

## LIPARIS DOWNII RIDL., A RARE ORCHID FOR INDIA FROM KORAPUT DISTRICT OF ODISHA

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### Abstract

*Liparis downii* Ridl. collected from Odisha is a rare finding for India and forms an addition to the orchid flora of the state. This species is allied to *L. paradoxa* (Lindl.) Rchb.f., but is of a shorter stature and has a broad obovate mucronate lip.

### Introduction

*LIPARIS PARADOXA* (Lindl.) Rchb.f. is a small terrestrial orchid with a cormous pseudobulb and a pair of thin-textured leaves. It has been recorded in the past 36 years from several localities in Odisha in the moist deciduous forests as an under growth. The lip in different biotypes exhibits lot of variations in this species (Misra, 2004).

A few plants collected in October 2009 from near Laxmipur in Koraput district of Odisha looked like *Liparis paradoxa*. These were grown in the orchidarium of the Regional Plant Resource Centre, Bhubaneswar where they flowered regularly during July-August (Fig. a-b). The plants in their vegetative and floral morphology showed some differences from *L. paradoxa*. They were smaller with shorter and slender scapes, and smaller flowers having a median maroon coloured streak on the lip. Moreover, they grew in small clusters.

Detailed examination of the flower structure revealed that the single vein in the petal has one or two short and feeble branches. The obovate lip has a broad apex with a prominent triangular mucro, unlike being retuse.



Fig. 1 a-b. *Liparis downii* Ridl.: a, Plants showing clustered habit; b, Inflorescence.

These characters are similar with those of *Liparis downii* Ridl., an East Asian species. Seidenfaden (1976) provided figures of the flower and its segments along with measurements of the type (Singora, Thailand, *Down sine no K*) of this species; he has also provided a figure of the habit of this from Cambodia (*Geoffray 411 P*). The shape and size of the floral segments of our specimens match with those of the type of *Liparis downii*. So also the habit of our plants matches with that recorded by Seidenfaden. We therefore, identify our specimens as *Liparis downii*, an uncommon species earlier known in India only from Karnataka and Kerala states. Illustrations as also morphological description of this species are provided here.

### Species Description

*Liparis downii* Ridl. Journ. Str. Br. Roy. As. Soc. 49: 27.1907; Seidenfaden 1976: 36; Seidenfaden 1992: 135; Sathish Kumar & Manilal 2004: 200.

*Terrestrial*, cormous herbs found in small clusters growing up to 21-30 cm. *Corms* ovoid, covered with bases of sheaths; old corms globose-ovoid, compressed axially, 14-21x18-23 mm, dull white with brown scar marks; roots short, slender, vermiform. *Stem* erect, 35-45 mm long, 6-8 mm thick, covered with 2-3 unequal leafy sheaths. *Leaves* 2, sub-equal, sessile, narrowly elliptic-lanceolate, acuminate, narrowed at base to a non-jointed sheath; *lamina* 75-150 mm long, 20-40 mm broad at the broadest, sub-plicate, 5-7-veined; veins depressed on upper face, finely ridged beneath. *Inflorescence* a terminal raceme; *peduncle* 90-115 mm long, 1.5-2 mm thick, 4-angled; *raceme* laxly 9-22-flowered. *Floral bracts* sub-erect or at length deflexed, membranous, narrow-lanceolate, acuminate, 3-5x0.6-0.9 mm, 1-veined, persisting. Often the floral bracts are subtended with 1-2 empty bracts which are slightly longer. Sometimes one or more lowermost flowers are provided with a pair of bracts, one opposite the other; one of these is much longer, c. 11x1mm, veinless, apex curved. *Ovary and pedicel* 6.5-8x1 mm, finely ridged. *Flowers* greenish yellow, resupinate, c.



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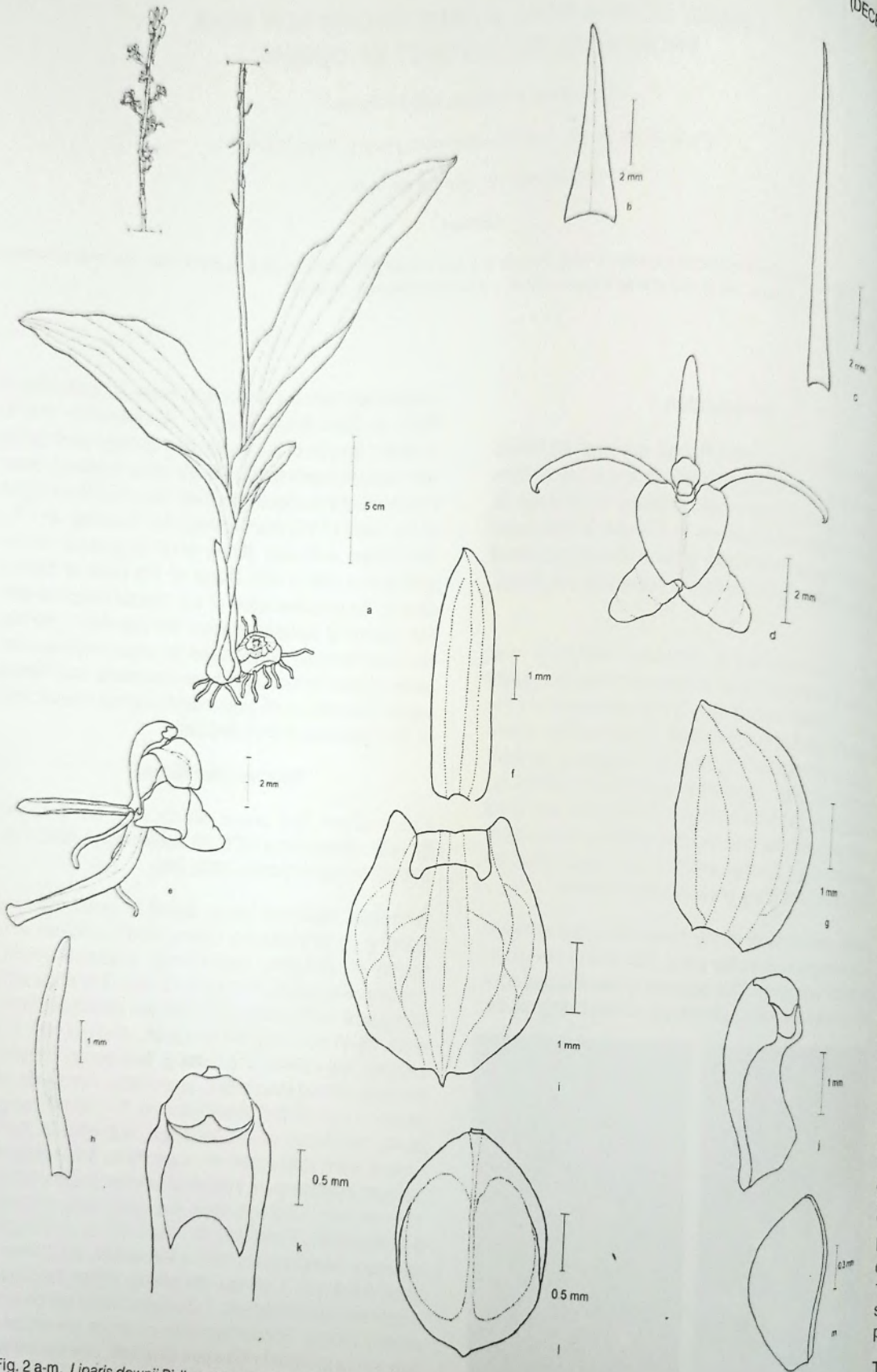


Fig. 2 a-m. *Liparis downii* Ridl.: a, Plant; b, Floral bract; c, Sterile bract; d-e, Flower, seen from front and side; f, Dorsal sepal; g, Lateral sepal; h, Petal; i, Lip; j, Column; k, Apex of column showing stigma, rostellum and clinandrium; l, Operculum; m, Pollinia (after Sarat Misra 2508; drawn by Sarat Misra).



5.5x4 mm. *Sepals* unequal, 3-veined; *dorsal sepal* reflexed, margin revolute, oblong-lanceolate, acute, 5.5-6x1.7-1.8 mm; *lateral sepals* spreading, strongly recurved from about the middle, falcately oblong-ovate, acute, c. 5x2.75 mm. *Petals* reflexed over the ovary, falcately linear, 5-6x0.6 mm, margins revolute, 1-veined, with 1-2 very feeble short branches; the branching pattern and length of the branches are never uniform. *Lip* adnate to the base of column and close to it, fleshy, with a maroon coloured narrow median streak; recurved about the middle, broad-obovate, mucronate, 4-4.5x3.7 mm, 3-veined; the lateral veins branched; base with a broad forked callus. *Column* straight, slightly curved above, c. 3.5x1.5 mm, with two small broad apical wings. *Stigma* deep-seated, rectangular in outline with a hunched bottom; *rostellum* broad and short, apex bent upward. *Anther* incumbent, attached at the back of the column tip with a minute stalk, oval-obovate, apiculate, c. 1x0.8 mm, 2-chambered. *Pollinia* 4 in two collateral pairs, obliquely elliptic, pale yellow, c. 0.7x0.35 mm. (Fig. 2 a-m)

**Flowering** : July-August. The inflorescence remains for about 30 days as it elongates on ageing, with 2-5 flowers in bloom at a time that remains fresh for 5-7 days.

**Habit** : In moist deciduous hill-forests at about 800 m, as undergrowth, in loamy soil, under shade.

**Occurrence** : Koraput district, near Laxmipur by the side of the road leading to Narayanapatna; scarce.

**Distribution**: India (Odisha, Karnataka, Kerala), Myanmar, Thailand and Cambodia.

**Taxonomic Note** : *Liparis paradoxa* and the allied *L. nervosa* have an extensive geographic distribution. In fact the *L. nervosa* complex is considered to be the most wide spread in the orchid family (Garay, 1964; Seidenfaden, 1976). Seidenfaden op. cit has made exhaustive study of this group from the Asiatic countries including India. He has maintained *L. downii* as a distinct species, different from *L. paradoxa* and *L. nervosa* as can be seen from his note "non *L. paradoxa* nec *L. nervosa*" on the herbarium sheet of one Indian collection in Kew (acc. no. K000718672) labelled as *L. paradoxa* that he identified as *L. downii*. This specimen is a collection by Law sine no. from the then state "Canara and Mysore" (now under the present state of Karnataka) without citing precise locality and date of collection. This was included in Hooker fil's herbarium 1867, which shows the collector as "Stocks, Law & c." sine no.; the locality as Malabar, Concan & c." in the present state of Kerala.

The senior author has seen and indentified this entity as *Liparis paradoxa* (02.09.2000). The sheet has on it 5 plants in leafy and flowering states, and 1 in fruiting

condition. These are rather short (21-25 cm high). Their flowers are much smaller, about 5.5 mm across. Now having seen the plants from Odisha, which have very small (5.5mm across) flowers, we are of the opinion that this is certainly a separate species, from all the earlier biotypes from Odisha, which have been identified with *L. paradoxa*. We also realize that Seidenfaden was correct in indentifying his own collections, as also those of A.G. Kerr from Doi Suthep in Thailand, as *L. downii*. In the latter specimens (Kerr 255, Kew acc. No. K000596270, K000596271), images of which have been kindly provided by the Kew herbarium, the plants are short (8-18 cm high) and the flowers are quite small (5.3-5.4 mm across).

Sathish Kumar and Manilal op. cit. have included *Liparis downii* in the orchid flora of Kerala following Seidenfaden, although they have themselves not found this species in Kerala. Stocks, Law and others collected plants from southwestern India before 1852 (*Peristylus lawii* Wight was raised in 1852 based on a collection by Law from Concan and Mysore). *Liparis downii* after it was first published in 1907, has not been reported from anywhere in India. It is now collected after a lapse of at least 160 years (!) from a different locality in eastern India and therefore, must be considered as very rare.

### Acknowledgement

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