edgeworthii for skin disease even they use the leaf of R. delavayi with mix fresh leaf many species of gymnosperm (thooja, and pine) and burn its release smoke, which cleans near about of atmosphere. This species of wood very strong which is used in tools, boxes, spoons, and curved knife.

Rhododendron falconeri, R. grande, R. hodgsonii and R. kesangiae are species leaf use for agriculture products and apple packing. Rhododendron use for fuel and found oil in green wood<sup>[14]</sup>.

### Conclusion

The display considers discover the detail of R. arboreum or Rhododendron in Uttarakhand locale and look out the people groups' reliance on the R. arboreum, how are using R. arboreum for different reason moreover see the different parts utilize of its for a diverse reason. It is the species most profitable to vocation and restorative point of see. In Uttarakhand locale, Rhododendron arboreum recovery rates are diminishing so got to great and satisfactory procedures for preserving it. Presently we can use Rhododendron flowers for new dishes in hotels whereby it helps in a business establishment. The important point is artificial regeneration is not possible of the Rhododendron so we have to fluke out flower very care full, don't collect the worthless amount of flower, as per as requirement it should collect.

### References

1. Laloo RC, Kharlukhi L, Jeeva S, Mishra BP. Status of medicinal plants in the disturbed and the undisturbed sacred forests of Meghalaya, northeast India population structure and regeneration efficacy of some important species. *Curr Sci* 2006; 90:225-232.
2. Sekar KC, Srivastava SK. Rhododendrons in Indian Himalayan region - diversity and conservation. *Am J Plant Sci* 2010; 1:131-137.
3. Chauhan NS. Medicinal and aromatic plants of Himachal Pradesh. Indus Publishing Company, New Delhi, 1999, p353.
4. Singh KK, Rai LK, Gurung B. Conservation of Rhododendrons in Sikkim Himalaya. *World J Agric Sci* 2009; 5:284-296.
5. Fang MY, Fang RC, He MY, Hu LC, Yang HP, *et al.* Rhododendron. In: Zhengyi W, Raven PH & Deyuan H (eds.) *Flora of China* 14. Science Press, Beijing & Missouri Botanical Garden Press, St. Louis, 2005, p260-455.
6. Paul A, Khan ML, Arunachalam A, Arunachalam K. Biodiversity and conservation of Rhododendrons in Arunachal Pradesh in the Indo-Burma biodiversity hotspot. *Curr Sci* 2005; 89:623-634.
7. Lal P, Chauhan DS. Descriptive Study of Burans (*Rhododendron arboreum* Smith) in the Uttarakhand, India, North West Himalaya. *J Agric Forest Meteorol Res* 2019; 2(1):59-62.
8. Chetna B, Badoni A. Medicinal strength of alpine and sub alpine zones of Western Himalaya India. *N Y Sci J* 2009; 2:41-46.
9. Pushkar, Attri BL. Survey on traditional use of medicinal plants of Bageshwar valley (Kumaun Himalaya) of Uttarakhand. *Int J Conserv Sci* 2014; 5:223-234.
10. Hussain MS, Khan JA, Khan A. Species composition and community structure of forest stands in Kumaon Himalaya, Uttarakhand, India. *Trop Ecol* 2008; 49:167-181.
11. Gaur RD. Traditional dye yielding plants of Uttarakhand, India. *Nat Prod Radiance* 2008; 7:154-165.
12. Hooker JD. The Rhododendrons of Sikkim-Himalaya 3. Reeve, Benham & Reeve, London, 1851, p21-30.
13. Rai ID, Adhikari BS. *Rhododendron rawatii* (Ericaceae), a new species from the Western Himalaya, India. *Phytotaxa* 2012; 71:10-16.
14. Lal P. Burans Himalaya ka Chamatkari Virikach. *Kisan Dairy*, 2020, p129.
15. Champion HG, Seth SK. Survey of forest types of India. Government of India Press, New Delhi, 1968, p404.
16. Sharma CM, Ghildiyal SK, Gairola S, Suyal S. Vegetation structure, composition and diversity in relation to the soil characteristics of temperate mixed broad-leaved forest along an altitudinal gradient in Garhwal Himalaya. *Indian J Sci Technol* 2009; 2:39-45.
17. Kumar B, Giri D, Upreti DK. Phyto-sociological analysis in brown oak dominated forest of Garhwal Himalaya, India. *N Y Sci J* 2009; 2:1-4.