

DACTYLORHIZA UMBROSA (KAR. & KIR.) NEVSKI- A NEW RECORD FROM NUBRA VALLEY, LADAKH (U.T.), INDIA

Pratibha and Promila Pathak

Orchid Laboratory, Department of Botany, Panjab University, Chandigarh- 160 014, U.T., India

Abstract

Dactylorhiza umbrosa (Kar. & Kir.) Nevski, a medicinal species of ground orchids, is reported as a new record for the Nubra valley of Ladakh region, India. In this communication, description along with photographs, flowering time, distribution, and relevant ecological notes of the species are provided.

Introduction

DACTYLORHIZA, WITH approximately 40 species (Chase *et al.*, 2015), commonly called marsh orchid or spotted orchid, is a genus of flowering plants belonging to the family Orchidaceae and subtribe Orchidinae. In India, it is represented by 4 species (Singh *et al.*, 2019). Species of this genus occupy a wide range of open habitats from dune slacks to alpine meadows including swamps and peat bogs (Pilon *et al.*, 2006). *Dactylorhiza* differs from all other genera in Orchidaceae by its finger-like tuberosities and the name is derived from the Greek words daktylos (finger) and rhiza (root) (Renz and Taubenheim, 1984). These species are in great demand because of their medicinal value as well as for commercial and ornamental purposes (Shapoo *et al.*, 2013).

During the exploration in Nubra valley of Ladakh (U.T.) in July 2019, a terrestrial orchid with underground tuber near water channels was collected from different sites of the valley *i.e.* Hunder, Skampuk, Partapur, and Skurru (Table 1). After a detailed study with the help of available literature (Deva and Nathani, 1986), the orchid was identified as *Dactylorhiza umbrosa* (Kar. & Kir.) Nevski. A perusal of literature and herbarium records revealed that this species has not been recorded earlier from Ladakh. The digital herbarium for the species has been submitted in the Herbarium of Department of Botany

(PAN), Panjab University, Chandigarh for future reference.

Species Description

Dactylorhiza umbrosa (Kar. & Kir.) Nevski, in Trudy Bot. Inst. Akad. Nauk S.S.S.R., Ser. 1, Fl. Sist. Vyussh. Rast. 4: 332. 1937; Stewart, 68.1972; Renz, 126. T. 52. 1978; & 23. 1984. Shapoo *et al.*, Checklist 12(3): 1. 2016; *Orchis latifolia* sensu Aitchison in Trans. Linn. Soc. Ser. 2, 3: 113. 1888-94. *Non Linn. O. umbrosa* Kar. & Kir. In Bull. Soc. Nat. Mosc. 15: 504. 1842.

Terrestrial herb, up to 22-69 cm tall. *Tubers* 3-5 palmately-lobed creamish in colour. *Stem* erect, 2-3 tubular sheath at base. *Leaves* 3-4, widely spaced, sometimes clustered at base of stem, 2.5-22.1 × 0.4-3.4 cm, lanceolate to oblong lanceolate, margin entire, green, spotless, apex acuminate. *Inflorescence* unbranched up to 4.3-19 cm with 12-23 flowers. *Flowers* purplish-lilac in colour. Floral bracts narrowly lanceolate basal ones exceeding ovary, up to 1.4-3.1 cm, green in colour sometimes tinged with purplish red, apex acuminate. *Dorsal sepal* erect, oblong, concave, 9 mm long, 3-veined, apex obtuse. *Lateral sepals* spreading, obliquely oblong or lanceolate, slightly larger than dorsal sepal. *Petals* erect, forming a hood with dorsal sepal, narrowly oblong, oblique, 7 mm long, 2-veined, sub-

Table 1. The species sites with altitude, latitude, and longitude at Nubra Valley, Ladakh.

Species	Site (Nubra Valley, Ladakh)	Altitude (m)	Latitude (E)	Longitude (N)
<i>Dactylorhiza umbrosa</i> (Kar. & Kir.) Nevski	Hunder	3125.07	34.584964	77.467774
	Skampuk	3076.03	34.62242	77.440709
	Partapur	3099.06	34.602365	77.453742
	Skuru	3114.15	34.670672	77.298558

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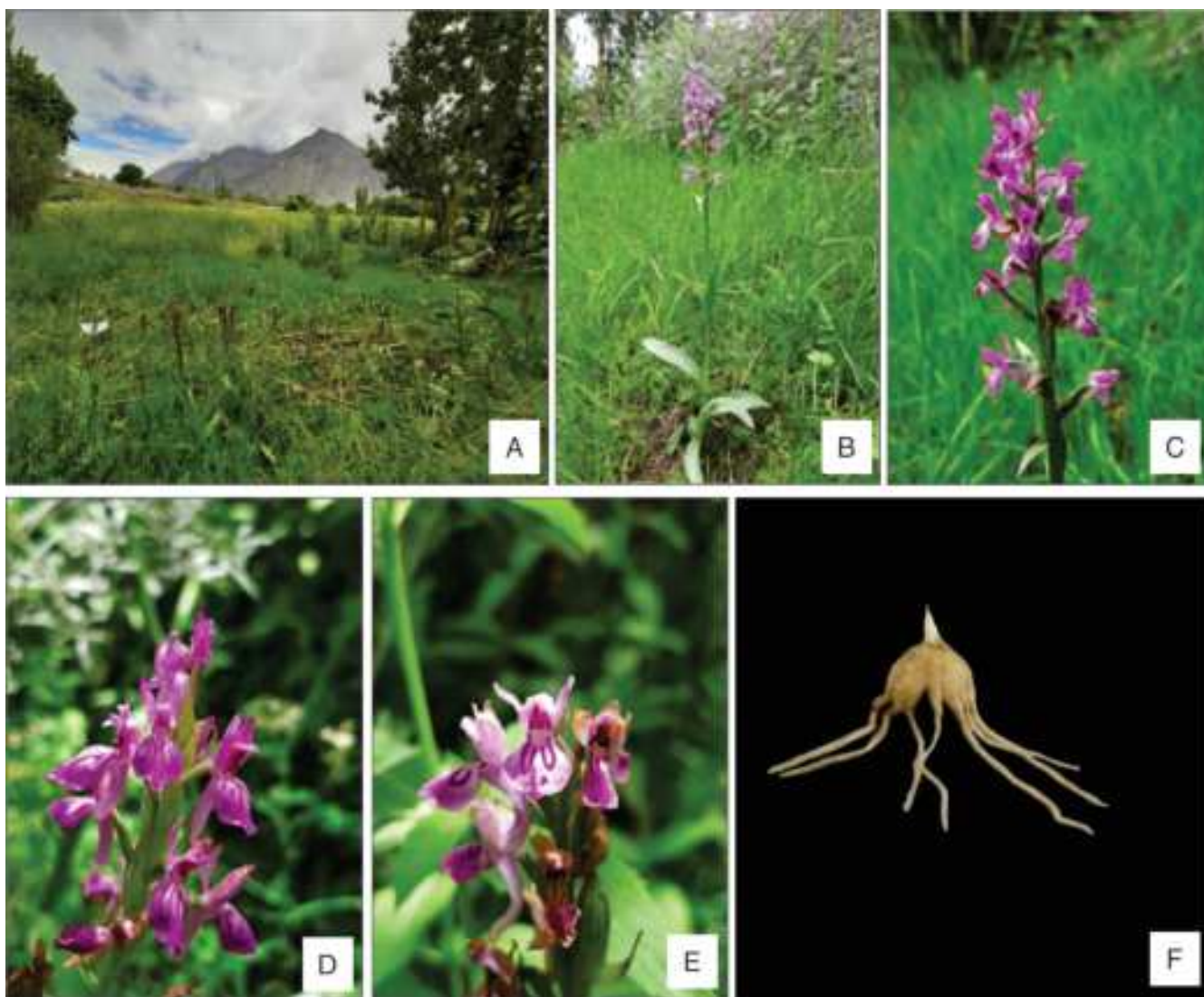


Fig. 1 A-F. *Dactylorhiza umbrosa* (Kar. & Kir.) Nevski: A, Species population in its natural habitat; B, Whole plant; C, Inflorescence; D-E, Flowers and capsules; F, Tuber.

obtuse apex. *Lip* obovate to obcordate, 10 mm long, spurred, margin entire to shallowly 3-lobed, apex or mid-lobe obtuse rounded, disk densely minutely papillose, purplish rose to pale purple with a heart-shaped patch composed of dark purple lines and dots. *Spur* pendulous, slightly curved forward, cylindrical, 1.4 cm, almost as long as ovary.

Flowering and Fruiting

June-July

Distribution

India [Jammu and Kashmir, Ladakh (present report)], China (North Xinjiang), Afghanistan, Kazakhstan, Pakistan, Russia (SouthWest Siberia), Turkmenistan, Uzbekistan.

Habitat and Ecology

The plants were found amidst grasses growing randomly near the water channels. They were growing individually as well as in groups of 2 to 4 individuals.

Specimen Examined

India, Ladakh region, 34.670672 N and 77.298558 E, 3114.15 m, 29 July 2019, PAN 21982.

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References

- Chase, M. W., K. M. Cameron, J. V. Freudenstein, A. M. Pridgeon, G. Salazar, C. V. D. Berg, and A. Schuiteman. 2015. An updated classification of Orchidaceae. *Bot. J. Linn. Soc.*, **177**: 151-74.
- Deva, S. and H. B. Naithani. 1986. The Orchid flora of North West Himalaya. Print and Media Associates, New Delhi, India.
- Pillon, Y., M. F. Fay, A. B. Shipunov, and M.W. Chase. 2006. Species diversity versus phylogenetic diversity: A practical study in the taxonomically difficult genus *Dactylorhiza* (Orchidaceae). *Biol. Conserv.*, **129**: 4-13.
- Renz, J. and G. Taubenheim. 1984. *Orchis* L. (Orchidaceae). In: *Flora of Turkey and the East Aegean Islands. Vol. 8* (ed. P. H. Davis) pp. 451-600. Edinburgh University Press, Edinburgh, U.K.
- Shapoo, G. A., Zahoor A. Kaloo, Aljaz H. Gaine, and Seema Singh. 2013. Ethanobotanical survey and documentation of some orchid species of Kashmir Himalaya, J&K- India. *Int. J. Pharma. Biol. Res.*, **4**(2): 32-40.
- Singh, S. K., D. K. Agrawala, J. S. Jalal, S. S. Das, A. A. Mao, and P. Singh. 2019. *Orchids of India: A Pictorial Guide*. BSI, Kolkata, India.