

Occurrence of *Eulophia graminea* Lindl. in Alluri Sitharama Raju district of Andhra Pradesh, India

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Abstract

The occurrence of a terrestrial orchid, *Eulophia graminea* Lindl. at Rampachodavaram forest tracts in Alluri Sitharama Raju District of Andhra Pradesh is confirmed by the authors with descriptions and photographs. This communication reports an extended distribution of this orchid species in the Eastern Ghats.

Keywords: *Eulophia graminea*, orchid, Alluri Sitharama Raju District, Andhra Pradesh, Eastern Ghats

Introduction

The genus *Eulophia* R.Br. comprises 230 species and is pantropic (Chase *et al.*, 2021) ^[1]. In India, this genus has 30 representing species (Patil and Mahajan, 2013) ^[2]. Six species of this orchid genus were identified from Andhra Pradesh (Raju *et al.*, 2008; Ravi Prasad Rao *et al.*, 2010) ^[3, 4]. During the floristic explorations for the past two years from 2022 to 2024 in the forest tracts of Alluri Sitharama Raju District of Andhra Pradesh, the authors could identify the occurrence of *Eulophia graminea* Lindl. (grass-leaved *Eulophia*) at Rampachodavaram. Scrutiny of the literature indicates that this orchid species was unreported in this district (Janaki Rao, 2024) ^[5]. Hence, the present article extends the distribution of *E. graminea* to a new location in the Eastern Ghats from Andhra Pradesh.

Material and Methods

Botanical exploration of the study area was done from 2022 to 2024. The specimens along with pseudobulbs were collected in the flowering and fruiting stage. Detailed study of the fresh as well as dried specimens for identification was done at the Department of Botany, Government College (Autonomous), Rajahmundry by consulting Flora of the Presidency of Madras (Gamble, 1915-1936) ^[6] and also Flora of East Godavari District, Andhra Pradesh, India (Rolla S. Rao *et al.*, 1999) ^[7]. Herbarium specimens were prepared using the methodology of Jain and Rao (1977) ^[8] and deposited in the herbarium of Dept. of Botany, G.C.(A), Rajahmundry. The identification of the species was confirmed by comparing the specimens with the herbarium specimens at the Department of Botany, Sri Venkateswara University, Tirupati, A.P., and the Department of Botany, Sri Krishnadevaraya University, Anantapur, A.P.

Results and Discussion

The *Eulophia graminea* Lindl. was found abundantly in moist shaded and drained (culverts) shallow red soils of Rampachodavaram hilly areas (17°42'792"N and 81°77'901'E) in the Alluri Sitharama Raju District, at

elevations ranging from 500 to 700m. This species was growing in association with *Cymbopogon* sp. *Dichrostachys cinerea* (L.) Wt., *Pavetta tomentosa* Roxb.ex.Sm., *Dodonaea viscosa* (L.) Jacq. (Fig.1a & b)

Plants with scape separate form shoot with many linear-lanceolate, persistent leaves. Scape lateral, exceeding the leaves, slender, up to 60-80 cm, with scattered, broadly ovate, c.10 mm long sheaths. Inflorescence lax, ± branched. Bracts lanceolate, acuminate, 5-8 mm long. Flowers spreading, greenish with darker purple, netted veins; sepals lanceolate, acuminate; petals somewhat broader, acute. Labellum 12 mm long, 3-lobed; side-lobes pale green to purplish, small, triangular- oblong, obtuse; mid lobe pale rose, subrotund, with undulate margins; disk in center between side-lobes with 3-5 purple nerves, getting densely fimbriate on mid-lobe. Spur cylindric, 3-4 mm long, slightly dilated at apex. Column 4-5 mm. Ovary glabrous, with equally long, hardly twisted pedicel; ripe seed-capsule enlarged (Fig.1c&d).

Fisher (1928) ^[9] first reported this orchid species from the Kadapa hills of Andhra Pradesh. In 2010, this species was observed in the forests of Chittoor, Mahaboobnagar, and Nellore districts of Andhra Pradesh by Sadasivaiah *et al.*, (2010) ^[10] and Miria *et al.* (2012) ^[11]. Tuber extract of this species is used to treat earache (Kapurawamy, 2007) ^[12]. According to Tapan *et al.*, (2022) ^[13], *E. graminea* is a threatened species in many places. Hence it is being conserved in the Botanic Garden of Sri Krishnadevaraya University, Anantapur, A.P. (Prasad *et al.*, 2012) ^[14]. However, this species is an invasive one in some parts of the world (James and Normandie, 2021) ^[15].

A thorough review of the literature indicated that this plant species was not recorded from the newly formed Alluri Sitharama Raju District (Janaki Rao, 2024) ^[5] or the erstwhile East Godavari District of Andhra Pradesh (Rolla S. Rao *et al.*, 1999) ^[7]. Hence, this research article is an authentic report of *E. graminea* in Alluri Sitharama Raju District of Andhra Pradesh state.



Fig 1: *Eulophia graminea* Lindl. a. Habitat; b. Pseudobulb; c. Inflorescence; d. a flower

Conclusion

Including the present report, *Eulophia graminea* Lindl. is reported from only four districts of the newly formed Andhra Pradesh state. The threatened-invasive nature of the species has to be assessed. Owing to its rarity and medicinal value there is a need to conserve this species.

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