



Professor David Taylor with one of his research subjects

20
years

IU Southeast
Field Biology Study Abroad
1996-2016

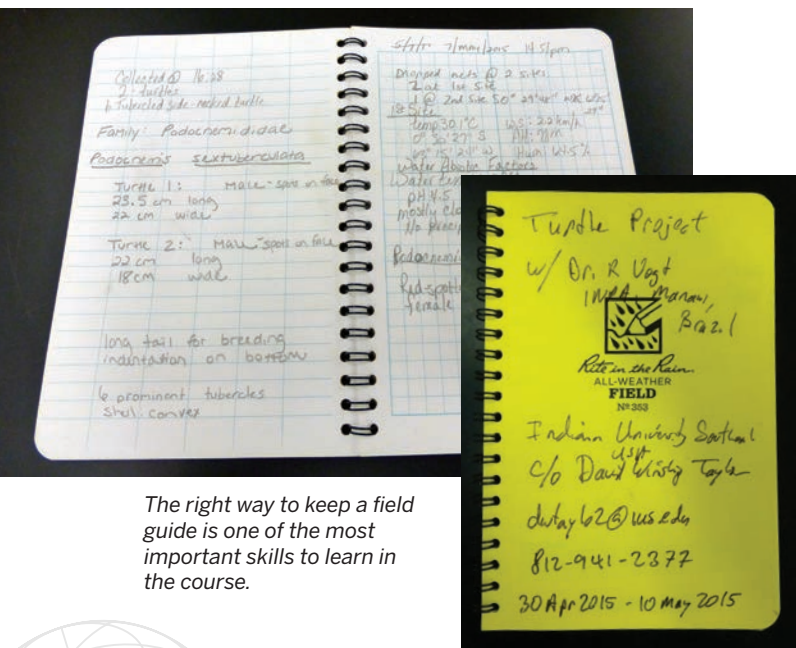
Learning to See:

IU Southeast Completes Two Decades of Biology Abroad

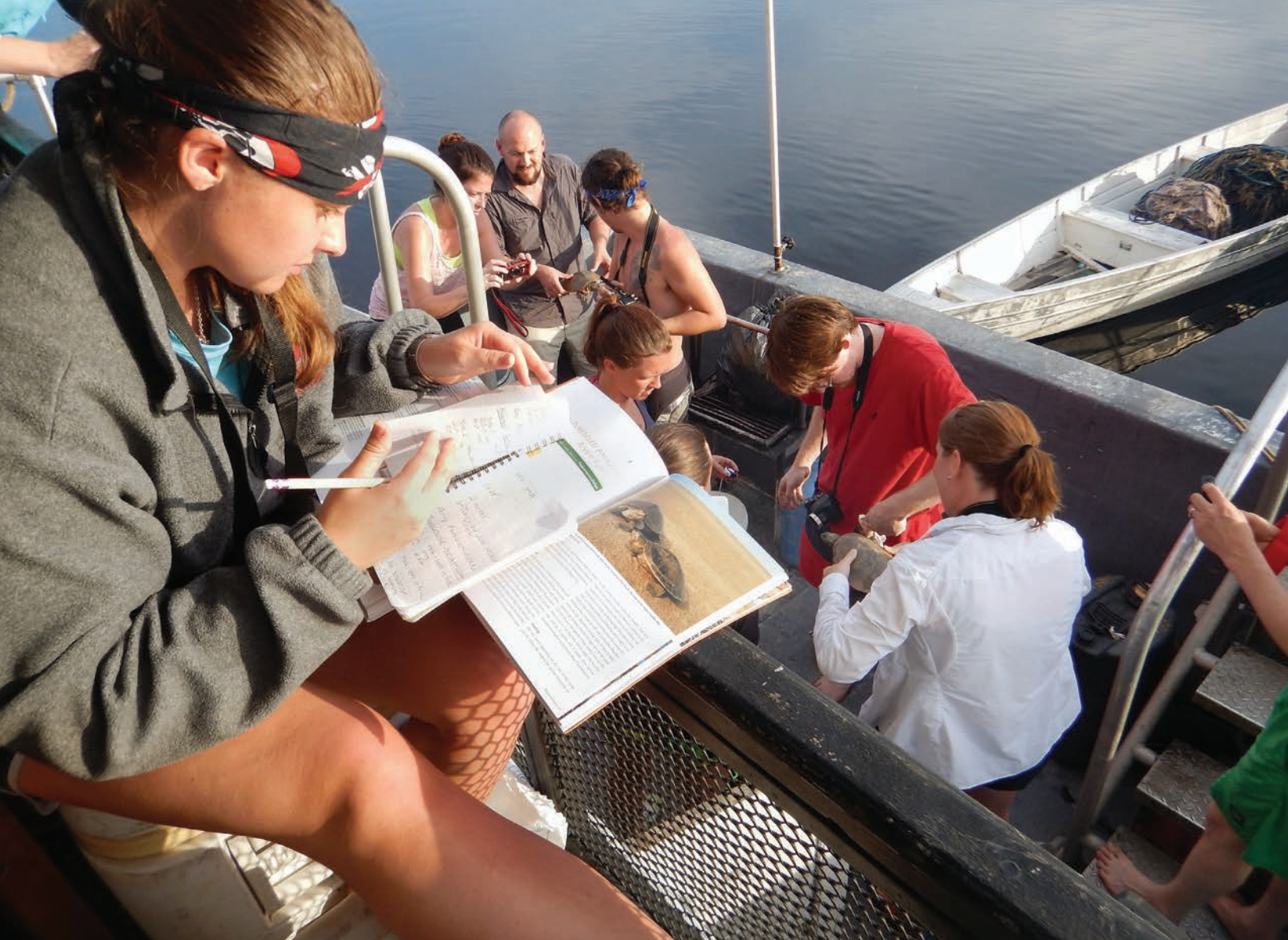
Fieldwork has been a traditional part of biology courses for as long as biology has been taught. Claude Baker began the IU Southeast (IUS) biology field course 37 years ago with a field trip to Florida. In 1996, the course took students outside the United States for the first time to Belize and Guatemala. Since then, the class has studied in the Caribbean, Mexico and Central America, the South Pacific, the Middle East, and Africa.

“Traditional field courses go out in the field for two weeks,” Professor of Biology David Taylor explained. “Every morning and evening, students would have lectures and in the afternoons, they would do the hands-on work. The hands-on stuff was important. Professor Baker and his colleagues redesigned the course so that students learned the background in the first fourteen weeks and then left for the field fully versed in the information they needed for hands-on work. The resulting formula won teaching awards.”

In the spring of 2015, 13 students in L303, Field Biology, traveled to the Amazon River basin for ten days to observe and research animal and plant life. Professor David Taylor followed Baker’s innovations. Taylor expected students to encounter as many as 60 birds in Brazil. Early on the course, each student was assigned a list of plants, animals, and insect species to research. “They became the experts. They generated PowerPoints, which they shared around and which became our field guide.” All this was complete before the class had set a foot off American soil. “So when they got into the field, students now said ‘Oh, that’s a parrot. I wonder if it’s a gray parrot,’ rather than ‘Oh, what did we learn last night. I forgot; I was too tired.’”



The right way to keep a field guide is one of the most important skills to learn in the course.



A few years ago, Omar Attum, associate professor of biology, led the course to Africa and the Middle East. He introduced a research component. Students assisted in a project of attaching tracking devices to green turtles found in the Red Sea. When they returned home, satellite trackers made it possible for students to go to an IUS website and follow the turtles' movements. On another trip, students studied acacias, the tree most favored by the endangered gazelle. Some of the students' data were later acknowledged in a published paper.

Students this year visited the Amazon at a time when spring rains had flooded much of the area. As they traveled up the river, one student, Belinda Petri, noted that flowers on plants in the flooded stream were near the water, not on top of the plant. "She proposed that the flowers were keeping just ahead of the rising water," Taylor said. "We had her develop a research plan. She did sampling along the route. Her preliminary data look like they will show statistical significance in support of her hypothesis."

The most important skill that students develop in the field—worth half of their course grade—is maintaining a field notebook. "Like Darwin and others before him, students are expected to write down all observations, measurements, research, and a certain amount of narrative," explained Taylor. "People do well in their field notebooks because initially they do badly. Three days in, we grade the notebooks. Students get F's, rarely higher than a B. What do they do wrong? They're not messy enough. They think 'Okay, I will carefully try to remember things, and I will sit down after dinner and write them down.' That's not a useful field notebook. The important thing is to get the detail down when you are there. It can be messy. And you don't erase anything, just cross out, because you never know what will be useful later."

"The weakness of the course," Taylor commented, "is that when it's over, everybody disperses." Planners choose a time near the end of term because airfares are cheapest then, but then there is no chance to make use of the



The Biology L303 class of 2015 deep in the jungle of Reserva Ducke, Amazona, Brazil



The 2015 research component was to collect data on turtles that live in the Upper Amazon (and the field guide can double as a ruler).

enthusiasm that comes from working together in the field. Every effort is made to make expenses affordable. Over the years, students have stayed in field camps with rough amenities and even on cruise ships (which are cheaper in terms of transport, food, and lodging).

“We’ve always left this course open to a wide spread of students,” Taylor said. “The only requirement is that a student has taken one biology course previously. We teach

students all the birds, animals, and plants. Everyone is brought up to the same level.”

Nearing the 20th anniversary of the internationalizing of the course, Taylor and other faculty who have participated over the years are thinking about a reunion. Past participants have opened a Facebook page, L303 Field Biology Alumni, and are considering a celebration on campus.



Above: Exploring the flooded forest by small boat



Far left: The flowers keep just ahead of the flooding.

Left: Jon Norman and Claude Baker with the Field Biology Course in 2001 to Polynesia. Baker inaugurated field biology at IU Southeast in the 1970s and 80s. His work contributed to the course winning two instructional development awards. Norman participated in all but one of the trips, initially as a student and later as scuba dive master and instructor. "I have been impressed with how much the course has grown academically," Norman said. "Now there is a research component and increased emphasis on geology and the social and geographic aspects of the destinations."

"We have never lost a student," Taylor said. "We had students who had never flown in an airplane, who got their first passport. The majority are absolutely thrilled. We've had students who changed majors to biology because of the course. On the other hand, we had students who we thought had hated the experience, and then they showed up the next year wanting to go again. Maybe this was more special than I realized."

IU SOUTHEAST LEADERS OF THE 2015 FIELD BIOLOGY COURSE

- David Taylor, professor of biology
- Beth Rueschhoff, assistant professor of biology
- Clint Franklin, senior lecturer in geosciences
- Jon Norman, biology laboratory services coordinator

