Studentspotlight

Jill Quaintance '02

QUAINTANCE TAKES PROJECT TO INTERNATIONAL TURTLE SYMPOSIUM

Jill Quaintance has seen her share of head scales—make that turtle head scales—as part of her research project on green sea turtles in Hawaii. But the HPA sophomore takes it all in stride. She recently returned from the Twenty-First Annual Symposium of Sea Turtle Biology and Conservation in Philadelphia, where she was the only high school student to present a paper.

The five-day conference, held this year at the Adams Mark Hotel, attracts about 1,000 of the world's top researchers and conservationists and features more than 450 oral and poster paper presentations.

Quaintance presented "Monitoring Turtle Basking Behavior with Remote Cameras," which involved observing green sea turtles at the Big Island's Turtle Beach using remote cameras for 27 days last June. The cameras "stream" video back to the school, allowing students—and others throughout the world—to monitor the turtle population and study the turtles' basking behavior.

The project also examined how long the turtles basked and their average basking time. Quaintance authored her paper under the direction of Marc Rice, director of the Cooperative Sea Turtle Research Project, and George Balazs, leader of Hawaiian Marine Turtle Research for the National Marine Fisheries Service (NMFS), Honolulu Laboratory. The paper will appear in the Proceedings of the Twenty-First Annual Sea Turtle Symposium.

Quaintance's participation at the conference was made possible through a unique partnership with the NMFS, which includes symposium travel assistance for deserving students. Since 1987, students in HPA's marine science program have worked with NMFS on a turtle research and monitoring project in West Hawaii. The work has grown over the years in scope, magnitude, and importance to overall species conservation.

The symposium project consumed Quaintance's "spare" time for about eight months. After observing the turtles on video from the remote cameras, she recorded what time each turtle came out from the water and when it went back in. She identified the turtles using a variety of methods including carapace numbers, which are lightly etched on the turtle shell; natural scars or marks; and head-scale patterns.

"It was difficult to identify all the turtles," she says. "We take pictures of the head scales, which are like fingerprints. I basically had to memorize all the turtles' patterns. We're still trying to come up with a better way to sort through all the pictures so we can find the turtles faster."

She entered the information on 24 turtles using several databases and concluded that on average, the turtles bask 2.2 hours. She also found that head-scale identification can be used at Turtle Bay and confirmed that the remote cameras are a good option for observing turtles in a non-intrusive manner.

Quaintance was impressed with her symposium experience. "There are so many people doing so many different things with other turtles," she explains. "It was really interesting to see what other people are doing." Likewise, people who saw her presentation were surprised to learn that turtles bask throughout the Hawaiian chain.

Several symposium events caught her attention, including a workshop on the new Arc View software, which HPA has started using to map areas above the school. "We'd like to use this software to map Turtle Beach," says Quaintance.

Another interesting presentation was the "Critter Cam," where a researcher suction-cupped a video camera to a leatherback turtle. "This guy had 30 hours of tape and he watched every second of it!" Quaintance says. "He had footage of other turtles knocking the camera around."

One of the most interesting moments for Quaintance was meeting Ursula Keuper-Bennett and Peter Bennett, who pioneered

Jill Quaintance stands in front of her poster paper at the symposium with George Balazs (left) and Marc Rice.

turtle head-scale identification. "I'd heard of them because of their work with turtles on Maui," explains Quaintance. "I met them very briefly, and it turned out Mrs. Keuper-Bennett had been watching our video on-line at the same time I was and she identified all the turtles I did." Quaintance also gave high marks to Peter Bennett's oral presentation on tumor regression, which was done in collaboration with Keuper-Bennett and Balazs. "They found that by looking at a turtle's eyes, you might be able to determine if that turtle will develop a tumor, if it had a tumor, or if its tumors are regressing. It was really interesting."

"We'd like to get another school on the mainland involved and do a video thing back and forth," she explains. "We'd like to teach other students to do what we're doing." For now, Quaintance is taking everything one step at a time. "Next year, Mr. Rice wants me to do an oral presentation at the symposium." No doubt, she'll be ready.