

## Extended distribution of the lesser-known Pink-flowered Swamp Orchid from West Bengal, India

Orchidaceae are one of the largest group of flowering plants distributed throughout the world. In India, the family is represented by 1,256 species belonging to 155 genera and among them 388 species are endemic to India (Singh et al. 2019). A total 460 species and six varieties of orchids belonging to 110 genera are found to occur in West Bengal (Mitra et al. 2020). Around 850 Indian orchid species are commercially highly important for their magnificent flowers.

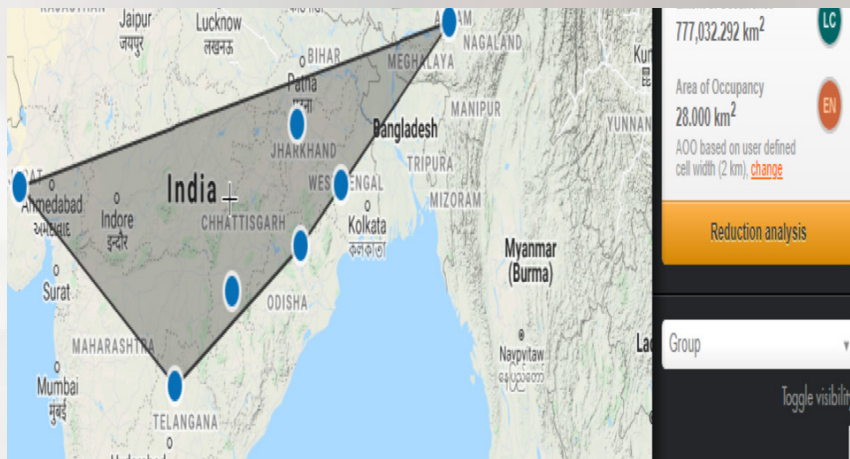
During a field survey in September 2019, the author came across an interesting population of *Eulophia* in fruiting stage in the Lalgarh-Jhitka Forest Range at Ramgarh (22.6923° N, 87.0852° E). The area is dominated by dry-deciduous forest. That time it was not identified due to lack of flowers. Next year on 20 July 2020 the author revisited the locality and found it in



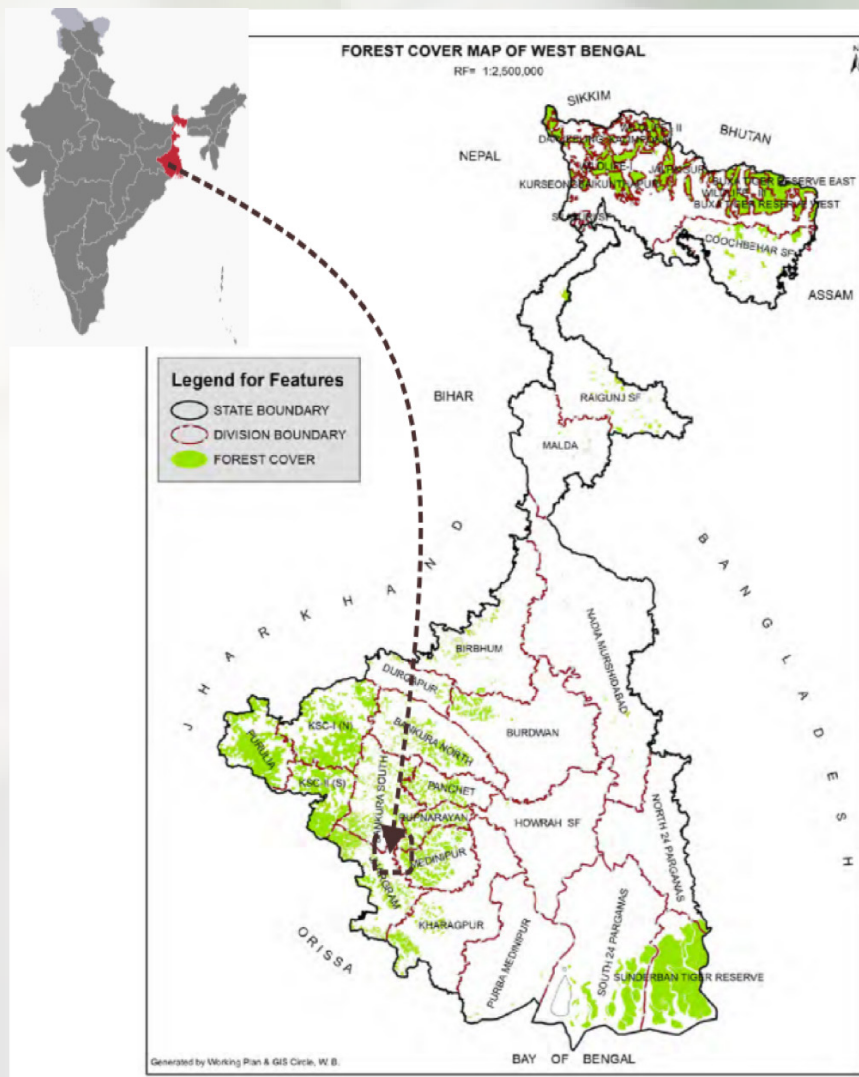
*E. diffusiflora*. © Soumya Das Chakraborti.

flowering stage. On critical observation and perusal of literature (Hooker 1890; Prain 1903; Misra 2007; Rao 2011; Bhatt et al. 2015) it was identified as *Geodorum laxiflorum* Griff. Recently

by expansion of the genus *Eulophia* (sensu lato) based on molecular as well as morphological data by Chase et al. (2021) included this under the genus *Eulophia* and proposed the name



**Distribution map of *E. diffusiflora* in India with areas of occupancy and extent of occurrence (Map created with GeoCAT: <https://geocat.kew.org>)**



**Study area of *Eulophia diffusiflora* in West Bengal. West Bengal Forest Cover Map. Source: [www.westbengalforest.gov.in](http://www.westbengalforest.gov.in).**

*Eulophia diffusiflora* M.W. Chase, Kumar & Schuit. The genus *Eulophia* comes under sub-family Epidendroideae, tribe Cymbideae, subtribe Eulophiinae and as of now consists of about 270 species. In West Bengal it is known as Paglaguri.

This forest land is a part of Chotanagpur Plateau popularly known as Jangalmahal. This orchid is found in Lalgarih-Jhitka Forest Range of Jhargram (Jhargram Forest Division), Paschim Medinipur (Rupnarayan Division) up to an extended part of the forest Bankura District (Bankura South and Panchet Division), Ajodhya Hills in Gobaria Forest (Purulia Division) of West Bengal. The fresh flowers were collected and dissected. Images are attached.

*Geodorum laxiflorum* W. Griffith, *Calcutta J.Nat. Hist.* 5: 356 (1845); J.D. Hooker, *Flora of British India* 6: 18 (1890); Plant terrestrial, perennial, geophytic herb, ca. 30–35 cm tall. Corms in chain, compressed laterally, globular to ovoid, greenish brown, with scars of fallen

leaves ca. 2.4–4 cm X 4–6 cm. Roots few, vermiform, 0.2 cm X 6–10 cm, yellowish to brown. Stem acaulescent, pseudo-stem ca. 10 × 1 cm, enclosed by four foliar imbricating sheaths ca. 8–10 cm. Leaves 2–3, cauline, alternate, distichous, ca. 12–20 × 3–5 cm long, elliptic-lanceolate to ovate-lanceolate, plicate, acute to sub-acuminate, base elongate to form sheathing base, margin undulate.

Inflorescence shorter than the leaves, 18–22 cm long, arising laterally from the base of pseudo-bulbs, bearing white membranous sheaths at base. Peduncle erect, ca. 20–27 × 0.2 cm, green, rachis decurved at the top, with four membranous tubular sheaths; ca. 2.5–4 cm long with two sterile bracts; pedicel with ovary 1.3 cm long, ribbed; bracts green, oblong lanceolate, ca. 1.1 × 0.3 cm, membranous with acute apex, 3 veined, ca. 1 × 0.3 cm. Raceme laxly diffuse flowered with 6–14 flowers. Flowers white to off-white, sepals and petals spreading, 1.5–2.5 cm across. Sepals 3, subequal, 7-veined, lateral



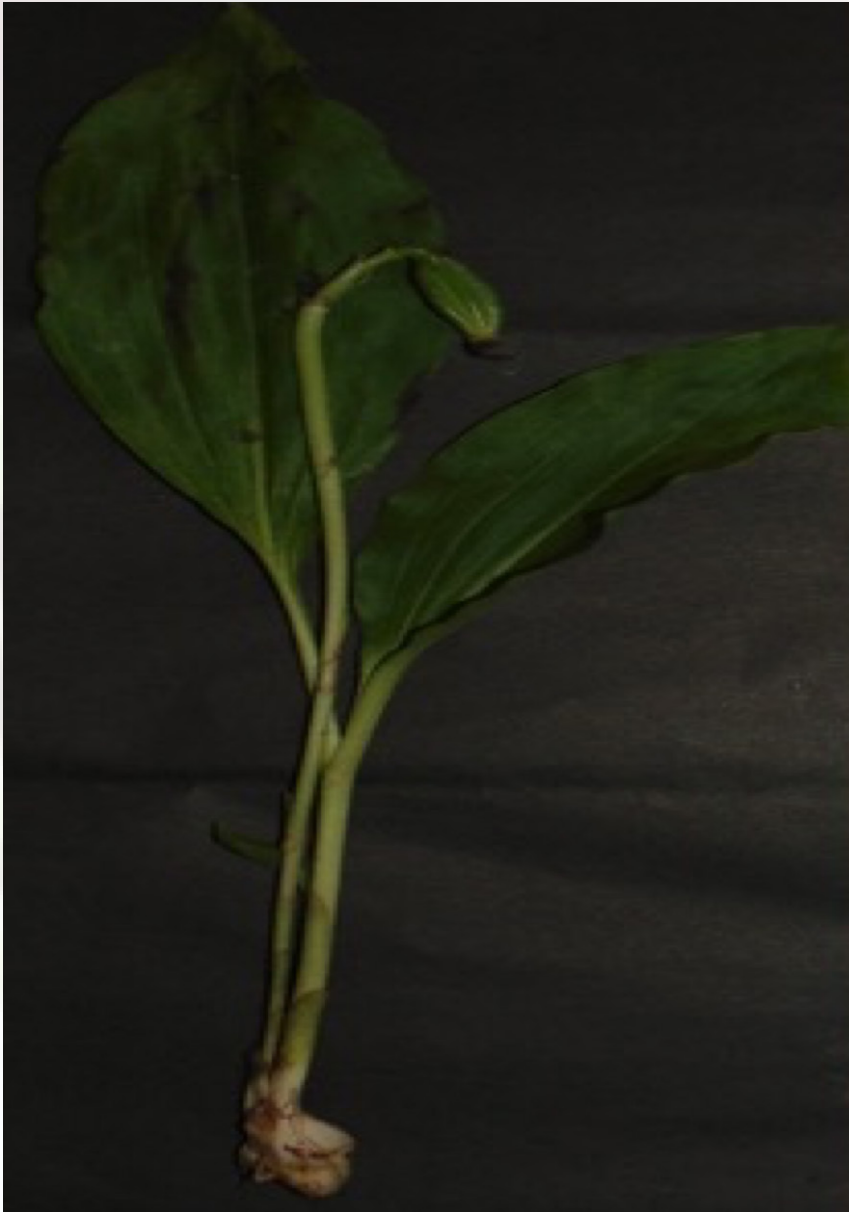
**Inflorescence of Swamp Orchid *E. diffusiflora*. © Soumya Das Chakraborti.**

veins branched; dorsal sepals oblong, acute, 2.4 × 0.7 cm; lateral sepals oblong, acute, base oblique, ca. 2.4 × 0.6 cm.

Lip superior, sessile, cymbiform, square-shaped, entire, emarginate, 14-veined, base ventricose, ca. 2 × 1.7 cm; epichile undulate, edges deflexed; disc with warts and brown coloured thick dots starting at the base of the hypochile and ending before the apex; hypochile golden brown within, epichile base yellow and apex pink-coloured. Column 5–6 mm long, short, stout, hairy, apex with teeth at the side; anther ca 2.6–2.8mm, ovate-

orbicular, 2-lobed, white; caudicle broadly spatulate or subquadrate, apex dilated, hooded towards pollinia; viscidium ovate-subcordate, light brown; clinandrium shallow, prolonged, or acuminate behind, keeled, with a conical tooth towards the stigma. Capsule spindle shaped ca. 4–6 cm long.

As the name suggests, Pink-flowered Swamp Orchid it grows in swampy humus rich soil to laterite rich soil in the shady *Shorea robusta* dominated forest. Extremely rare in dry deciduous forests, at an elevation range of about 135 m.



Whole plant with fruit. © Soumya Das Chakraborti.

Flowering: May–July.

Fruiting: July–September.

**Distribution: Endemic to India** (Assam, Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Odisha, Telangana, and West Bengal).

**Associated species:**

1. *Shorea robusta* C.F.Gaertn. Dipterocarpaceae
2. *Curculigo orchiodes* Gaertn. Hypoxidaceae
3. *Aristolochia indica* L. Aristolochiaceae
4. *Chromolaena odorata* (L.) R.M.King & H.Rob.

Asteraceae

5. *Chlorophytum borivilianum* Santapau & R.R.Fern.

Asparagaceae

6. *Curcuma montana* Roxb.

Zingiberaceae

7. *Ichnocarpus frutescens* (L.)

W.T.Aiton Apocynaceae

8. *Casearia graveolens* Dalzell

Salicaceae

9. *Hemidesmus indicus*

(L.) R.Br. ex Schult.

Asclepiadaceae

10. *Flacourtia indica* (Burm.f.)

Merr. Flacourtiaceae

11. *Chlorophytum*

*borivilianum* Santapau &

R.R.Fern. Anthericaceae

12. *Morinda citrifolia* L.

Rubiaceae

13. *Evolvulus nummularius*

(L.) L. Convolvulaceae

14. *Stephania japonica*

(Thunb.) Miers

Menispermaceae

15. *Lygodium japonicum*

(Thunb.) Sw. Schizaeaceae

16. *Hemionitis tenuifolia*

(Burm.f.) Christenh.

Adiantaceae.

This species is reported from seven states of India, but the exact field status and population size is not known. More intensive floristic survey is required to assess its exact IUCN Status. A preliminary



Bract, flowers, dissected floral parts & pollinia. © Soumya Das Chakraborti.

GeoCAT analysis is provided.

This endemic orchid is found in extremely rare swampy habitats in tropical dry deciduous rain forests.

These habitats are threatened by various anthropogenic activities such as agricultural invasion in the forested land as well as environmental threats such as invasive species, irregular, and heavy rains and requires immediate conservation measures.

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