

# Helping the wild orchid bloom again

By Dr. James Barnett

A project to restore one of the rarest and most spectacular orchids native to the region began with the curiosity of a high school student from Shreveport. It has evolved into a cooperative effort between the Kisatchie National Forest (KNF) and the Central Louisiana Orchid Society (CLOS); and yes, the high school student turned master's degree candidate and science teacher—Kevin Allen—is still intimately involved in the project.

The project goal is to grow 500 or more rare Kentucky lady's slipper (*Cypripedium kentuckiense*) seedlings to maturity and return them to the KNF lands from which they were collected as seed. Over the last 20 years, over half of the known populations throughout its range have been eliminated.

These orchids are currently known to be at only two locations (totaling five plants) on the Kisatchie's entire 600,000 acres. The Kentucky lady's slipper is a tall, stately perennial plant with the largest flowers known of any lady's slipper. It is one of the most spectacular plants in the forest.

Kevin Allen, a high school student with an interest in native orchids collected a seed pod from a plant on the Catahoula Ranger District. This was not a chance discovery.

"I've always been interested in the outdoors," said Allen. When younger, he was given a book about wildflowers in the eastern United States, and his attention was drawn to a photograph of a lady's slipper orchid and found that a species was native to Louisiana.

In middle school he visited the Walter Jacobs Nature



Kevin Allen is a Shreveport teacher who fostered a program to propagate the dwindling rserve of wild orchids found in the forest.

Park and when he showed an interest in the orchids, the director, Larry Raymond, referred him to nature photographer Jack Price and his wife Ella.

The Prices showed them their wildflower photo collection and how they had learned to propagate from seeds. "He is a smart kid and he catches on fast," said Ella Price.

After contacting a number of specialists, Allen was disappointed that many populations in Louisiana had disappeared.

"No one else was going to do anything, so I thought I should," he said. "Through a chain of people, I was put in contact with a botanist at Kisatchie National Forest." He showed Kevin two forest sites where lady's slippers were known to bloom. Finding a plant in bloom, he received a permit from the national forest to pollinate one of the flowers. Kevin followed this process for three years. In 2004, the pollination resulted in a seed pod.

Orchid seed pods contain tens of thousands of powdered seeds that are virtually impossible to grow in a con-

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*Never doubt that a small group of thoughtful committed citizens can change the world. Indeed it is the only thing that ever has. — Margaret Mead*

ventional greenhouse. So Kevin sent the seed pod to growing experts at Spangle Creek Labs in Bovey, Minn. The seed pod was fertile and the lab could successfully produce plantlets using tissue culture methods. These plantlets presented an opportunity to reintroduce the orchid to the Kisatchie, because the seed source represented a local population.

In 2005, Kevin met with Peter Nilles, the Kisatchie botanist, and described his vision of orchid restoration. Not having the expertise to produce plantable seedlings, Nilles contacted the CLOS—a small orchid hobbyist society.

CLOS members were enthusiastic about the potential of the project and obtained a grant from the Southwest Regional Orchid Growers Association (SWROGA) to purchase 200 plantlets (small growing buds with roots) from Spangle Creek Labs.

The small plantlets were distributed to several CLOS orchid growers and to Kevin Allen, now a teacher at Capt. Shreve High School. Nothing was known of how to produce plantable seedlings, so this crop presented the opportunity for new research on the subject.

The project worked to develop guidelines for seedling production. In 2007, two additional grants were obtained from the U.S. Forest Service, and 700 additional plantlets were purchased. With the information gained on seedling culture from the 2006 crop, over 500 of these seedlings are surviving.

Since such a restoration effort has not been attempted before, research trials are underway to compare effects of seedling age and season of planting on success of seedling establishment.

The majority of the 2007 crop will be grown for another year in outdoor

pots before a significant number are planted in the forest.

An additional effort is beginning to determine where seedlings of this rare species should be reintroduced into the forest. Decisions could be based on soil/site data collected from the known native lady's slipper sites.

Allen is only in his second year teaching but he hopes to one day involve his students in an independent research project similar to the orchid program. His degree is in biology education and he teaches chemistry including an honors chemistry class.

The Prices are pleased that the work is being done to re-establish their beloved orchid, but they hope the public will leave them alone. "Most of them won't live if transplanted," said Ella Price.

Time will tell if a student, a local orchid society, and the U.S. Forest Service, working together, can restore a spectacular part of Louisiana's natural heritage.

*(Jim Barnett is an Emeritus Scientist with the U.S. Forest Service and a member of the Central Louisiana Orchid Society.)*



Only a few of the lady's slipper wild orchids can still be found in the woods but a project started by a young Shreveport teacher may help re-establish them again in Louisiana.