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Training for Research & Conservation in Latin America
Workshops spur homegrown projects for bats
Christa Weise



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Wading through the knee-deep water, we stretched our mist nets over and alongside the Escameca River in southwestern Nicaragua to capture tropical bats that fly out of the dense rainforest each night to forage. We especially hoped to net greater bulldog bats (*Noctilio leporinus*) – one of the few species of fishing bats. These bats have long legs and enormous claws that rake the water to snatch small fish swimming near the surface. We were fortunate that evening: among the bats of many species that appeared in our nets were several of the large, but remarkably gentle, greater bulldog bats. We identified, examined and discussed these unusual mammals, then released them to continue their fishing.

The group clustered alongside the river included 15 students who came from five Central American countries for an International Bat Research and Conservation Workshop, organized by Bat Conservation International and its partners, especially the U.S. Forest Service International Programs. Conducted in Spanish, this six-day session in January 2009 was adapted in part from BCI's popular and long-running U.S. workshops and planned as a pilot project. Our goal was to evaluate its potential for building firm foundations on which self-sustaining bat-conservation programs can be nurtured in threatened tropical forests of Latin America, where bat biologists are sometimes scarce.

We chose Nicaragua for this pilot workshop because of its ecological diversity, with tropical forests, mountains, Pacific and Atlantic coastal regions and active volcanoes, and because the country is home to 94 of the 176 known bat species in Mesoamerica. As in much of Central America, Nicaragua's forests are being rapidly converted to agriculture, with a dramatic loss of habitat. The need for conservation action is urgent.

This trial run was an outstanding success, both in the reviews from students and instructors and in the post-workshop conservation work of our students. BCI and its partners have since conducted similar workshops in Paraguay and Mexico, with others planned in the near future.

Students from Nicaragua, El Salvador, Guatemala, Honduras and Costa Rica were taught at the initial workshop by six experienced instructors: Bernal Rodriguez of Costa Rica, an enthusiastic expert on Central American bats and their ecology; Sybill Amelon and Ted Weller of the U.S. Forest Service, both adept at using acoustic monitoring systems; Richard LaVal, a renowned U.S. bat biologist who's now retired but active in Costa Rica; Kimberley Williams-Guillón, a post-doctoral fellow at the University of Michigan who has studied bats in Nicaragua; and me, as Coordinator of BCI's Bats of Latin America & the Caribbean Program.

During each day, intensive training gave participants a solid background on research methods, conservation and management of bats through Spanish-language lectures by all six instructors. At night, students received practical field experience in assessing habitat, humane bat-capture techniques, identification and acoustic monitoring. Daytime field exercises provided hands-on lessons in the use of a variety of capture equipment and in the

intricacies of radiotracking bats tagged with miniature transmitters.

Instructor Rodriguez, an authority on bat roosts and tent-making bats, explained bats' different types of tent construction and how to find bat tents and other roosts. We surveyed caves, with an emphasis on identifying evidence of past use by bats. After each full day of instruction, we took to the field at dusk for hours of capturing and identifying bats and learning the use of bat detectors and other tools.

We ultimately captured bats of 30 species, nearly a third of all bat species in the country, and documented additional species through acoustic monitoring. We were fortunate enough to capture a hairy-legged vampire bat (*Diphylla ecaudata*), which even many of the instructors had never held in hand before. Unlike the much-maligned common vampire bat, this species is thought to subsist on the blood of birds and causes no apparent problems for livestock and people.

One year after our Nicaragua workshop, the bat-conservation payoff is becoming clear: at least nine participants are undertaking bat projects in their own countries or working with studies on bats. Cristian Craker is studying bat diversity on landscapes dominated by coffee plantations, as well as vampire bats in cattle-dominated areas. He's also working to establish a bat-conservation organization in Guatemala, as Jonathan Delmer is doing in Honduras. Ana Patricia Calderon is conducting research into the disturbance of protected areas, while planning a genetic study of bats in Guatemala. Alban Jimenez is providing community education in natural areas of Guanacaste, Costa Rica, where he recently held a three-day bat workshop for children in the third through sixth grades. For most of these youngsters, this was their first close encounter with nature. They learned about the ecological and economic benefits of bats and the need for their conservation. Jimenez reports that the children initially feared bats as mysterious creatures, but, after seeing captured bats up close, that fear was replaced by fascination and appreciation.

As our Latin American workshops continue, we are tailoring each session to the diversity and needs of the host country. They bring together bat specialists from the United States and Latin America as instructors and provide unique learning and networking opportunities that benefit both students and teachers.

These programs are desperately needed to raise interest and develop skills among potential scientists and conservationists in regions with great bat diversity and grave threats. In many of these countries, or in regions within them, there literally are no local experts on bat research or conservation. Students with an interest in bats often find nowhere to turn for training, advice and support.

Guatemalan student Ana Patricia Calderon says the workshops provide "a great opportunity for Central American students and professionals to obtain knowledge that we couldn't obtain in our own countries. Without a doubt this is very valuable to us."

The workshops we organize through our partnerships are free to participants, except for a small fee to reserve their place, and they are conducted entirely in Spanish. Our aim is to ensure that this vital experience is accessible to those with the interest and potential, but who would be unable to receive training because of language barriers or prohibitive costs.

The workshop itself is but the first step in the process, providing students with technical skills, as well as offering the opportunity to get to know experts in various areas of bat research and conservation. These personal contacts can be a crucial source of advice and

collaboration that continues long after everyone returns from the field.

The hope of all the partners is that self-sustaining initiatives will be built upon the foundations laid by these workshops. We foresee continuing conservation efforts and international collaborations for research, education and conservation throughout the region. Bringing the right people together and giving them the knowledge and opportunities to find their own strategies can make a huge difference for the conservation of bats and their habitats throughout Latin America.

CHRISTA WEISE is the Coordinator of Bat Conservation International's Bats of Latin America and the Caribbean Program.

We are currently working with the local nonprofit group, Fundacion Chimbilako, to obtain support for a workshop in Colombia in response to a request from the Colombian National Park Service for training on the research and conservation of bats on parklands. We also hope to arrange a follow-up training session for key students from the Nicaragua workshop, with a focus on building and leading a bat-conservation organization.

Your help can make these and other Latin American workshops a reality. Please support this crucial program at www.batcon.org/donate.

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