

**NORTH CAROLINA STATE  
UNIVERSITY**

**SCIENTIFIC & COMMUNITY DISCOVERY IN THE  
AMAZON RAINFOREST**

March 3 – 10, 2012

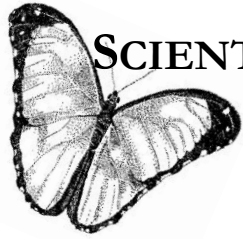
\$1807 PER PERSON

PLUS

AIR FROM RALEIGH

DEPOSIT OF \$600 IS DUE TO CONFIRM A  
BOOKING

NORTH CAROLINA STATE UNIVERSITY



## SCIENTIFIC & COMMUNITY DISCOVERY IN THE AMAZON RAINFOREST

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### 8 -DAY PROGRAM HIGHLIGHTS

**Plants We Take for Granted** - What is the difference between a *Coco* and a *Pipa*? There are many palm species, and the oils from their nuts may be put to many uses—from floor wax to tanning lotion. Cocoa, vanilla, Brazil nuts, and sugar—the ingredients of your favorite candy bars—are all here in the rainforest, as well as many other wonderful and surprising plants. The guides teach us how the local people use these rainforest products in their daily lives.

**Community Service in Small Rainforest Villages** - Not only is this our chance to see how people live in small villages along the rivers in the rainforest but the chance to work with them to better their lives in a practical way by helping the villagers construct things that they need.

**Education in the Rainforest** - We learn firsthand about the challenges Peruvian rainforest schools face in education students in small, remote villages. School visits are made and we also learn how school books and supplies are being delivered to these remote locations. We also see practical education projects that teach skills that provide immediate economic benefits to young people of small villages, and at the same time, teach the benefits of sustainable harvesting of rainforest plants.

**Canopy Walkway Explorations** - The Canopy Walkway is an experience unequaled in the rainforest! At a height of over 32 meters (106 feet) and extending for 500 meters (one-third of a mile), the Canopy Walkway provides a view of the rainforest from the treetops, the best vantage point for observing Amazon wildlife and vegetation. The Canopy Walkway is accessible to all and requires no special skills or equipment. The suspended walkway is spread between 14 of the area's largest rainforest trees and is one of the longest canopy walkway in the world. Climb high into the treetops to see where possibly 80 percent of the forest life hangs out. Follow the suspended paths and stake out a spot to watch the action—maybe a mixed flock of tanagers, euphonies and

creepers, a rare lizard only recently known to science, or monkeys that sometimes come here to feed. The view from the top is always great.

**Tropical Medicinal Botany** - Learn from the resident shaman how the fruit, roots, leaves, and seeds of forest plants form a true pharmacy—if you know how to use them. Traditional medicine in the Amazon also involves a spiritual understanding and a belief in powers that non-natives may never understand.

**Fishing for Dinner** - What part of the river is best for the big ones? What is the best bait, and where do you find it? Learn the Spanish and English common names of the species caught, then bring them to the frying pan. Learn patience and perseverance also.

**Equatorial Stargazing** - The Southern Cross can be seen on clear nights, especially from areas with views to the south. Your guide knows the names of many of the stars and constellations but you might bring a star map of the southern skies as well. Star gazing can be especially rewarding on a clear night due to the complete lack of city lights. Venturing by boat to the middle of the river will provide a wonderful view of the night sky with millions of stars for our viewing pleasure.

**Birds** – More than half of the birds known from South America, about 1700 species, have been recorded in Peru and the bird fauna of the Amazon basin is the most diverse and spectacular in the world. We will observe a large number of conspicuous and dramatic birds every day. Flocks of parrots, macaws, and parakeets are frequently observed flying overhead.

**Tropical Social Insects** - How many ants make up a leaf-cutter colony? Learn how the soldiers of this species were used as sutures for cuts and wounds. What do the ants do with all those leaves? Find out the answers in a fascinating look at the rainforest's most prevalent animals.

**Music** - The guides are skilled musicians and love to have people sit in and sing-a-long. They have eclectic taste so you never know what the latest favorite is but they like to play Peruvian music too.

**River People** – Though the villages can look very similar there are differences to be observed. There are different tribes or clans that are quite distinct and depending upon their remoteness or proximity to Iquitos, this results in life-style changes for the people living along the river. Visits to a variety of communities allow us to understand some of the challenges and rewards inherent in this way of life. Healthcare, education and economic incentives are all very important factors in the sociology of the region.

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**DAY 1 – SATURDAY – RALEIGH / MIAMI / LIMA**

Our adventure begins as we board our connecting flight from the USA to Lima. \*D

**DAY 2 – SUNDAY- LIMA / IQUITOS / AMAZON RIVER**

Arrive Lima early this morning. We then fly to Iquitos, a lively frontier city on the banks of the Amazon River. This isolated city, 2,300 miles from the Atlantic Ocean, is the most inland port navigable by ocean-going ships on the Amazon River. On arrival, we meet our hosts as well as our guides who remain with us for the next week.

Iquitos is a very large city that grew rapidly as people moved there from other parts of Peru and other countries in South America. Now the population growth is resulting from children being born to these new residents. These kids are basically growing up in an urban environment even though the city is surrounded by rainforest. There is no curriculum taught in their schools that even remotely touches on the rainforest. When these kids are older they will marry and be forced to spread out from Iquitos in order to establish homes. It will be the equivalent of urban sprawl except here the sprawl will be into rainforest. If they have no concept of the rainforest then damage will be done but much of the damage can be controlled just by basic environmental knowledge taught in schools during their formative years. Young adults will still move into nearby rainforest areas but just knowing that they do not have to cut every single tree around their new home will be a significant improvement over cutting everything.

We drive through the busy streets of this former rubber town where many of the buildings are covered in tile brought to Iquitos from Portugal by the rubber barons. We also have a chance to see the central market of Belen where tropical fruits and fish are sold in an open market. Soon we board our boat and get our first view of the mighty Amazon, the backbone of the largest river system in the world. Our journey follows the meandering course of this jungle-lined "river sea," which even this far from its mouth is over two kilometers wide. Of major ecological importance to this area is the dynamic change of water level, depending on the season. The water level of the river varies as much as 40 feet between high water and low water. This is a result of snow melt from the Andes as well as rainfall on the Guyana shield, well to the north of Iquitos. There is no distinct rainy season in the Amazon Basin itself. We arrive at Explorama, our lodge accommodation nestled in the lush rainforest. This is a well established jungle lodge with thatch roof rooms and lit by oil lamps. We have time to settle into our rooms and enjoy a short rest.

**Evening Session – Healthcare Issues in the Amazon Rainforest** - We begin late this afternoon with a short hike along the Lake Trail through lowland rainforest where our guide explains the differences between the plants and animals that inhabit the flooded forest as compared to the terra firma forest on higher ground. Then we visit a river medical clinic run by an American doctor. The clinic was built for local residents and here we learn about the daily operations of the clinic and the healthcare needs of the local people it serves. B,L,D

### **DAY 3 – MONDAY - AMAZON RIVER**

This morning we awake to the exotic sounds of the dawn wildlife chorus. Those who choose to rise early are welcome to join our guides on a bird walk. Coffee, tea, and hot chocolate are always available in the dining room.

**Morning Session - Introduction to Rainforest Ecology** – After lunch and a short rest in the hammock house we take an easy walk on one of the more extensive and spectacular of the rainforest trails. It is locally known as the Bushmaster Trail. Botanically speaking, this area has been designated the richest place on Earth by researchers from the Missouri Botanical Garden. They have identified more than 300 species of trees in a single hectare (2.471 acres). We see many interesting species of plants, including many medicinal herbs, as well as leaf-cutter ants and dart-poison frogs. It is interesting to see many examples of native plants of huge size here that are used as ornamental plants in other parts of the world. If we are lucky we may also find poison dart arrow frogs, squirrel monkeys or marmosets along this trail. We are almost certain to see the electric-blue flash of the incredible morpho butterfly which seems to illuminate the shade of the forest as it flies along the trail. Lunch is at the Lodge.

**Afternoon Session - Local People** - This afternoon we visit a neighboring Yagua Indian village. The Yagua will show us their pottery, blowgun construction and paddle carving. Expect to be invited to have a try at blowgun shooting as well as observing the experts. Musicians will play different types of Peruvian music with an opportunity for us to learn the steps of a few local dances. Later we visit a nearby library and women’s center where the women learn sewing and other family oriented activities as well as reading and skills they can use to become more financially independent.

**Evening Session - Adopt-A-School Discussion** - This evening we learn about the Adopt-A-School and Environmental Education projects of the Peruvian NGO which is responsible for delivering school books and supplies to the more than 70 communities in the program we support. B,L,D

### **DAY 4 – TUESDAY - AMAZON RIVER / NAPO RIVER**

**Morning Session - Ribereño People & Sustainable Use of Rainforest Plants, Village Transformation** - Today we learn more about local people and their life as we journey on the Amazon and the Napo Rivers. Our route takes us past the village of Francisco de Orellana, named for the man who, in 1541, crossed the Andes and sailed down the Napo, becoming the first European to see the Amazon River. He followed the great river all the

way to the Atlantic, an often hair-raising experience. Our boat trip provides opportunities to observe local life along the great river and watch for interesting animals and birds—a kingfisher perched patiently on a partially submerged tree, dolphins arching through the churning waters, or perhaps a lone sloth hanging from a high branch. We pay a visit to Irlanda, a *Ribereño* community. *Ribereños*, or river people, depend on the movements of the rivers and the rainforest around them. There are various levels of agriculture practiced among *Ribereños* and some even have ethno-botanical gardens of their own. Bananas and manioc are staples as well as fish.

Local people are often unaware of the benefits of sustainable use of the rainforest and entire trees may be destroyed when being harvested for fruit or other uses. Today we examine ways to reverse this practice and, at the same time, provide an economic benefit for doing so that also improves the health and wellbeing of the entire village. Drinking water for small villages normally comes straight out of the river and is the medium for ingesting parasites. Having pure water through a mini treatment plant improves the health of the people and pure water also is used in baking bread and making the jams and marmalades for sale. Also in the village is a system of small individual family fish ponds that improves nutrition and is another source of income when extra fish are sold. Even the very smallest of economic benefits will reach every member of the village and reduces the need for some people to illegally cut trees from the rainforest and sell them, also illegally, to saw mills. While in Irlanda we visit the school and see the results of the Adopt A School Program.

We continue our journey by boat on the Amazon and the Napo River, the largest of the Peruvian tributaries. Soon we reach the Sucusari River, a serpentine darkwater tributary, and the location of the Napo Lodge. This rustic lodge is nestled in remote rainforest on the boundary of the Amazon Rainforest Reserve, a preserved area of uninhabited primary rainforest. The camp is built in a style similar to that of Explorama Lodge.

**Afternoon Session - Rainforest Plants in Traditional Medicine** - After lunch we visit an ethno-botanical garden where over 240 species of medicinal and useful plants are tended by a shaman and his assistants. Our guide will translate while the shaman explains many of the local uses of these plants and the spiritual healing that is practiced together with the medicines derived from the plants. Then we have a chance to help in their work while learning even more about the plants and their uses in the Indians' pharmacopoeia. They will also share their insights on the forest and its conservation.

**Evening Session - The Rainforest at Night** - This evening we journey into the rainforest which truly comes alive in darkness and many of the creatures that typify rainforests are only found after the sun sets. We slowly and quietly walk and immediately notice a totally different sound coming from the jungle. Unlike during the day when cicadas and birds provide the sounds at night there is a changing of the guard as katydid and frogs provide much of the listening pleasure. Within the beams of our flashlights we may find mantids or katydids, many of which are extremely difficult to find as they are shaped and patterned in colorful

designs. Some appear like beautiful green leaves complete with veins and even fungus spots or they may appear as dead leaves. Some even exhibit curled edges as if drying up. In addition, a myriad of frog species may be found on our walk. From large smoky jungle frogs which call from their burrows to gorgeous arboreal species like monkey frogs or gladiator frogs, over 40 species can be found within our area of exploration. Arachnids also are considerably more prevalent at night and we can expect to find tarantulas waiting patiently at their burrows and beautiful nephilas in their large golden colored silk webs. This is the rainforest at night and after our hike we return to the lodge to discuss what we observed. B,L,D

## **DAY 5 – WEDNESDAY - NAPO & SUCUSARI**

**Morning Session - Life in the Rainforest Canopy** - After breakfast we set out on a 45-minute hike to the Amazon Conservatory for Tropical Studies (ACTS) research facility, which serves as a base for scientific study and a place where interested visitors may learn about rainforests. We make our way along the rainforest trail that passes through primary forest and rolling terrain. Away from the main river, this forest is never flooded and contains wildlife not found close to the riverbanks. The understory swarms with butterflies typical of undisturbed forest, such as satyrs and morphos. Colorful poison-dart frogs hide in the leaf-litter of the forest floor, and the air vibrates with the sound of the jungle's teeming wildlife. Suddenly, the dense trees give way to a boardwalk that leads to the research facility, which lies along the Quebrada Grande and the boundary of the Amazon Biosphere Reserve. The Canopy Walkway is a suspended bridge spanning 500 meters, connected by tree platforms and reaching a height of over 115 feet above the forest floor. Here there is time to observe a part of the rainforest rarely seen by man but accessible without any type of climbing skill or equipment. We learn the importance of light in the battle for growth of the trees and how the plants must adapt to the very different environments on the forest floor and at the top of the canopy.

**Afternoon Session - Blackwater Lakes** - This afternoon we explore one of the most unusual habitats in the Amazon Basin, a blackwater lake. Lakes of this type, known as oxbows, are formed when a section of river becomes separated from the main flow of the river. The water becomes black due to the leaching of tannins from rotting vegetation. These lakes are often covered with giant *Victoria Amazonica* water lilies the leaves of which can exceed seven feet in diameter and support the weight of a toddler. The sharp hook-like spines on the undersides of the leaves deter herbivores. We search the vegetation surrounding the lake for primitive-looking birds called hoatzins that build their nests on limbs overhanging the water. The young will drop from their nest into the water whenever a predator appears. The young hoatzins swim quite well and they also have a unique adaptation, a claw on each of their wings that helps them climb back up to the nest once the predator has departed the area. On the way back from the lake there should be time to fish for piranhas before heading back to camp where the cooks will grill our catch to sample at dinner! Piranhas are abundant, but we soon dispel the myth of these fish as the "Jaws" of the Amazon as their diet is composed mainly of fruit.

**Evening Session - Nocturnal Animals and Sounds of the Rainforest** - After dinner we

motor in our canoe a few miles up the Sucusari and drift silently back downriver searching the jungle-lined banks by flashlight for the red eyes of caiman and other nocturnal animals. Equally enjoyable are the night sounds and, if it is a clear night, viewing the stars and constellations of the Southern sky. B,L,D

#### **DAY 6 – THURSDAY - AMAZON RIVER & CEIBA TOPS**

**Morning & Afternoon Sessions - Community Service Day / Monkey Island** – Today travel to a local river village for a Community Service day. Our work project has been designed specifically for the needs of the community we visit and we will work together with all the villagers including parents, teachers and students. Work in the village can include one or more of the following:

- 1) a school painting project such as the front of the school or interior;
- 2) a planting project such as fruit trees around the soccer field, garden in front of the school or raised vegetable garden;
- 3) a construction project such as building a community gazebo at the river's edge, latrines, benches, perimeter fence for the school property or fence for gardens to keep out livestock;
- 4) ecological signs for the school grounds and gardens

Following a picnic lunch and we travel to Monkey Island before going to Ceiba Tops - a beautiful lodge located in a small section of primary rainforest with time for a short walk to the immense Ceiba or Kapok tree for which the lodge is named. The rooms at Ceiba Tops Lodge have air conditioning, private facilities and hot water thus providing more of the comforts of home for our last night before we start our return to civilization.

#### **Evening Session – Recap of the Week**

This evening after dinner we recap our week and draw conclusions from our observations. B,L,D

#### **DAY 7 – FRIDAY - CEIBA TOPS / IQUITOS / LIMA**

**Morning Session –Local Market & Dolphin Search** – This morning we travel overland in small, motorized surrey-like vehicles known locally as motorcars on our way to a local market that serves both the Marzan and Indiana communities. Village traders offer their wares and farmers display all types of fruits, vegetables and fish.

On our return to the lodge by boat we will observe freshwater dolphins as they cavort in the shallows. Two species occur in the Amazon – pink and gray. The gray dolphin (*Sotalia fluviatilis*) travels in small family groups or pods and is likely to be seen leaping out of the water. The pink river dolphin (*Inia geoffrensis*) is larger with a pronounced bulge (melon) on its head and instead of a dorsal fin it has a dorsal hump. The pink dolphin is a more solitary animal and is not as acrobatic as the gray dolphin.

This afternoon we return to Iquitos where we have a tour of the Main Square, a walk around the pedestrian boulevard and artisan market. We will have dinner at Ary's before checking in for our flight back across the Andes to Lima where we check in for our overnight

flight back to the USA.

B,L,D

**DAY 8 – SATURDAY - LIMA / MIAMI / RALEIGH**

Overnight flights from Lima arrive in USA gateway cities early in the morning with plenty of time to clear customs and continue home. \*B

B-Breakfast; L-Lunch; D-Dinner; S-Snack; \*In-flight Meal