



The Genus *Eulophia* R Brown Ex Lindl (Orchidaceae) in Tripura State, India

Panda SP*, Singh BK, Sharief MU, Hameed SS and Pramanik A

Abstract

An account of two species of *Eulophia* R. Br. ex Lindl. (Orchidaceae) occurring in Tripura is enumerated in this communication. *Eulophia graminea* Lindl. turned out to be a new record for the Tripura state.

Keywords

Eulophia; New record; Tripura

Introduction

A plant collection tour (17th to 23rd February, 2016) under Annual Action Plan Project of Acharya Jagadish Chandra Bose Indian Botanic Garden, Botanical Survey of India, Howrah was conducted to Tripura state for collection of Endemic, Endangered and Threatened species and introduction of the same in the garden considering the rich biodiversity as well as the un-exploredness. Though Tripura harbors a rich flora which includes a mere representation of orchids (23 genera encompassing 33 species). Out of the 23 genera the genus *Eulophia* R. Br. ex Lindl. was represented by a single species i.e., *Eulophia bicarinata* (Lindl.) Hook. f. prior to this survey. However, the the genus *Eulophia* under the family Orchidaceae is a large genus representing around 200 species widely distributed in the tropics and warm regions of both the hemispheres, mainly African, ranging to Asia. In India it is represented by around 26 species.

The generic name is derived from *eu*= 'genuine, good', *lophos*= 'comb'; the lip has cup like appendages. During the current exploration of different areas of Tripura a *Eulophia* species was collected in flowering which is maintained in the Nursery No.1 of the AJC Bose Indian Botanic Garden, BSI, Howrah. After perusal of literatures, the taxa turned out to be *Eulophia graminea* Lindl. which is an addition to the Flora of Tripura State. The earlier worker Deb [1] who was the pioneer worker of the Flora of Tripura State did not report this species from Tripura. The correct nomenclature, diagnostic characters, phenology, ecology, distribution etc. of the species are highlighted in brief along with a dichotomous key for identification. *Eulophia* R. Br. ex Lindl. Perennial terrestrial glabrous herbs with cormous root stocks, rarely pseudobulbous, pseudobulbs one or several noded. Leaves appearing along with or after the flowers, several, distichous, broad, plaited or narrow and grass-like, articulate. Inflorescence lateral to the leaves, from base of the corm or side of the pseudobulb, erect, tall, sheathed, racemose, simple or loosely paniculate above, few

flowered. Sepals and petals free, spreading, subsimilar. Lip adnate to the base of the column or to its foot, base saccate or with a mentum of a short spur, usually 3-lobed; the lateral lobes erect and embracing the column; midlobe spreading or recurved, often broad, entire or bilobed; disc variously ridged, crested, lamellate or softly spinous, rarely naked. Column short or long, its apex entire and often oblique, margin sometimes winged or lobed, with or without a distinct foot.

Key Species

Pseudobulbs globose-ovoid to ovoid-conical. Leaves grass like. Branched inflorescence of 15-90 cm long- *E. graminea*. Pseudobulbs tuberous. Leaves not as above. Inflorescence not branched, upto 20-40 cm long. *E. bicallousa*

Eulophia graminea

Lindl. Gen. Sp. Orch. Pl. 182. 1833; Hook. f. Fl. Brit. India 6:2.1890; King & Pantl. in Ann. Roy. Bot. Gard. Calcutta, 8:176.t.238. 1898; Katak, Orchids of Meghalaya 144. 1986. *Eulophia inconspicua* Griff. Notul. 349.1851.

Terrestrials upto 20-100 cm high; pseudobulbs above the ground, greenish brown, globose-ovoid to ovoid-conical, 30-120 × 30-50 mm. Leaves 5-7 grass like, linear-acuminate, 15-40 × 8-18 mm feebly plicate. Inflorescence 1-3, erect with a few short branches, lax-flowered, 15-90 cm long; peduncle purplish-green, 3-4 mm thick. Flowers 16-25 × 13-15 mm. sepals and petals subequal, leaf green with maroon veins and tessellations; sepals spreading, reflexed distally, oblong-lanceolate, acuminate. Petals broader, oblong to elliptic-lanceolate, acuminate, close to column, apices diverged. Lip obovate in outline, 3-lobed; lateral lobes small, erect, embracing the column, pale green with maroon veins; mid-lobe recurved, obovate, mucronulate or emarginated, crenulate; white; the upper surface with ridges; distal central part of the lip sparsely covered with pinkish white fat hairs; spur short, maroon-green, bulbous, compressed dorsiventrally.

Flowers: Flowers are generally grown in the month of February.

Specimen examined: Species examined are Suryamani Nagar (Back side of Tripura University campus), Agartala, Tripura.

Illustration: The illustration is done in King and Pantl. Ann. Roy. Bot. Gard. Calcutta, 8:176.t.238. 1898.

Ecology: Usually found in moist deciduous forests in open conditions; or in scrub forests on exposed slopes.

Distribution: The distribution of the species takes place in various parts of India such as Himachal Pradesh, Uttaranchal, Delhi, Punjab, U.P., M.P., Bihar, Jharkhand, West Bengal, Sikkim, Meghalaya, Assam, Arunachal Pradesh, Mizoram, Tripura, Odisha, Tamil Nadu, Kerala, Karnataka, Maharashtra, Gujarat, Rajasthan); Saudi Arabia, Afghanistan, Pakistan, Nepal, Bhutan, Bangladesh, Myanmar, China, Thailand, Japan, Philippines, Malaysia, Indonesia, New Guinea, Sri Lanka. The species is characterized by a conical pseudobulb; long grass like non-plaited leaves and long slender and shortly branched scapes.

*Corresponding author: Panda SP, Acharya Jagadish Chandra Bose Indian Botanic Garden, Botanical Survey of India, Howrah-711103, West Bengal, India, Tel: 09437628624; E-mail: situ.1979@gmail.com

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Eulophia bicallosa

Eulophia bicallosa (D. Don) P.F. Hunt and Summerh. in Kew Bull. 20(1):60. 1966; Bose et al., Orchids of India, 246.1980; Katakai, Orchids of Meghalaya 144. 1986; Chowdhery, Orch. Fl. Arunachal Pradesh 391. 1998; Chowdhery et al. (ed.), Materials for the Flora of Arunachal Pradesh 2:92. 2009. *Bletia bicallosa* D. Don, Prodr. Fl. Nepal 30. 1825. *Cyrtopera bicarinata* (Lindl.) Hook. f., Fl. Brit. India 6:6.1890. *Eulophia bicarinata* (Lindl.) Hook.f., Fl. Brit. India 6:6. 1890. *Cyrtopera bicarinata* Lindl. Gen. Sp. Orch. 189. **Figure 1.**

Terrestrial herbs with tuberous pseudobulbs; tubers ca 6 cm long, oblong, lobed. Leaves long petioled, 30-50 × 1.5-1.8 cm, linear, acuminate, plicate, petiole sheathing at base. Inflorescence produced before the leaves, 40-60 cm long, dense, stout, terminal, racemose, terete, glabrous. Flowers many, in racemes, resupinate, purplish-brown. Sepals linear-oblong, undulate, keeled. Petals shorter but broader than the sepals, many nerved. Lip ovate-oblong, side lobes narrow, mid lobe large, orbicular and crisped.

Flowers: Flowers are generally grown in the season of March-April.

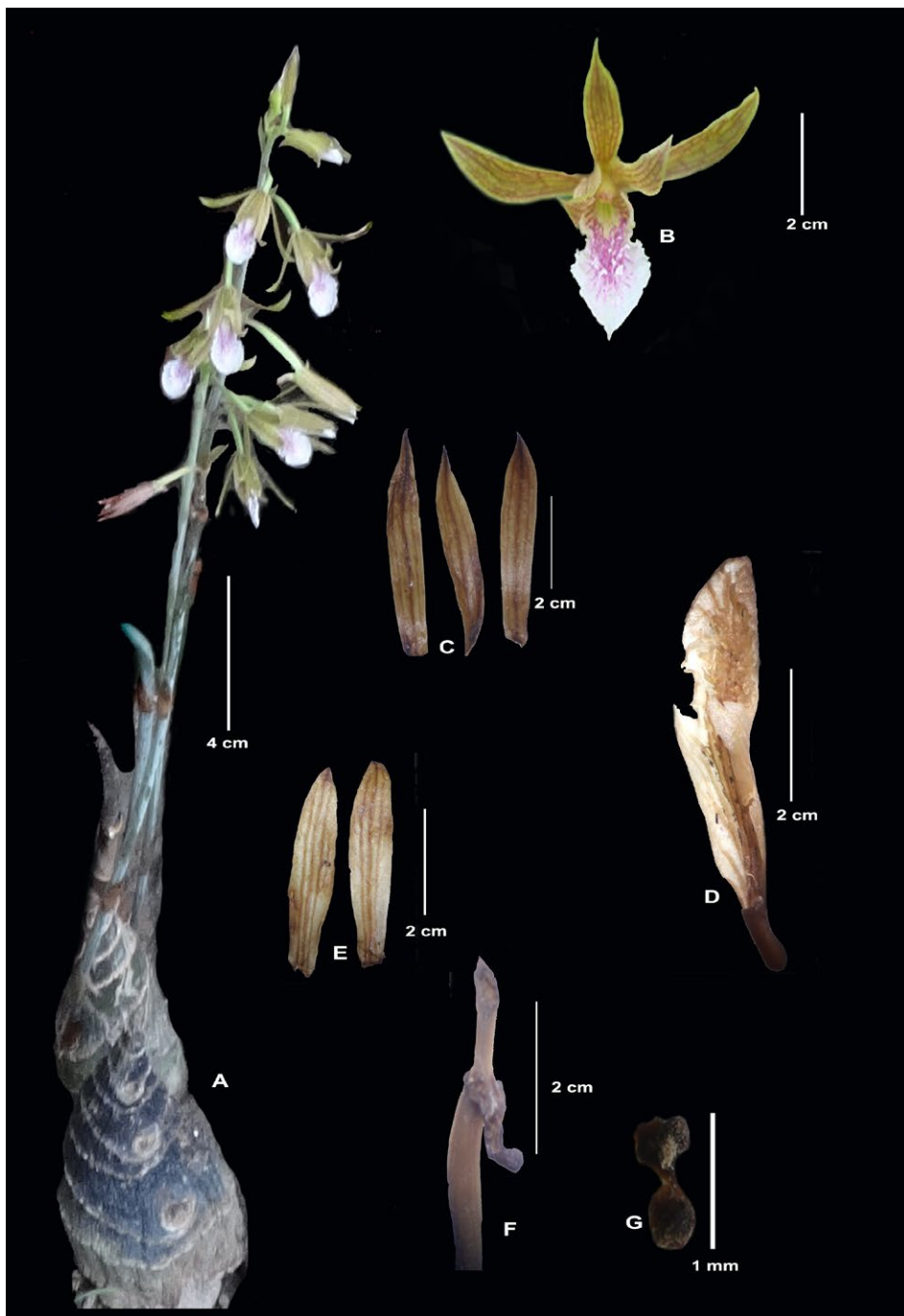


Figure 1: *Eulophia graminea* Lindl.: A: Plant Habit; B: Flower; C: Sepals (Dorsal); D: Lip; E: Lateral Sepals; F: Column & G: Pollinia

Locality: The region of growth is generally between Sadar and Udaipur Sub Division (on the authority of Deb, 1983)

Illustration: The illustrations are done by Chowdhery, Orch. Fl. Arunachal Pradesh 391, f. 234. 1998.

Ecology: Commonly found in meadows, or on edges of rice fields, often in association with grasses; in sandy soil.

Distribution: Distribution of the species is done in various parts of the India such as Arunachal Pradesh, Sikkim; Meghalaya; West Bengal; Kerala), Myanmar, Java, Malaya, Sri Lanka. This specimen was not collected by the authors. It is cited on the authority of Deb in 1983.

Conclusion

An account of two species of *Eulophia* R. Br. ex Lindl. (Orchidaceae) occurring in Tripura is enumerated in this short communication.

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Author Affiliations

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Acharya Jagadish Chandra Bose Indian Botanic Garden, Botanical Survey of India, Howrah, West Bengal, India

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