

# Into the Rainforest...

*by Jenny Hill*

Jeff Lehman, associate professor of life and earth sciences, has a passion for plants. And so do the students who followed him to Central America for his life sciences class, Tropical Ecology of Costa Rica. But they came back from their trip with much more than a passion for plants; they came back with a new understanding of cultures, animals and people that they had never before experienced.

*Amanda Houston and fellow life science students cross a suspension bridge over the Eskuy river in Costa Rica.*





**Above left:** Prescia, president of the Bribri artisan's co-op, shares knowledge of local plant life. **Above right:** Student Samantha Coe studies an elephant beetle. **Right:** Kimberly and Diana, two Bribri girls, pose in a silly moment.

With Costa Rican forester and scientist Humberto Jimenez-Saa as a guide and translator, Jeff and 10 life sciences students (six seniors, three juniors and a sophomore) traveled to Costa Rica to see in action the topics they had studied in the classroom for 10 weeks prior to the trip, including human dependence on nature, interactions among biological organisms, sustainability of cultural practices, and appreciation of the natural world. Students researched and made presentations during the quarter leading up to the trip, and outside speakers were invited to talk to the class about a variety of topics, from Hispanic culture to the geological basis of tropical environments. Also joining the group was naturalist Steve McKee from the Gorman Nature Center in Mansfield, Ohio.

Before they left, the students felt they were well-prepared for the trip. "I have always enjoyed Dr. Lehman's classes and learned a lot from them. I was also looking to get some field biology experience, as most of my science experiences had been in the classroom and labs," said junior Life Sciences major Brandt Weininger. "I believe he prepared us well. We studied the tropics in general, as well as studying specific plant and animal families of Costa Rica. This knowledge allowed us to have a true appreciation for what we experienced."

During their stay, the group spent time with the Bribri Indians, an indige-

nous group that lives on a reservation in the rainforest. "Their main modes of transport are foot, horse and river, which they travel on in handmade dugout canoes," Jeff said. According to Jeff, the trip to the Bribri reservation includes a ride in a dugout canoe and a 2-hour hike, "but the wait is worth it." In fact, according to sophomore Mike Frank, his fondest memory of the trip was the "the 2-hour hike into the Bribri where I caught a brown vine snake and saw a strawberry poison dart frog."

The Indians demonstrated for the students how they use rainforest plants and animals for food, fiber and shelter. They showed students how to thatch roofs, process cacao and make medicines with rainforest plants.

"They live in an area full of tropical foliage with a rural culture dependent on plants and the environment," Jeff said. "When disease causes crop failures, they must find other ways to support themselves."

"The Bribri rely on ecotourism. Cacao was their big cash crop until it was hit hard by frosty pod disease, so now they show the processing of cacao and other traditional activities to tourists," Jeff said. "It's all done by hand."

Jeff said the the Bribri ecotourism system came into being when they saw their way of life eroding. "When the men left their rural communities to look for work in the city, the women developed a co-op of artisans to sell



their wares and teach crafts such as basket weaving, roof thatching and fishing with bows and arrows," he said.

Having the women in charge of this industry was difficult in a "machismo society," Jeff commented, but it helped preserve their culture and community, and now the men support it.

"It is important to them (the Bribri and the Costa Rican government) to conserve their ecology, their way of life. They have realized the potential to share their ecosystem with outsiders, with its unique birds, plants and animals," Jeff said.

At Coope San Juan Sustainable Agricultural Center near Arenal Volcano, the students saw the processing



**Top:** Young David helps navigate the dugout canoe to the Bribri village in Yorkin. **Above:** Daisy winnows rice for the evening meal.

of another major cash crop, pineapples. The plantation co-op is owned by 20 local families. The students also learned about agricultural sustainability and education at Earth University and about biological conservation/preservation at Monte Verde Biological Reserve in the Monte Verde Cloud Forest.

The students explored the Palo Verde Dry Forest and the Caribbean coast on their trip, and through all these different environments, they were able to view howler monkeys, white-faced capuchins, iguanas, palms, strangler figs, poison dart frogs, and a variety of tropical birds and other plants and animals.

Mike was fascinated by “learning about their national tree, the guanacaste tree; it’s a fabaceae (legume) tree. At night the leaflets fold up together. It was really neat to learn its physiology,” he said, adding, “And the pods look like ears.”

Included in the trip was a visit to the capital of Costa Rica, San Jose. “It’s a typical Central American city, with a blend of Hispanic and Western cultures,” Jeff said. “The students saw a genuine glimpse of both city and rural culture on the trip. At one point, the bus broke down in front of a house, and the people living there welcomed the students into their home and befriended them. They offered the students mangoes and passed around their baby. Things like that are culturally meaningful.”

Jeff’s Tropical Ecology of Costa Rica course was in the works for approximately three years before he led the trip March 15-27, 2006. Prior to the trip, Jeff prepared himself by becoming a student. He traveled with colleague Hal Lescinsky’s class to Belize and took a faculty trip to the Galapagos. He also took a course in Tropical Dendrology (trees) through the Tropical Science Center of Costa Rica, studied medicinal plants of Costa Rica in the field and stayed with the Bribri Indians. Jeff also prepared for the trip through a program called Earth Expedition. He and educators from Miami University of Ohio and the Cincinnati Zoo and Botanical Gardens studied lowland rainforests, cloud forests, dry forests and coastal environments.

Despite everything the Otterbein group experienced, “we didn’t really rough it,” Jeff said. “We stayed in bunk-style housing, on cots, in tents, in huts with bamboo flooring. And they loved the food, which mostly consists of black beans and rice prepared in different ways served with bananas and fruit juices. We talked about the botany of their meals,” he said.

Brandt mused, “I wasn’t really prepared to eat the same meal *every* meal of *every* day. However, I came to enjoy it.”

In the end, Jeff said he was proud of the abilities of his students as scientists. “Each one had an area of expertise—mammals, plants, et cetera—and they led the others in their area. We had morning bird hikes and night-time reptile hunts.” He was impressed by their fascination with all they were learning. “This was my first international trip with students, and it went well, so I am looking forward to the next one.”

The students were equally impressed with Jeff’s first trip. Brandt said, “It’s given me a strong appreciation for the natural beauty of this world and has made me want to explore the nature here in my own state and country.”

Mike also has changed significantly from the experience. “Mostly my change came from experiencing their culture. My diet has now changed and I eat beans and rice quite frequently. Coming back to the United States and seeing how we live was actually quite disappointing. I wish I could live the way they did down there.” ●





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1. A view of the active Arenal Volcano. 2. The pineapple co-op at the Coope San Juan Sustainable Agriculture Center. 3. Prescia processes cacao into a meal. 4. Virgil harvests cacao pods. 5. A white-faced Capuchin monkey. 6. Professor Jeff Lehman, Guide Humberto Jimenez-Saa, Naturalist Steve McKee, and driver William. 7. Sarah Skally and Samantha Coe with two new Costa Rican friends. The young girls' family took the Otterbein group into its home when the group bus broke down nearby. 8. The Tropical Ecology class with many of the Bribri Indians.



8