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Oreorchis micrantha Lindley: A New Record to Kashmir Valley

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Abstract *Oreorchis micrantha* Lindley (Orchidaceae) is recorded for the first time from Kashmir valley-India. A brief diagnostic taxonomic description with an illustration, photographs and distribution map is provided.

Keywords First Record, Taxonomic Description, Distribution, Kashmir Valley

1. Introduction

Orchidaceae is a monocot family of herbaceous perennials that include terrestrial, saprophytic, lithophytic and epiphytic species[1]. It is one of the largest family among monocots and the second largest family among angiosperms with an estimate of about 800 genera and 25, 000 species distributed worldwide[2]. Orchids are widely distributed in all continents except Antarctica, but reach their maximum diversity in the humid tropical regions[3]. In India, the family is represented ca. 184 genera with 1331 species[4], of these 400 species are endemics[5].

The genus *Oreorchis* constitute about 16 species[6]. The genus is characterized by terrestrial herbs with pseudo-bulbs and fibrous roots. Leaves arising from apex of pseudo-bulb, linear to oblong-lanceolate, tapering into petiole like stalk at base, often with 1or 2 membranous sheaths at base. Inflorescence arising from an intermediate node of pseudo-bulb, erect with several tubular sheaths, racemose. Flower small to medium-sized, sepals and petals free. Lip 3-lobed, entire, clawed at base without a spur.

2. Objective

Kashmir Himalaya harbours a rich repository of Orchids. While carrying out the field surveys and collection of different Orchid species we come across an Orchid species unknown from this region. Therefore, it was thought worthwhile to undertake detailed taxonomic analysis of this species.

As the species is endemic to Himalaya and reported to be threatened by various authors, the first record of this species from Kashmir valley will provide clues regarding the conservation of this species to the policy makers.

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3. Materials and Methods

The valley of Kashmir is situated in northern fringe of the Indian sub-continent between 33°22' and 34°50' N latitudes and 73°55 'and 73°33' E longitudes covering an area of about 16,000 sq. While carrying out Botanical forays in Kashmir valley a blooming orchid species was collected from 2 different localities, the plant specimens were collected and processed and herbarium specimens were prepared and deposited at Kashmir University Herbarium (KASH). After critical examination the species was identified as *Oreorchis micrantha*. The identification of the species was authenticated by Dr. Jagdeep Verma, Department of Botany, Shoolini Institute of Life Sciences and Business Management, Solan-173212, Detailed perusal of the relevant taxonomic literature[7,8,9,10,11]revealed that this species has not so far been reported from Kashmir valley[12]. The present report represents the first record of *Oreorchis micrantha* from Kashmir valley- India. A detail taxonomic description, an illustration and distribution map is given here to facilitate its easy identification in the field.

4. Results

4.1. Taxonomic Description

Oreorchis micrantha Lindley in Journ. Linn.Soc.iii, 27.

The species is pseudobulbous, sympodial, leafy herb up to 25 cm tall; pseudobulb about 2cm long, ovoid-conical, several noded; leaves two rarely three , linear-lanceolate, 15-30 X 0.6-1 cm, prominently 2-5 nerved, gradually tapering at base into an indistinct petiole like stalk; scape from the side of pseudobulb; inflorescence raceme, 5-10 cm

long, few flowered ; flowers almost sessile, 1cm long, pale yellow, lip white spotted purple; sepals linear-lanceolate, acute, slightly spreading, lateral pair subfalcate, little shorter and broader than the dorsal; petals shorter than the lateral sepals, sometimes spotted purple, lip white, spotted with purple, 3-lobed, lateral lobes slender, lanceolate, falcate, thin,free and attached by a narrow base to a portion above the claw near the base, hypochile with oval to linear elevated channeled fleshy callus, bilobed with crumpled margin (Fig.1 and 2)

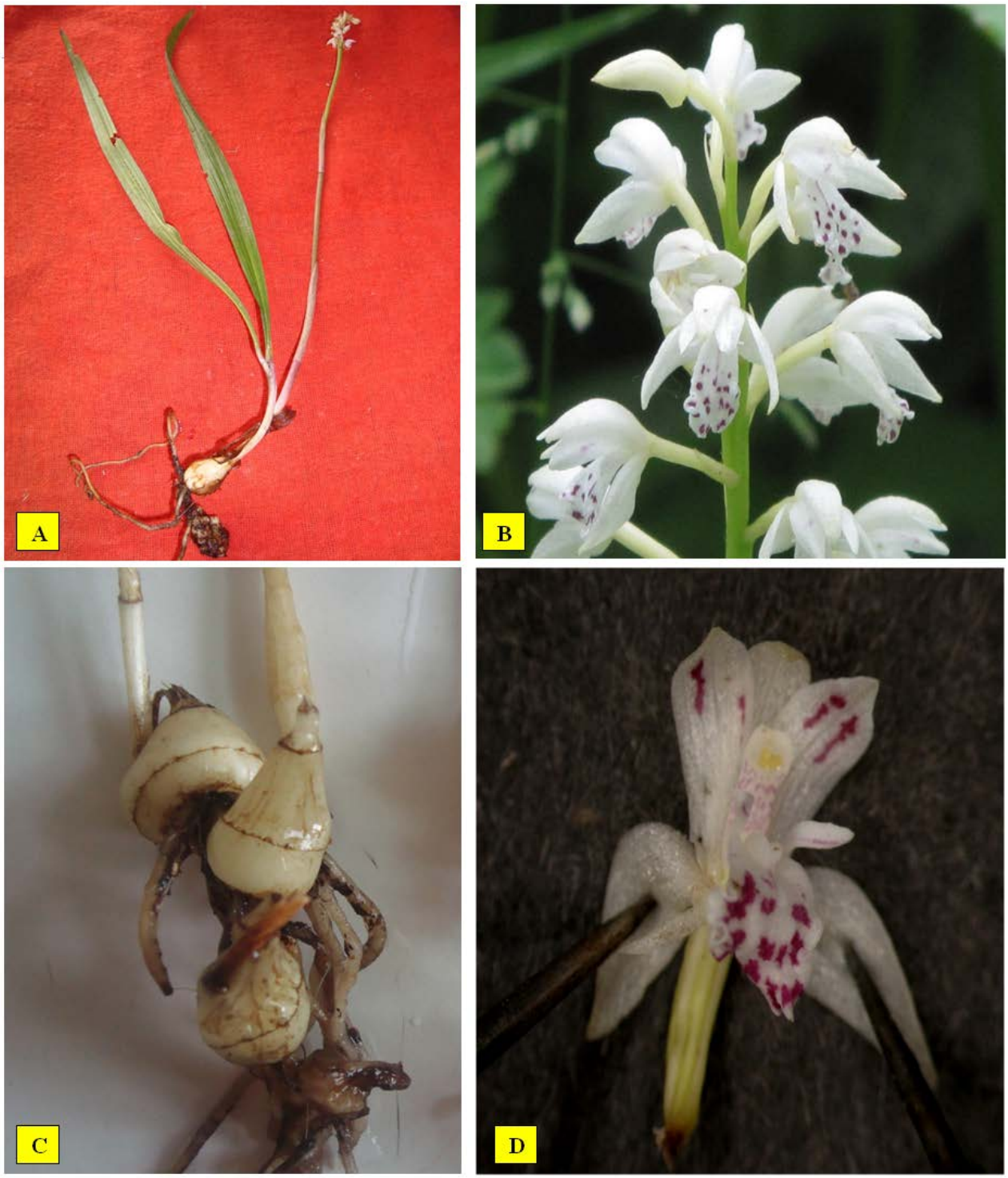


Figure 1. *Oreorchismicrantha* ; (A) Habit; (B) Habit;(B)Inflorescence; (C) Pseudo-bulb; (D) Flower

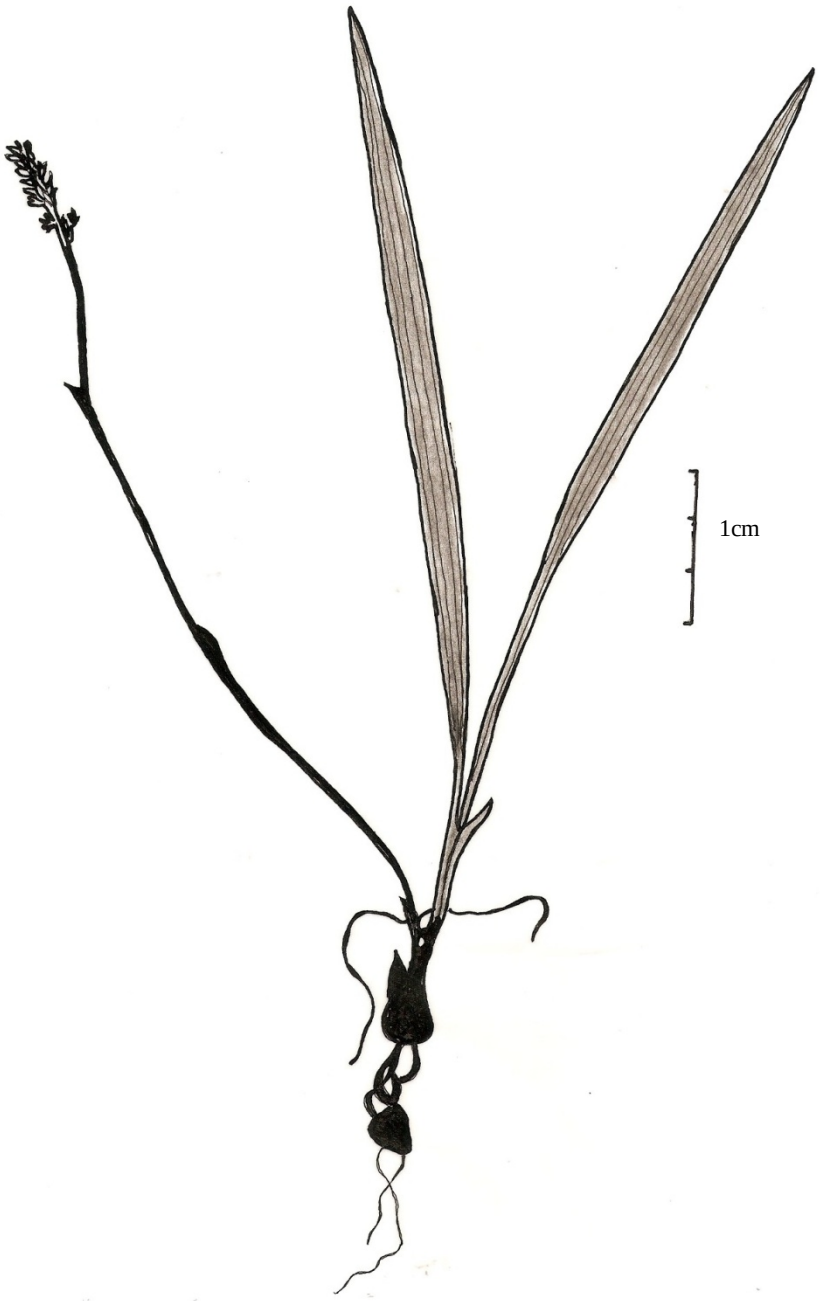


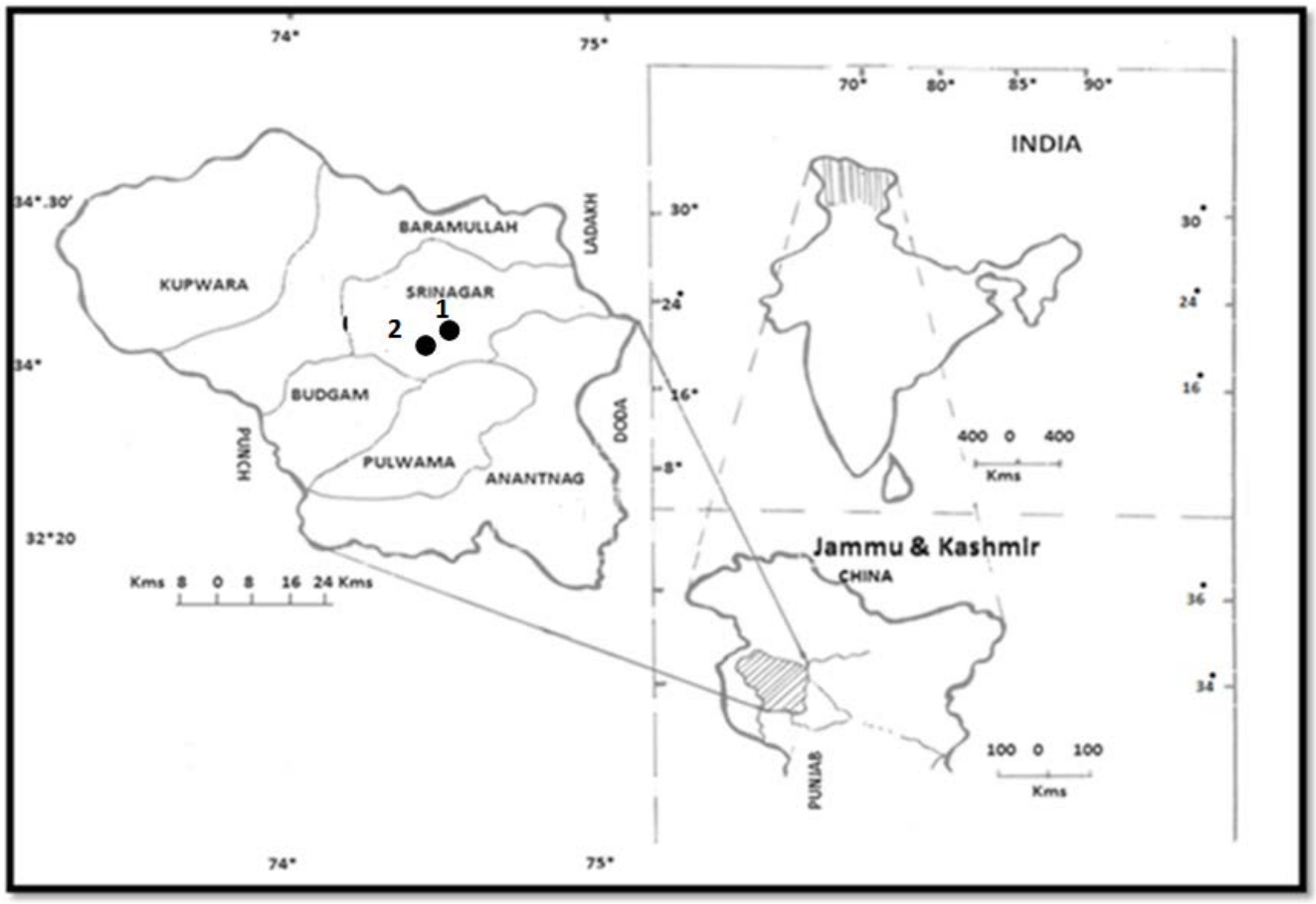
Figure 2. *Oreorchis micrantha*

Flowering: May – July

Note: Duthie 1902[13]; described a species *Oreorchis rolfei* Duthie (type Mackinnon'collector,10-6-1900 from Nagtibba Garhwal, altitude 2400m (DD) a separate species from *Oreorchis micrantha* . However, Deva and Nathani[9] argued that the species is known only from a single locality and was distinguished by Duthie from *Oreorchis micrantha* to which it is most nearly allied mainly by that the lip has been saccate at the base, the basal callus on the upper surface is oval and not linear and upon our critical examination the specimens of the two species does not show any clear cut difference. Therefore, Deva and Nathani[9] and recent literature which include Flora of China[6] and Flora of Pakistan[14] treat *O. rolfei* a Synonym of *O. micrantha*.

4.2. Distribution

The species is distributed in India, China, Bhutan, Tibet, Taiwan, Myanmar and Nepal. In India the species is reported from Garhwal-Uttarakhand (Dehra Dun, Tehri, Chamoli, Ramni forest, Nanda Devi National Park), Kumaun-Uttarakhand (Almora), Himachal Pradesh (Tali forest, Narkanda, Shimala) and Jammu and Kashmir (Poonch-Jammu region) and now Kashmir valley of Jammu and Kashmir (Fig 3).



1 = Dachigam National Park; **2** = Checksangri
Figure 3. Map showing collection sites

4.3. Specimens Examined

India, Kashmir: Srinagar, Dachigam, 19 -06- 2011, Gowhar A. Shapoo & Burhan M. Paddar 3001; Dachigam, 13 -06- 2012, Gowhar A. Shapoo 3002; Checksangri, 1- 7- 2012, Gowhar A. Shapoo 3003 (All at KASH=Kashmir University Herbarium).

4.4. Local Distribution

In Kashmir valley the species has been collected from Dachigam National Park-Srinagar (2372m asl, 34°67.056´N, 74°01.423´E) and Cheksangri–Srinagar (3015m asl, 34°15.423´N, 74°31.125´E) (Fig 3).

5. Discussion

Four species of the genus *Oreorchis*, namely *O. foliosa*, *O. indica*, *O. micrantha* and *O. rolfei* has been reported from North-West Himalaya[7,9]. The species of the genus are differentiated on the basis leaf character, flower colour, characteristics of lip, epichile and hypochile[7,9]. The present study revealed that the leaves of the taxon are solitary, flowers white to pale yellow, lip white with purple spots, not saccate at base; hypochile with ovate to linear elevated fleshy callus and hypochile bi-lobed with crumpled margins.

On the basis these morphological traits the species has been identified as *O. micrantha*.

The species is reported to be threatened, Hágsater and Dumont [15] categorize the species as endangered and Jalal (2012) categorize it as occasional. In addition to this the species has ethno medicinal uses as well- the powder of bulbs is mixed with milk and the mixture is used as aphrodisiac in Kashmir valley. Keep in view its threatened status and aphrodisiac properties of the taxa the documentation of the species is very important in terms of its conservation and local use.

6. Conclusions

While carrying out field studies on Orchids in Kashmir valley we come across a *Oreorchis* species which were not recorded from this region. After detailed taxonomic analysis, this distinctive species was identified as *O. micrantha*, a first record from this region. The first record of this threatened species from this region of Himalaya will bring attention of policy makers toward the conservation of this species

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