

INSTITUTIONAL PROFILES

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Developing an Undergraduate Herpetology Club at Cornell University

In its 20 years of existence, the Cornell Herpetological Society (CHS)—an undergraduate herpetology club at Cornell University in Ithaca, New York—has reached several hundred students. It has shaped their college experience and in many cases their careers. Undergraduate herp clubs like the CHS provide opportunities that students could not gain through coursework alone, such as peer mentorship, field experiences, teaching opportunities, interactions with established scientists, and the opportunity to take on a leadership role. These groups create a community of students with similar interests who can amplify each other's curiosity outside of a strictly academic setting, often leading to lasting friendships beyond graduation. Because the CHS has positively influenced the lives and careers of its many undergraduate members, it could serve as an example to inspire the creation of similar groups at more universities. Ultimately, connections

among several university herp clubs could provide additional opportunities and ideas.

Three Cornell undergraduates who were devoted to the scientific study of amphibians and reptiles founded the CHS in 1992. Since then, it has operated continuously on a model based on leadership from a group of undergraduate officers, with advice and guidance from its faculty advisor Kraig Adler. Although the CHS is organized and run by undergraduate students, it welcomes participation from the broader Cornell and Ithaca communities. The CHS is a registered student-run organization that must apply for funding each semester along with over 800 other student organizations at Cornell University. The CHS organizes three main activities: 1) monthly meetings in which local or visiting speakers present their work; 2) field trips that include short excursions into the field and longer, multi-day visits to universities, museums, and zoos for behind the scenes tours with staff; and 3) educational programs that provide outreach to the community. Each of these activities has served to enrich the lives of herp club undergrads and other community members.

MONTHLY MEETINGS

True to its mission as a club run by students primarily for students, the CHS now reserves its first meeting every year for a series of talks by more senior club members based on their summer research or other biological activities. New students benefit from other undergraduates discussing their research, recently including topics as diverse as lizard mating systems in the American Southwest, toad colonization of Alaska, or Brazilian frog phylogeography. More senior students show new students how to seek out funding for their own research projects, demonstrating that one can, in fact, become a budding scientist while still an undergraduate. Other meetings during the academic year feature scientists, conservationists, wildlife photographers, veterinarians, and more, allowing students to learn about different types of careers. Speakers have included Aaron Bauer, Carl Gans, Chris Jenkins, Joseph Mendelson, Robert Murphy, and Margaret Stewart, among many other accomplished herpetologists. After each meeting, a casual dinner at a local restaurant allows students to have closer interactions with the guest speakers.

OFF-CAMPUS ACTIVITIES

Field trips, both local day trips and multi-day excursions farther afield, give an inside look into different applications of herpetology. The club makes the most of the herp diversity in

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FIG. 1. CHS members examine and photograph a salamander during a local field survey.



FIG. 2. By conducting systematic surveys each fall and spring of properties owned by a local land conservation organization called the Finger Lakes Land Trust, the CHS contributes to the Land Trust's and other herpetological databases.



FIG. 3. The club sponsors a trip every August to observe hellbenders in the wild. To achieve success requires a small army of rock turners and dip-net holders, and someone to grope for the animal. The giant salamanders are then PIT tagged, measured, weighed, and returned to the same GPS-referenced rocks, in cooperation with a New York State Department of Environmental Conservation officer.



FIG. 4. Behind the scenes at the Philadelphia Zoo, CHS undergrads get up close and personal with a tortoise named Bubba and many other herps, some of which are never exhibited.

the region by focusing the majority of outings locally. Many of those trips are with a conservation organization called the Finger

Lakes Land Trust, which has the CHS conduct herp surveys on their various properties each semester (Figs. 1, 2). The club has frequently sent those data to the New York Herp Atlas project. The CHS also takes advantage of the annual spring salamander migrations to witness explosive breeding events. Last year the CHS began collaborating with Cornell's natural areas and arboretum staff to form a plan for protecting salamanders as they cross roads and for educating the increasing number of people who go to see the migration each spring. Additionally, an annual trip to southwestern New York with a staff member from the New York State Department of Environmental Conservation lets students spend a day finding hellbenders, collecting data about them, working on habitat restoration projects, and releasing juveniles head-started by the Buffalo Zoo (Fig. 3).

Members of CHS take at least one annual trip to locations farther away, including Boston, New York City, Philadelphia, Toronto, Ann Arbor, Washington and other cities around the eastern United States. The club uses these trips as a way to visit museums, zoos, or university labs, often meeting curators, veterinarians, and researchers at multiple institutions over the course of a weekend (Figs. 4, 5). Students choose the location at the beginning of the year, and then the faculty advisor arranges the trip.

EDUCATIONAL OUTREACH AND COMMUNITY BENEFITS

The club benefits the larger university and local communities through educational outreach. Every year members of the CHS take reptiles and amphibians to university residence halls, Cornell's annual veterinary college open house, local schools, the Ithaca Science Center, and community centers to educate people about these oft-misunderstood creatures (Fig. 6). Most of the people who attend these programs leave feeling less afraid of herps than when they arrived, while some even leave with a newfound love of herps and other creatures. Occasionally, parents from the community bring their children to join the herp club on local field trips and at its meetings, thus fueling the next generation of herpetologists.

Club members who participate in outreach programs develop strong public speaking skills that often help them in their subsequent careers. They learn how to effectively engage an audience, an ability that serves them in a variety of situations, whether they go into research, conservation, environmental law, or another career.

OTHER ACTIVITIES

Members of the CHS have taken advantage of several opportunities outside the club's regular activities. Some arose in the form of summer research projects, grants, or internships that the students heard of from other club members or from the club advisor. Others received research funding from an anonymous donor who provides funds to the CHS. For example, three undergrad club members used this source and other funding to do a survey of herpetofauna in Papua, New Guinea, during which they discovered a new frog species that presently holds the world record for smallest known vertebrate (see their article in PLOS One, at <http://www.plosone.org/article/info:doi/10.1371/journal.pone.0029797>). A few years prior to that, CHS undergraduates participated in a faculty search for a herpetologist in Cornell's Department of Ecology and Evolutionary Biology. The CHS members interviewed each candidate, and then wrote a report on each. The search committee took their recommendations

quite seriously because the CHS members took the process so seriously, and ultimately chose the candidate whom the herp club had recommended. Such experiences played a formative role in the subsequent academic and career pursuits of the students who participated in them.

Finally, the CHS fosters friendships by bringing students together. Outside of formal club activities, students get together for fun events like herp-related movie nights, holding potluck dinners, and watching such outlandish films as *Life in Cold Blood*, *Anaconda*, or *Snakes on a Plane*. They also go on hikes or camping trips together to take a break from school. These informal activities help relieve student stress while creating a more tightly-knit club.

POST-HERP CLUB CAREERS

Many club alumni remember their CHS days fondly as a formative influence. One of the club's founders now directs a worldwide conservation organization called Amphibian Ark, and returns to Cornell from time to time to give talks, help, and advice to current undergrads. Other members have become university professors or museum curators. Some of them did not previously recognize the possibility of building a career in research until they joined the CHS. Other alumni have pursued careers as zoo or private veterinarians, or medical doctors. Many who chose fields outside of biology or conservation for their careers remain interested in herpetology, including a couple of environmental lawyers and one computer programmer who spends his free time describing new species of turtles. In dozens of cases, the presence of an undergraduate herpetology club has fueled people's enthusiasm during college, providing a jumping off point for a lifelong interest in reptiles and amphibians.

Throughout the history of the Cornell Herpetological Society, a few dedicated students have sustained the meetings, field trips, and community outreach that left a lasting impact on so many. Similar undergraduate-driven herpetology clubs can thrive anywhere provided they have certain critical components. First and foremost, enthusiastic and focused students must manage to find each other, and then they must sustain a high enough level of involvement in the club to organize events. Nearly as important is guidance and mentorship from an advisor who truly cares about the club and its members. Such an advisor provides continuity and has the expertise to help students plan the best meetings and field trips possible. A third important component is funding, which many universities provide to student clubs through student activity fees. However, funding plays a less crucial role than do the students and faculty advisor. Even without money, clubs may hold local excursions, herp-themed movie nights, meetings, and much else. Different regions in the world have different resources to offer, so as long as students (with an advisor's help) can recognize those resources, then they can create a very successful organization.

Members of the CHS sincerely hope that students will find a way to use whatever resources they have—human, ecological, or institutional—to engage their peers outside of classrooms and



PHOTO BY KRAIG ADLER

FIG. 5. At the Pittsburgh Zoo, the club members observe an Alligator Snapping Turtle held by the curator of reptiles. *Left to right:* Herb Ellerbrock (reptile curator), Rich Glor, Mehdi Joseph-Ouni, Mike Benard, Howard Evans (Cornell professor), Jeremy Sabatini.



PHOTO BY CARLY HODGES

FIG. 6. The CHS operates a large display of live herps, skeletons, and other learning materials as part of its extensive outreach program to the local community. Among its largest events is an open house sponsored by Cornell's College of Veterinary Medicine, where students and Ithacans of all ages overcome fears to learn about the animals.

labs, leaving a lasting contribution on their campus as they explore their passion.

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<http://rso.cornell.edu/cuherps/flash/flash.html>
<http://cuherps.blogspot.com/>