

# Extended distribution of *Eulophia mackinnonii* (Orchidaceae), in eastern India

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## यूलोफिया मैकिन्नोनाई (आर्किडेसी) का पूर्वी भारत में वितरण विस्तार

शरत मिश्र एवं तृप्तिरेखा कर

### सारांश

यूलोफिया मैकिन्नोनाई ड्यूथी, एक भारतीय स्थानिक आर्किड जाति है जो उत्तर एवं मध्य भारत से पूर्वी भारत में सिमलीपाल वन क्षेत्र ओडिशा तक विस्तृत है। प्रस्तुत शोध पत्र में इस असामान्य जाति का विस्तृत वर्णन, आकारिकी अध्ययन डिजिटल छायाचित्रों एवं वानस्पतिक चित्रण के साथ दिया गया है।

### ABSTRACT

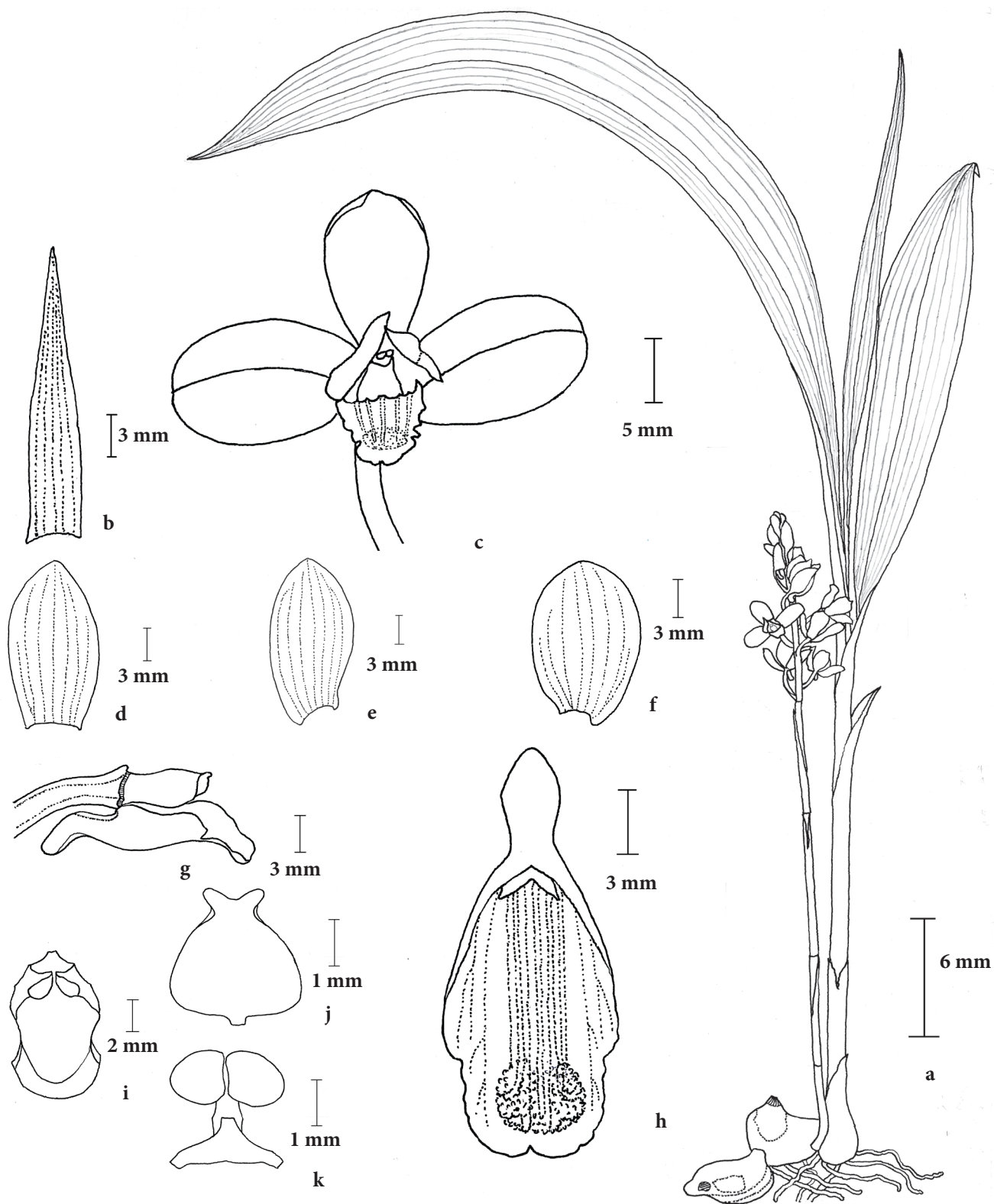
*Eulophia mackinnonii* Duthie, an Indian endemic orchid extends its range from the north and central India to the east, in the Similipal forest of Odisha. The detailed description, morphological analysis of this uncommon species is provided here along with an illustration and a digital photograph.

**Keywords:** *Eulophia mackinnonii* Duthie, Eastern India, Similipal Forest, Endemic

### INTRODUCTION

The Similipal Biosphere Reserve, located in Mayurbhanj district of Odisha is unique for its rich and diverse flora. The family Orchidaceae is represented here by 94 species in 38 genera (Misra 1997, 2007, and Misra & al. 2004) with two strictly endemic species *Cirrhopetalum panigrahi* S. Misra and *Eria meghasaniensis* S. Misra; and a disjunctive distribution of *Goodyera thailandica* Seidenf. which was reported as new record for India. During our recent visit to the southern part of Similipal Biosphere Reserve, one interesting terrestrial orchid has been collected in bloom from a meadow. From careful examination of live

plants and perusal of literature the identity of the species is confirmed as *Eulophia mackinnonii* Duthie, an endemic species erstwhile known from the northwest and central India. The occurrence of this species in Similipal forms an addition to the orchid flora of Odisha, while extending its range into eastern India. Previously the genus *Eulophia* R. Br. ex Lindl., was known in Odisha with four species viz. *E. explanata* Lindl., *E. graminea* Lindl., *E. ochreatea* Lindl. and *E. spectabilis* (Dennst.) Suresh. The correct citation followed by a brief description, phenology, a taxonomic note along with illustration and photograph is provided in the present communication.



**Fig. 1:** *Eulophia mackinnonii* Duthie a. habit, b. floral bract, c. flower, d. dorsal sepal, e. lateral sepal, f. petal, g. column and lip in position, lateral view, h. lip, spread out, i. column, front view, j. anther, rear view, k. pollinarium. (After S. Misra 2590; drawing and inking: S. Misra).



**Plate -1:** *Eulophia mackinnonii* Duthie. Photograph showing part of inflorescence.



***Eulophia mackinnonii*** Duthie, J. As. Soc. Bengal 71 (2): 40.1902 and Ann. Roy. Bot. Gard. Calcutta 9(2): 124. t. 107. 1906; Tiwari & Maheshwari, Ind. For. 89: 433. 1963; Pradhan, Ind. Orch. 2: 451. 1979; Raizada & al. Orch. Mussoorie: 34. 1981; Deva & Naithani, Orch. Fl. N. W. Himalaya: 393. 1986.  
*Type: Mackinnonii* 21748 (DD).

Perennial terrestrial herbs, up to 60 cm tall, base swollen; roots slender, vermiform, lateral roots arise from the base of the old corm, Corm fleshy, irregularly pyramidal or triangular, 3-cornered at base, somewhat flattened top to bottom, marked with transverse brown rings. Leaves three, unequal; narrowly elliptic-lanceolate, acuminate, the largest one 46 × 8.5 cm, plicate, base tapering to a petiolar sheath, articulate; petioles form a pseudo-stem c. 24 cm long, 9 mm thick, with adpressed tubular sheaths. Inflorescence appearing with the leaves, lateral from base of the stem and close to it, erect, simple; peduncle c. 23 cm long, 4 mm thick, terete, with three close-fitting, thin, lanceolate, acuminate sheaths; raceme with 10-15 spiral flowers. Floral bracts shorter than the pedicel and ovary, oblong-lanceolate, acuminate, c. 16 × 3 mm, 5-veined, persistent. Pedicel c. 25 mm long, 2-2.5 mm thick, ridged, pale green. Flowers resupinate, 30-35 mm across. Sepals spreading, yellow tinged with reddish-brown, elliptic-ovate, obtuse; dorsal sepal c. 16 × 8.5 mm; lateral sepals oblique, 18 × 9 mm. Petals conniving over the column, light yellow, shorter than the sepals, elliptic, obtuse, c. 13 × 8.5 mm. Lip hinged at base of the column, shorter than the sepals, broadly oblong in outline, c. 14.5 × 8.5 mm, 3-lobed; lateral lobes not distinct being long and shallow up curved edges of the hypochile, the latter produced into an abruptly bent short spur c. 5 × 2.8 mm; mid-lobe broadly oblong, apex truncate, slightly notched, with undulated margin; lip with five medial thick veins ending towards the apex in the epichile in an orbicular warty patch. Column short, erect, broadly winged, c. 9 × 3.5 mm, lacking a foot. Stigma elliptical, shallow, entire; rostellum thick, deeply notched. Anther terminal, opercular and bent forward, trapezoidal in outline, imperfectly 2-celled, c. 2.8 × 2.8 mm, with two lateral short horn-like processes, deciduous. Pollinia two, nearly ovoid, cleft, light yellow, each lobe c. 1.2 × 1.2 mm; stipe oblong, widened at the middle, colourless; viscidium large, broad and shallow, brownish, c. 2.5 × 1.25 mm. Fruit not observed. (Fig. 1 a-k; Pl. 1)

*Flowering:* June - July; 3-4 flowers in bloom at a time, lasting for one to two weeks.

*Specimens examined:* Odisha, Similipal forest, Upper Barhakamada at Matughar c. 850 mm, 25.06. 2016. S. Misra 2590, rare; Tarinibila, c.800 m, 26.06. 2016. S. Misra 2591, rare.

*Ecology:* Rarely found in meadows, in open patches inside tropical evergreen forest, on clayey soil.

*Distribution:* N. W. Himalaya, Siwalik range; Dehra Dun, Garhwal; N. Oudh; Raipur district.

*Note:* *Eulophia mackinnonii* resembles to *E. promensis* Lindl. (= *E. geniculata* King & Pantl.), a native species of Myanmar, extending up to Thailand, Laos and India. The species is rarely found in India, and only known by few collections from Sikkim and Darjeeling. Deva and Naithani (1986) suggested a critical examination of its status owing to its close resemblance with *E. promensis* Lindl. However, *E. promensis* can be differentiated (Pradhan 1979), being a more robust species with larger and narrower leaves (up to one metre in length and only 12 mm wide); oblong rounded larger corms as compared to 40-80 cm long and 50-85 mm wide leaves of *Eulophia mackinnonii*; and irregularly pyramidal or triangular shaped corm. The corms are in the latter connected to each other by their narrowly drawn out end, therefore, are distant, forming a series in a somewhat curved manner. We are therefore, of the opinion that the two species are distinct and of different status. Thomas (1998) too has maintained this status.

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