

Diversity and Distribution of the Genus *Cheirostylis* Bl. (Orchidaceae) in Darjeeling Himalaya of West Bengal

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Abstract Present paper deals with *Cheirostylis* Bl. orchid species diversity and distribution in Darjeeling Himalaya of West Bengal, India with their habitat, present availability status, altitudinal range, phenology and local distribution mentioned in details.

Keywords Orchidaceae, *Cheirostylis*, Darjeeling Himalaya.

Introduction

John Lindley who gave the family name Orchidaceae in 1799-1865. Orchids are highly specialized and a

fascinating group of flowering plants with amazing diversity in shape, size and color of flowers. According to their habitat they are classified into four types viz. terrestrial, epiphytic, saprophytic and subterranean. These are widely distributed from the Equator to the Arctic Circle and from lowland areas to snowline. About 1,300 species with 140 genera of orchid species are found in India. The major orchid rich habitats in the country are the Himalayas, North Eastern and the peninsular regions. In India, the Orchidaceae is the second largest family of flowering plants. Orchid flora of Darjeeling Himalaya is very rich. The genus *Cheirostylis* was established in 1825 by Carl Blume and it comprises about 25 species distributed from South East Asia, Japan, the Philippines to New Guinea. The generic name is derived from the Greek words *cheiro* 'hand' and *stylis* 'a pillar' in reference to the hand like pillars on the column. Plants terrestrial herbs. Stems decumbent, base succulent. Rhizome decumbent. Leaves membranous, petiolate. Inflorescence racemes, few-flowered. Flowers resupinate. Sepals united in their lower half into a ventricose tube with the petals. Petals shorter than the sepals. Lip saccate or cymbiform at the base, channeled, 2-callose as base; hypochile sac shaped with several papillose glands along the lateral nerves; mesochile short, narrow; epichile 2-lobed, rarely subsigmoid and entire. Column short with 2 stylidia at apex; bifid rostellum; pollinia 2. The present investigation deals with diversity, distribution, habitat, present availability status, altitudinal range, phenology and local distribution of *Cheirostylis* Bl. Orchid species in Darjeeling Himalaya of West Bengal.

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Table 1. List of *Cheirostylis* Bl., orchid species of Darjeeling Himalaya with habitat, local distribution, altitudinal range, flowering and fruiting and present availability status. Al = Altitudinal range; Fl and Fr = Flowering and fruiting; PAS = Present availability status; T = Threatened; R = Rare.

Sl. No.	Botanical name with habitat	Distribution within Darjeeling	Al (meter)	Fl and Fr	PAS
1	<i>Cheirostylis griffithii</i> Lindl. [Terrestrial]	Munsong, Durpin Hill Kalimpong, Labdah, Mungpoo	900-1500m	Nov—Dec Dec—Jan	T
2	<i>Cheirostylis yunnanensis</i> Rolfe [terrestrial]	Mangaldara, Kalimpong 8 th Mile, Samalbong, Pudung	600-900 m	Feb—Apr Mar—May	R

Materials and Methods

Several collections were made while exploring the orchid flora of Darjeeling Himalaya visiting the different places during 2007 to 2015. Field survey was categorized into four seasonal durations viz. Winter (December to January), summer—premonsoon (February—June), monsoon (July—September), post monsoon (October—November). In our exploration *Cheirostylis* Bl., terrestrial orchid species found were also studied intensively. Critical morphological studies have been made and the collected specimens were processed following the herbarium techniques and properly identified and authenticated using different literature including the Orchids of Sikkim and North East Himalaya [1] and The Flora of Bhutan [2]. The herbarium materials of the present study were deposited in the Herbarium of Taxonomy and Ethnobiology Research Laboratory, Cluny Women's College, Kalimpong. Nomenclature of both the taxa has been updated and arranged as per classification by Pearce and Cribb [2].

Key to the species

1. Decumbent rhizome succulent; stem not moniliform; 1-2 flowered, stem smooth.....*C.griffithii*.
1. a. Decumbent rhizome not succulent; stem moniliform; 2-3 flowered, stem hairy.....*C.yunnanensis*.

Results and Discussion

There are two *Cheirostylis* Bl., orchid species available in Darjeeling Himalayan region of West Bengal. November to April is the main flowering season of these species. *Cheirostylis griffithii* available within an altitudinal range 900-1500m and its present availability status is threatened whereas another species *C. yunnanensis* available within 600-900 m and its status is rare in the regions (Table 1).

Conclusion

Many orchid species of the regions are in the verge of extinction. An immediate measure has to be taken for conservation of these species before they extinct especially for those species which are rare and threatend. It is high time now that conservation measure must be implemented before these species are vanished forever from the nature.

References

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