



United States Department of the Interior



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NEWS RELEASE

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New Relations leads to better understanding of South Florida's Ghost Orchids



Throughout the month of July, Dr. Ernesto Mujica from the Cuba's Ministry of Science ECOVIDA Research Center and researchers from Illinois College have worked together to inventory, monitor and ultimately begin a new chapter of critical conservation work for the revered ghost orchid, *Dendrophylax lindenii* at the Florida Panther National Wildlife Refuge (FPNWR).

In response to the need for practical conservation of Florida's native orchids, the U.S. Fish and Wildlife Service's FPNWR is collaborating with Illinois College and the University of Florida to improve our understanding of orchids and the complex relationships that exist between orchids and their ecosystems. This collaboration has been ongoing for 15 years, and has led to numerous awards and publications in peer reviewed scientific journals. Through research on orchid ecology, propagation, and pollination, the work of the refuge biologist and universities has begun to establish effective and efficient means of orchid conservation. As with so many

other plant and animal species, FPNWR has served as a living laboratory for researchers to gain and build upon the knowledge of our native orchids.

While annual orchid research on the Refuge has enhanced science and conservation for these orchid species, the orchid cohort is especially excited to be collaborating with Dr. Ernesto Mujica of Cuba's Ministry of Science ECOVIDA Research Center this year in order to conduct a comprehensive survey for one of the most unique orchids in North America, the ghost orchid. Dr. Mujica is an incredible addition to the orchid research collaboration, and would not have been possible without years of persistence and the recent, history-making improvements in US relations with Cuba.

Dr. Lawrence W. Zettler of Illinois College first met Dr. Mujica at the 4th Andean Orchid Conference where each party presented research on South Florida and Cuba's ghost orchids, respectively. During a lunchtime chat at the conference, Dr. Zettler was very surprised to learn that the orchid's habitat in Cuba was very different from South Florida. Dr. Zettler remembers "I was frustrated the embargo would not allow me to freely enter Cuba to see his orchid sites, and I remember joking about figuring out some way to get to Cuba." What could have been a passing conversation led to a written invitation from Dr. Mujica and Dr. Zettler's first trip to Cuba in 2013. A few months after Dr. Zettler's first trip, a group of Illinois College professors took about 18 students to Cuba on an academic trip, which included a trip to Guanahacabibes National Park, Dr. Mujica's ghost orchid research site on the Western tip of the island.

After two long years of waiting for Dr. Mujica's U.S. visa, which included enlisting the help of U.S. Senator Dick Durbin's office and Illinois College President Dr. Barbara Farley, Dr. Mujica has finally made it into the swamps of south Florida. All involved with the ghost orchid project are especially grateful to the members of the Naples Orchid Society and Kit Kitchen-Maran for providing Dr. Mujica with the funding for his trip to the US. While spending the month of July on FPNWR, Dr. Mujica has helped document ghost orchids at various locations on the Refuge and is working with students Shannon Skarha and Justin Mably to create geo-spatial databases for long-term monitoring. This work parallels the techniques Dr. Mujica uses to monitor ghost orchid populations in Cuba, which has resulted in excellent published papers and vital conservation efforts. "In the future we hope to compare ghost orchid populations in southwest Florida to those in Cuba as a means of better understanding the species' specific habitat requirements and needs for continued survival" explains Dr. Zettler. This groundbreaking research will have long-lasting effects throughout southwest Florida, and is critical for the successful reintroduction and establishment of native orchids. This work is also setting a new standard for the kind of conservation advancements that can be a major victory for science as Cuba and the U.S. continue improving their international relations. "This partnership between Dr. Mujica, ECOVIDA, Illinois College, and FPNWR nicely illustrates how cooperation between our two countries may help at least one rare species in peril" Dr. Zettler summarized.

Dendrophylax lindenii, a.k.a. the ghost orchid, is a leafless epiphyte orchid consisting of large masses of photosynthetic roots, anchored to pond apple, pop ash and cypress trees. It is perhaps the most revered orchid in the United States, because it is such a rare and fascinating sight to see a ghost orchid in bloom. Nobody really knows how many ghost orchids there are,

although it is estimated that only 2,000 individual plants reside in vast wetlands South Florida. Of these, approximately 5 to 10% bloom each year, and of those, only about 10% are assumed to be pollinated by *Cocytius antaeus*, the giant sphinx moth. Before Dr. Mujica's arrival, we had only cataloged 11 ghost orchids on the Florida Panther NWR. With the help of Dr. Mujica, researchers this summer made a concerted effort to search and inventory more Orchids on the refuge and were able to find, identify and catalog 80+ new ghost orchids.

Funding for this partnership has come from a variety of sources including the U.S. Fish and Wildlife Service, National Fish and Wildlife Foundation, Naples Botanical Garden, Naples Zoo, and the Naples Orchid Society, which has repeatedly provided scholarships to the undergraduate researchers of Illinois College.

The U.S. Fish and Wildlife Service is the principal federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people.