

CONSERVATION CONNECTION: Partnership blossoms in Ecuadorean forest Atlanta garden aids residents in hot spot of biodiversity; [Home Edition]

DANNY C. FLANDERS. The Atlanta Journal - Constitution. Atlanta, Ga.: Jun 12, 2002. pg. F.1

Full Text (1165 words)

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It started as routine plant-buying trips. Now, it's grown into a relationship between the Atlanta Botanical Garden and a region in Ecuador that's giving both sides a lesson in the three E's --- education, economy and ecology.

For more than 10 years, the Atlanta gardeners have traveled to the South American country to purchase orchids and collect seed from rare, and in some cases, endangered plants in one of the world's 10 hot spots for biodiversity, the Choco-Andean Corridor.

Much of that occurs at Maquipucuna Reserve, 15,000 acres of steeply sloped, undisturbed cloud forest where they can observe firsthand the growth habits of exotic plants before introducing them to their new home in Atlanta.

In return, the gardeners teach Ecuadoreans how to grow plants through an educational garden established there and an internship program here. The benefits are twofold: The training enables residents to reproduce orchids, bromeliads and other plants that can be sold commercially, providing an alternative to cutting down the trees for sale as timber.

But more importantly, Ecuadoreans learn methods for propagating, or "cloning," endangered species that eventually might be reintroduced to the wild, where they're being depleted by the rain forest's destruction.

And with their new Fuqua Orchid Center and Center for Conservation and Education, staffers at the Atlanta Botanical Garden have the research tools to make that happen.

"With the opening of our facility, we hope to take this relationship to new heights," said Ron Determann, the center's superintendent. "What we'd like to do is provide not only the knowledge transfer but show them the benefits of their own natural resources."

But Atlanta's environmental involvement in Ecuador doesn't end there. The Lovett School owns a nature preserve northeast of Maquipucuna, where students and instructors from around the United States flock to do research and teach residents about ecology.

Teaching new trades

Ecuador's northwest region is a gold mine for studying plants and wildlife. It's home to some 2,000 species of flora, including exotic orchids and bromeliads, and more than 330 species of birds --- many endangered because of habitat loss.

On the corridor's edge, about two hours north of Quito, is the reserve, where about 15,000 acres of protected forest are managed by a nonprofit foundation dedicated to conservation. One of its major goals is to link other private and government-run preserves geographically to encourage animal and plant migration, said Rodrigo Ontaneda, president of the Maquipucuna Foundation.

Ontaneda spends part of his time in Athens because his wife is completing her doctorate in ecology at the University of Georgia. Her studies include "a very ambitious project" in researching how more than 2.5 million acres might best be joined, he said.

The university's involvement with Ecuador and the botanical garden dates to the early '90s when a UGA student, Fausto Sarmiento, first introduced the garden staff to Maquipucuna. Today, the garden is helping the university conduct research on the region's declining amphibian population as it does its orchid recovery work.

Much of that work is rooted in Maquipucuna. When Determann and other staff members first visited the preserve, they were overwhelmed by its diversity of species. They helped establish an orchid garden near the site's ecotourism lodge and brought in plants that attract wildlife.

"It's one thing for us to go down there and take supplies," said Ron Gagliardo, the garden's curator of tropical plants. But through an Ecuadorean intern, Bernardo Castro, who worked at the botanical garden in 1996, the relationship blossomed.

The staff taught the intern how to collect tissue cultures from plants and to propagate new ones. He then went home and helped establish a bromeliad nursery where plants grown from their own stock are sold to specialty nurseries. "We videotaped him here in our tissue culture lab explaining in Spanish what he was doing, and he took that back to Ecuador for training others how it's done," Gagliardo said.

Currently, the staff is helping Maquipucuna establish a tissue culture lab for teaching residents of nearby communities how they can grow orchids, bromeliads and other plants for commercial purposes.

"One big goal of ours there is to enable local people to earn a living by using their own resources rather than chopping down trees," Gagliardo said. "You can just see the pride and enthusiasm on their faces when they're doing something else."

Multifaceted path

Education is key to enhancing that relationship.

"What I'm most proud of is that many of the plants that have been collected in my country and identified in Atlanta are being used for educational purposes that will enable us to reproduce them," said Ontaneda, who serves on the botanical garden's board. "Their conservation efforts make our relationship very productive, very hands-on."

Next week, Determann and his staff will return to Maquipucuna to identify more rare and endangered plants, collect seed and shop for orchids for the garden's new center. While many of the orchids will be displayed in a section devoted to high-elevation species, much of the plant material will be used for research.

"Our ultimate goal is to reintroduce the orchids to the wild," he said, "but first, we have to make sure they are suitable for the site, that they are genetically pure."

And while other public gardens are doing research in Ecuador, the Atlanta contingent's mission is a practical one. Saving the rain forest is about more than stopping its destruction, Determann said. It's a multifaceted approach that involves teaching residents how to benefit economically from their natural resources while learning how to restore vanishing plants and wildlife.

"Because we're committed to conservation, we have to make sure things are done in a harmonious way," he said. "We're there for the long haul."

> ON THE WEB: Visit the Atlanta Botanical Garden at

www.atlantabotanicalgarden.org.

[Illustration]

Photo

The Atlanta Botanical Garden's decade-plus relationship with Ecuador began when its conservatory superintendent, Ron Determann (second from right), began traveling throughout the country on plant-collection missions./ MARY HUNTZ / Special

Photo

Spray of orchids

Photo

Fern frond

Photo

Plant from the Ecuadorean forest

Map

Map of Ecuador pinpoints the locations of the Lovett School's Siempre Verde rain forest reserve and the Atlanta Botanical Garden Maquipucuna Reserve. The capital city of Quito and the cities of Ibarra and Salinas are also indicated; inset map of northern South American pinpoints the Area of detail./ TERRENCE HORAN / Staff Graphic

REPUBLIC OF ECUADOR

> Size: 177,225 square miles (about three times the size of Georgia)

> Population: 13,183,978 (July 2001 est.)

> Capital: Quito

> Ethnic groups: Mestizo (mixed Amerindian and white), 65%; Amerindian, 25%; Spanish and others, 7%; black, 3%

> Religion: Roman Catholic, 95%

> Languages: Spanish (official), Amerindian languages (especially Quechua)

> President: Gustavo Noboa Bejarano

> Major exports: Crude petroleum, bananas, shrimp, coffee, canned fish, cut flowers

> Leading export market: United States (37 percent of exports)

> Climate: Tropical at Amazonian jungle lowlands and along the coast, cooler inland at higher elevations.

Sources: CIA World Factbook, Economist Intelligence Unit, Country ViewsWire

Credit: STAFF

CONSERVATION CONNECTION: Species-rich forest turns nature lab, thanks to Lovett; [Home Edition]

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Full Text (603 words)

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After touring Ecuador 12 years ago, Bob and Connie Braddy came back to Atlanta thinking they'd help a poor village there rebuild its dilapidated school.

Little did the Lovett School teachers know that the seed of compassion they planted would someday grow into a nature preserve with a research and conservation center visited by students and educators throughout the United States.

Today, Lovett not only owns and manages the 520-acre preserve of rain forest high in the Andes northeast of Quito but donates books and supplies to children in the nearby village of Santa Rosa.

"We sort of adopted them," said Bob Braddy, chairman of Lovett's science department and director of the preserve, known as Siempre Verde.

In 1990, the town's school was falling down, so he and his wife persuaded Lovett's ecology club to raise funds to help rebuild it. "After we went down to see the completion, we decided the area would be a great outlet for enlightening our students about ecology and preservation," he said.

This time, the couple came home with an even bigger request of their employer: Buy property for establishing a protected preserve. Once more, Lovett came through.

"Since then, we've taken down hundreds of students and adults from independent schools and colleges all over the country," Braddy said. "We're growing by leaps and bounds."

The preserve's research center, which sleeps 26, has no electricity or phones.

"You get up with the sun, and you go to sleep with the sun," said Christopher Blume, a senior at Lovett who visited Siempre Verde two years ago.

The center is surrounded by 20 acres of gardens that include a greenhouse. "You'd think since you're right on the equator you could grow anything year-round, but nighttime temperatures can dip into the 40s," Braddy said.

The students and instructors take nature hikes into the high-elevation forest and participate in classes in botany, ecology and plant relationships.

"It's a huge piece of land --- really, really beautiful --- surrounded by forest so high up," Blume said. "The tree life is really amazing, with all sorts of orchids and bromeliads."

And the community involvement the Braddys first sought continues. Lovett has provided local students with looms so they can be taught to weave wool from Ecuador's sheep.

"We also try to make it a point every year to take down supplies," Blume said, "because they're extremely poor."

On their next trip, Lovett students plan to concentrate their studies on native orchids.

At the same time, staffers from the Atlanta Botanical Garden plan to visit the preserve with the goal of someday propagating plants from it at the Buckhead school's new greenhouse and at the garden.

"In the future, we'd like to apply the principles we use here with pitcher plants --- collecting seed, growing the plants and returning them to their native environment --- to their tropical orchids," said Ron Gagliardo, who manages the botanical garden's tissue culture lab. "We can do that very easily here in Atlanta."

> ON THE WEB: Visit Siempre Verde at www.siempreverde.org.

[Illustration]

Photo A 2000 graduate, Chris Foster, is wowed by exotic plant life./ Lovett School Photo Jordan Scott (left), a 1999 graduate of the Lovett School, gets up close and personal with insects at Siempre Verde, a 520-acre preserve in Ecuador run by the school. A 2000 graduate, Chris Foster, is wowed by exotic plant life./ Lovett School Photo Brooke Buerkle, a 1998 graduate of the Lovett School, visits Ecuador's Siempre Verde, a preserve owned by the Atlanta school. The preserve grew out of the school's "adoption" of a nearby village./ Lovett School (TEASER)

Credit: STAFF