

**FIRST RECORDS OF *EULOPHIA GRAMINEA* (ORCHIDACEAE)
NATURALIZED IN MEXICO**

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ABSTRACT

We report, based on photographic evidence, the range expansion of *Eulophia graminea* into Mexico — the species is a terrestrial orchid native to tropical and subtropical Asia. In Mexico it has been found on the roadside Uayma-Espita at Uayma municipality, Yucatán. Also, two informal reports from Quintana Roo are noted.

Eulophia graminea Lindl. (Orchidaceae) is a terrestrial orchid (Chinese Crown Orchid, Grass-Leaved Eulophia) native to southeast Asia, Sri Lanka, India, Nepal, Pakistan, Kashmir, Myanmar, Thailand, Laos, Vietnam, Malaysia, Indonesia, Philippines, southern China, Taiwan, and the Ryukyu Islands (Ackerman & González-Orellana 2021; Teoh 2021). In the last two decades the species has become naturalized in Australia, South Africa, Florida and Texas in the USA., and the West Indies (Pemberton et al. 2008; Pemberton 2013; Ackerman & González-Orellana 2021; Singhurst et al. 2020), where it thrives in open tropical and subtropical areas. This orchid was recently encountered by the authors at the roadside near Uayma-Espita in Yucatán, documented here by photos. Arrangements are being made for collection of herbarium vouchers (to be placed at IBUG and MEXU) during the next flowering period.

MEXICO. Yucatán. Mpio. Uayma: Km 10 de la carretera Uayma-Espita, UTM 16Q, 363097 E, 2300969 N, 24 meters, ruderal vegetation derived from Subdeciduous Forest, with *Cochlospermum vitifolium*, *Elytraria imbricata*, *Lysiloma latisiliquum*, *Mimosa bahamensis*, *Piscidia piscipula*, *Pithecellobium dulce*, *Trema micrantha* and *Viguiera dentata*, 21 Dec 2022, photos by David Juárez . Figures 1, 2, and 3B. A single plant with few well-developed pseudobulbs was collected for cultivation. The plant had two inflorescences with flowers and developing fruits. Fresh leaves were not found. Unfortunately, none of the inflorescences was preserved at the time.

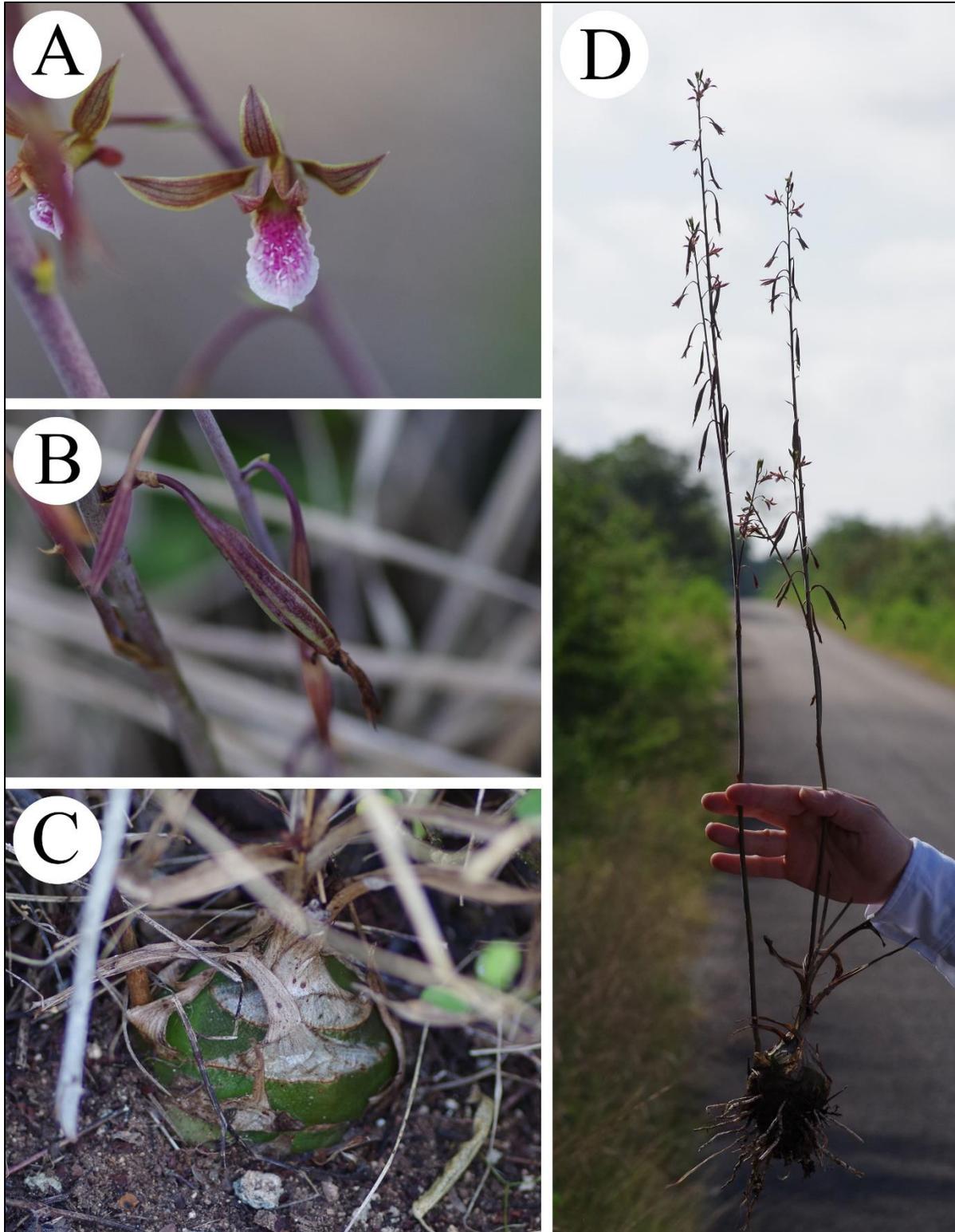


Figure 1. *Eulophia graminea*, Uayma, Yucatán. A. Frontal view of the flower. B. Lateral view of the fruit. C. Pseudobulb. D. Habit of the plant. Photos by David Juárez, 21 December 2022

In addition to the Yucatán population, the presence of *Eulophia graminea* in Quintana Roo has been informally reported (Fig. 2) through photographs on social networks (Facebook 2023; NaturaLista 2023) at least two occasions (near Solferino and other near Playa del Carmen) — the earliest was in 2018, so its presence in the Yucatán Peninsula could be more common than is currently known, considering the distance between observations is around 100 km in straight line. This species is self-compatible and has the ability to spread seeds by air; its pseudobulbs can be easily transported in mulch, soil, or various substrates (Pemberton et al. 2008).

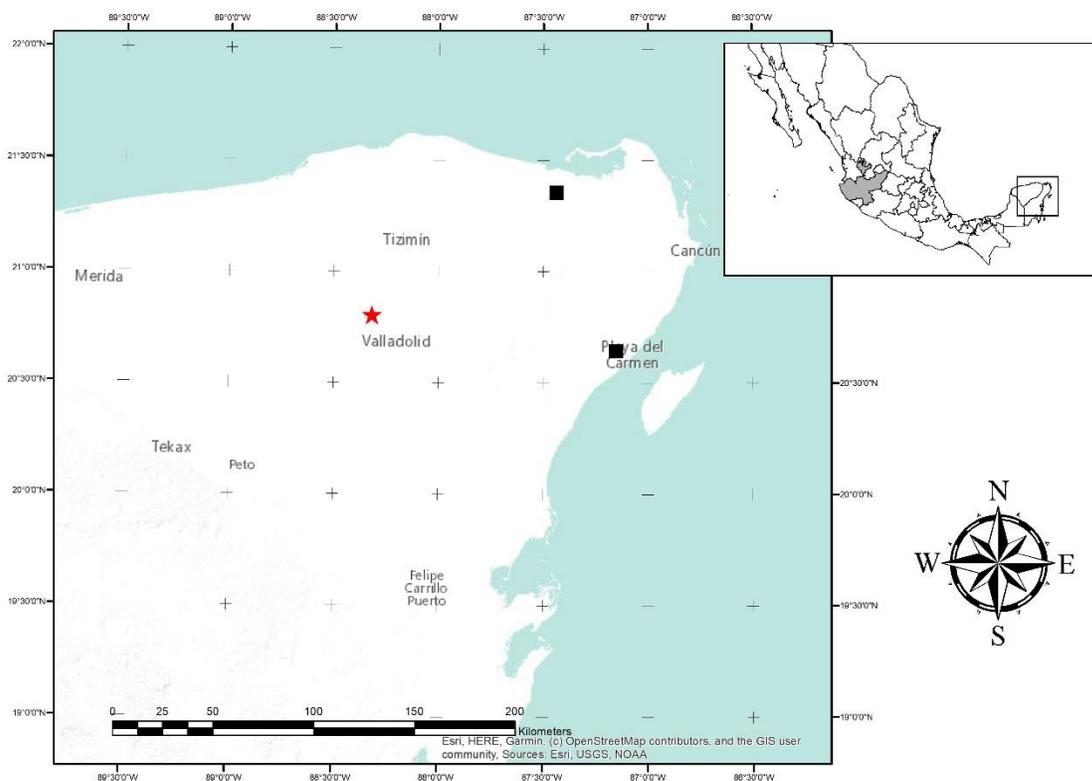


Figure 2. Distribution of *Eulophia graminea* in Mexico. The red star indicates the locality of collection reported here; the black squares indicate localities of informal records.

Despite the fact that *Eulophia graminea* can form dense populations, Ackerman & González-Orellana (2021) considered that the invasiveness of this species does not have harmful ecological repercussions on a large scale. According to Mitchell (2013), efforts to eradicate *Eulophia graminea* may be futile — the best control recommendation for now is hand-removal, especially before it flowers.

Description of this species from New World material are provided by Pemberton et al. (2008) and Ackerman & González-Orellana (2021). Excluding the enigmatic *Eulophia filicaulis* Lindl. (Salazar & Cribb 2007), three species of *Eulophia* are now known in Mexico (Carnevali et al. 2001; Kolanowska & Szlachetko 2014; Wetterer & Wetterer 2022), one of them native — *Eulophia alta* (L.) Fawc. & Rendle — and two naturalized — *Eulophia graminea* and *Eulophia maculata* (Lindl.) Rchb. f. (= *Oeceoclades maculata* (Lindl.) Lindl., Chase et al. 2021) (Fig. 3).

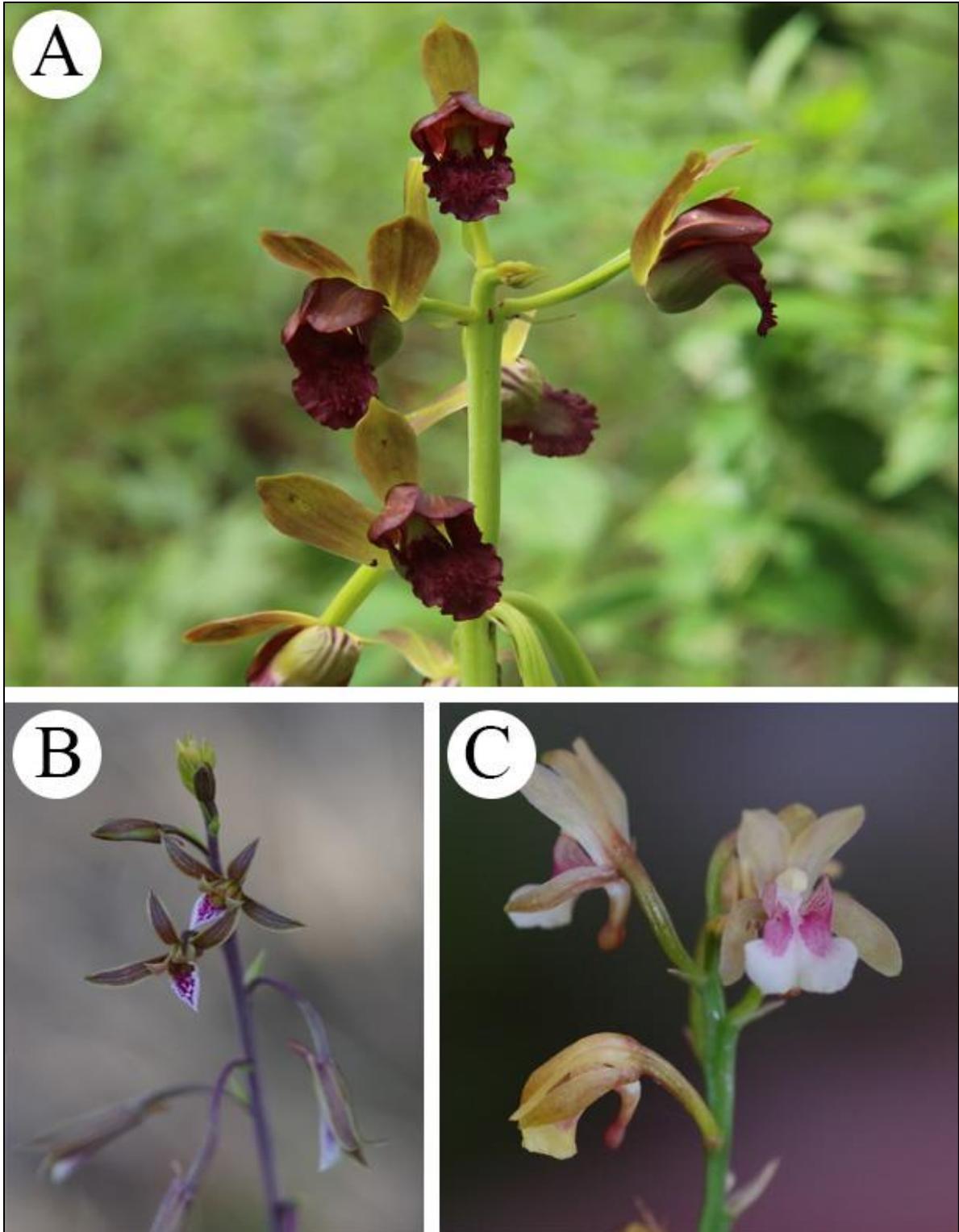


Figure 3. *Eulophia* species found in Mexico. A. *Eulophia alta*. B. *Eulophia graminea*. C. *Eulophia maculata*. Photos: A by Abel Alvarez, B-C by David Juárez.

Key to the *Eulophia* species in Mexico

1. Flowers with the lip saccate, pinkish purple to burgundy; sepals erect vertically; pseudobulbs poorly developed or absent ***Eulophia alta***
1. Flowers with the lip spurred, white to pale purple; sepals narrow to widely spreading but not erect vertically; pseudobulbs well-developed.
2. Leaves 3 or more on the pseudobulbs, thin, concolorous, deciduous; inflorescences up to 70 (rarely 100) cm tall ***Eulophia graminea***
2. Leaves solitary on the pseudobulbs, broad, conspicuously mottled, leathery, and persistent; inflorescences up to 30 cm tall ***Eulophia maculata***

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