

ALIEN TERRESTRIAL ORCHID, *EULOPHIA GRAMINEA*, INVADES MIAMI

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We first encountered an Asian orchid, *Eulophia graminea*, in South Miami during the autumn of 2007. Thus far we have found it in seven residential areas and in two parking lot islands, one at a supermarket in northern Miami and the other adjacent to the beach on Virginia Key in Biscayne Bay in Miami-Dade County in southeastern Florida. The area where we have detected plants of this orchid stretches 35 km from north to south. The orchid appears to have been at some locations for two years or more. *Eulophia graminea* is native to the tropical and subtropical parts of Asia from Pakistan east through India, Nepal, Southeast Asia, southern China to the Ryuku Islands south of Japan. It also extends into cooler areas in Kashmir in northwestern India and Sikkim a Himalayan kingdom in northeastern India. In eight of the nine sites where we have found the orchid, it is growing in woodchip mulch. In its native range the plants grow in many kinds of open, disturbed habitats, including grasslands and even beaches.

The small flowers (Figure 1), usually about 2.5 cm across, are not showy but are attractive when viewed close up, with a white lip is marked with rose-pink, contrasting nicely with the somber green petals and sepals. The inflorescences (Figure 2) arise from spherical to conical pseudobulbs, usually about 5-8 cm in diameter, which typically sit completely or partly above the ground. The slender inflorescences range from 30 cm to 1.5 m tall and bear up to 60 flowers. In addition to defining the naturalization, we have been studying the orchid's reproduction. Most of the plants are producing fruit but at low levels, and the flowers appear to need a pollinator. The flowers are faintly fragrant and bear a small nectar-filled spur, attractants probably for an insect pollinator. Determining what the pollinator(s) and the mycorrhizal fungi that are promoting the germination of its seed and seedling establishment are the focus of our research.

We suspect that *Eulophia graminea* entered Florida or the United States as plants imported for cultivation. Plants are offered for sale by nurseries in Thailand via the internet. Amateur growers outside the United States also offer to trade the orchid via the internet. The orchid then probably escaped cultivation to naturalize, a many horticultural plants but relatively few orchids have done.

The naturalized orchid plants can spread via its airborne seed and pseudobulbs moved in mulch and soil. The northern parts of its native distribution in Kashmir and Sikkim have colder climates than southern Florida's subtropical climate, which suggest that the orchid will be able to survive farther north in Florida and perhaps beyond. The orchid's airborne seed may spread it south into the West Indies. People may purposefully move the orchid for cultivation

Eulophia graminea almost certainly occurs in many more places than where we have detected it. We wish to more accurately define its current distribution and to monitor its spread. We request your help in this process. If you encounter plants, please send us photos or

specimens and some details of the location and occurrence. For additional information see our recent technical paper “An Asian orchid, *Eulophia graminea* (Orchidaceae: Cymbidiae), naturalizes in Florida” *Lankesteriana* (International Journal of Orchidology) (2008) vol. 8: 5-14, and our popular article of the same topic “Newly naturalized orchid (*Eulophia graminea*) found in Florida”. *Orchids* (2008) 77: 412-13.

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Fig. 2 left

Fig. 1 below

