

## NEW DISTRIBUTION RECORD OF *GEODORUM LAXIFLORUM* GRIFF. (ORCHIDACEAE) IN GONDIA DISTRICT, MAHARASHTRA, INDIA

Ankit M. Nakade\* and Kailash S. Lokhande

Department of Botany, S.S.Jaiswal College, Arjuni/Mor., Dist. Gondia (M.S), India.



\*Corresponding Author: Ankit M. Nakade

Department of Botany, S.S.Jaiswal College, Arjuni/Mor., Dist. Gondia (M.S), India.

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### ABSTRACT

*Geodorum laxiflorum* Griff., an orchid endemic to India, is reported for the first time in Gondia District, Maharashtra, India. The present study deals with morphotaxonomical characters of *Geodorum laxiflorum* Griff. and extends the known distribution of the species. The record is based on specimens collected in the deep of Navegaon- Nagzira forest range, Sadak Arjuni Tehsil (21.100N, 80.150E, Elevation = 256 meter) in Gondia district of Maharashtra, India, during the survey carried out in July 2024. This finding contributes to a better understanding of the geographic range of *G. laxiflorum* and highlights the potential for further botanical discoveries in Gondia District.

**KEYWORDS:** Orchid, Endemic, Morphotaxonomical characters, Geographic range.

### INTRODUCTION

Orchidaceae is one of the most ecologically and morphologically diverse families of flowering plants. It is the second largest family of flowering plants in the world, comprising of about 779 genera and 22,500 species (Mabberley 2008). Scrutiny on available data of orchids of India has shown 1263 species under 155 genera (Singh 2019). In India the genus is represented by six species, namely *Geodorum appendiculatum* W. Griffith, *Geodorum densiflorum* (Lamarck) Schlechter, *Geodorum laxiflorum* Griff., *Geodorum pallidum* D. Don, *Geodorum recurvum* (Roxburgh) A. Alston and *Geodorum attenuatum* Griff., (Misra and Misra 2007) (Kumar 2008) (Bhatt, Jalal, and Nagar 2015a) (Govaerts *et al.* 2016). The species is known to occur in Assam, Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Odisha, Telangana and Maharashtra (Bhojar *et al.* 2022). It is found that the *Geodorum laxiflorum* Griff., species has been located for the first time in Gondia district.

During our exploration we came across a plant which was blooming in the deep of Navegaon- Nagzira forest range, Sadak Arjuni Tehsil (21.10<sup>0</sup>N, 80.15<sup>0</sup>E, Elevation = 256 meter) in Gondia district of Maharashtra, India (Figure 1.). Sadak Arjuni tehsil is covered with hills and forests and is considered a tribal area. Gondia District mainly receives rain from the south-west monsoon. The average rainfall is 1,300 mm. The climatic conditions are extreme with temperatures reaching 45 °C in summer and 6 °C in winter.

### Taxonomy

Kingdom : Plantae  
Phylum : Tracheophyta  
Class : Liliopsida  
Order : Asparagales  
Family: Orchidaceae  
Genus: *Geodorum*  
Species: *G. laxiflorum*

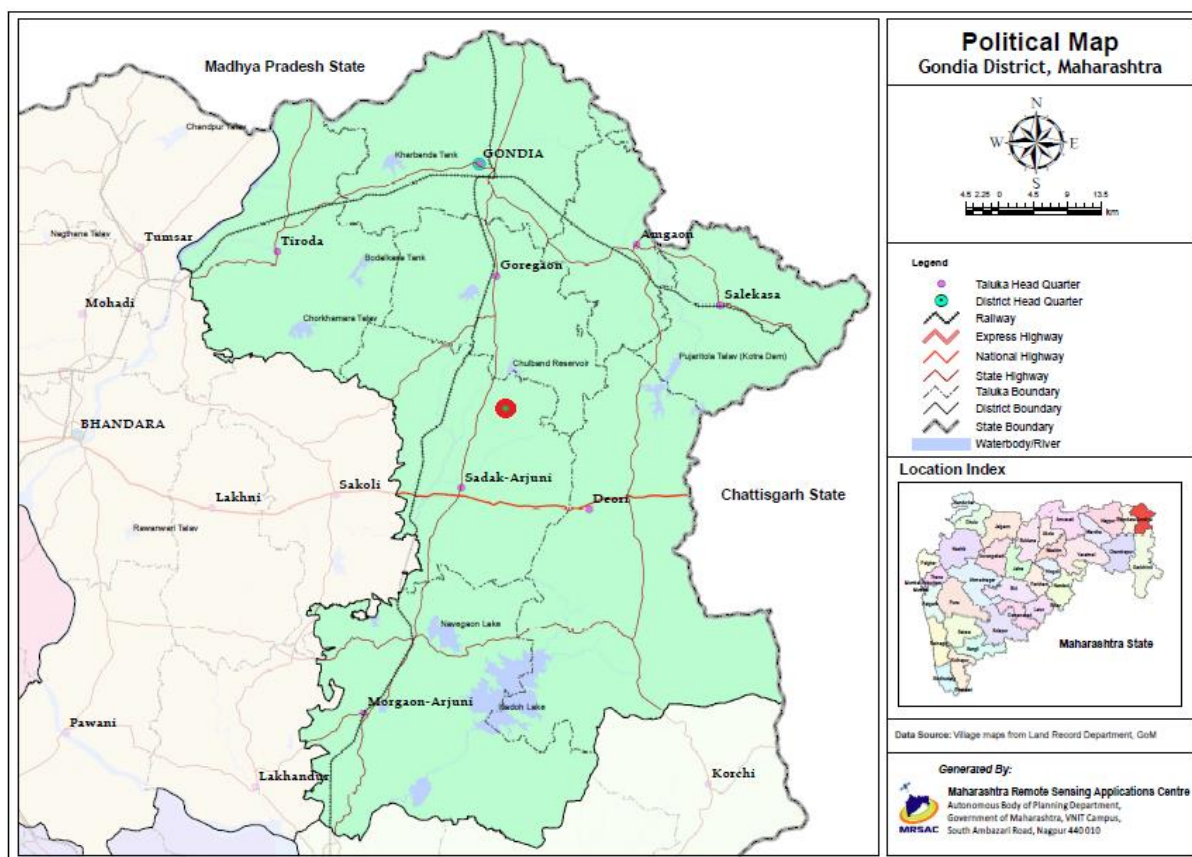


Figure 1. Map showing distribution (red dot) of *Geodorum laxiflorum* in study area.

During our exploration in the Gondia district, we observed the taxa with some interesting characters and is described technically as follows:

#### DESCRIPTION

**Habitat:** Terrestrial herbs, 30-50 cm tall.

**Corms:** Ovoid, slightly compressed, ca. 4 x 5 cm.

**Roots:** Vermiform; pseudo stem 8-10 cm long, enclosed by imbricating sheaths.

**Leaves:** 2-3, elliptic-lanceolate, acute to acuminate, undulate, ca. 30 x 10 cm.

**Inflorescence:** Lateral, shorter than the leaves, ca. 20-30 cm long; racemes decurved at top, laxly 6-08 flowered.

**Floral bracts:** Green, oblong-lanceolate, acute, ca. 1 x 0.3 cm.

**Pedicel:** Ovary ca. 1 cm long. Flowers white, ca. 2.5 cm across.

**Sepals:** Spreading, oblong or oblong-lanceolate, acute, 7-veined; dorsal sepal ca. 2.2 x 0.7 cm; lateral sepals 2.4 x 0.8 cm.

**Petals:** Broader than the sepals, oblong-ovate, obtuse, 7-veined, 2.3 x 1.2 cm. Lip sessile, cymbiform, square

shaped, entire, emarginate, 14-veined, base ventricose, 2 x 1.7 cm; epichile undulate, edges deflexed; disc with warts and brown coloured thick dots starting at the base of the hypochile and ending before the apex; hypochile golden brown within, epichile base yellow and apex pink-coloured.

**Column:** Short, oblong, 6 mm long.

**Anther:** Broadly ovate-orbicular, 2-loculed; pollinia yellow, oblong-ovoid, 2 x 1.2 mm. (Figure 2)

**Flowering season:** July.

**Ecology:** Extremely rare in dry deciduous forests, at an elevation range about 263 m.

**Distribution:** Endemic to India Assam, Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Odisha, Telangana, and Maharashtra (this report).

**Specimen examined:** The specimen is preserved in the Department of Botany, S S Jaiswal College, Arjuni/mor. District-Gondia, Maharashtra, India (McClelland 1845) (Hooker 1890) (Seidenfaden 1983) (Misra 2019).



Figure 2: *Geodorum laxiflorum* Griff.: A- Habitat, B- Inflorescence.

## DISCUSSION

The discovery of *Geodorum laxiflorum* Griff. in Gondia District, Maharashtra, India, represents a significant addition to our knowledge of this orchid's distribution. This new record extends its known range. Recently, *Geodorum laxiflorum* Griff., was reported from Markagaon forest range in the southern part of Dhanora tehsil of Gadchiroli District, which is known for its dense dry deciduous forest (Bhojar *et al.*, 2022) and Western Ghats, Waghai taluka of Dangs district, Gujarat state (Bhatt *et al.*, 2015). This finding aligns with observations of other plant species exhibiting wider distributions than previously documented.

Several factors could explain the presence of *G. laxiflorum* in Gondia District. Perhaps the ecological conditions in this region, including tropical and subtropical environments, shaded, forested areas and well-drained soil, provide suitable habitat for the orchid that was previously overlooked. Alternatively, this discovery could indicate a natural range expansion of the species. Further studies on the population ecology and habitat preferences of *G. laxiflorum* in Gondia District are warranted to shed light on these possibilities. The presence of *G. laxiflorum* in Gondia District underscores the importance of continued botanical surveys in this region. Undoubtedly, other interesting plant discoveries await.

Documenting plant distributions is crucial for conservation efforts. Knowing where *G. laxiflorum* occurs allows for targeted conservation strategies to be developed and implemented. This newfound population in Gondia District should be monitored and protected to ensure the long-term persistence of the species.

## CONCLUSION

This study reports the first record of *Geodorum laxiflorum* Griff. in Gondia District, Maharashtra, India. This discovery extends the known distribution of this endemic orchid species. The presence of *G. laxiflorum* in

Gondia District highlights the potential for further botanical discoveries in the region and underscores the importance of continued exploration to document plant diversity. Our findings contribute to a better understanding of the geographic range of *G. laxiflorum* and provide valuable information for future conservation efforts.

Further research on the population ecology and habitat preferences of this orchid in Gondia district is recommended to gain a deeper understanding of its occurrence and develop targeted conservation strategies. This study emphasizes the need for ongoing botanical surveys and collaboration with local stakeholders to ensure the protection of this unique orchid species and the rich biodiversity of Gondia District.

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