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ADVENTIST HEALTH SCIENCES CENTER
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News & Events

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School of Science & Technology news

A biology student's research:

The Bahamas, police, and hitchhiking turn into significant results



Bryant Reynolds, MS, recent graduate from the department of earth and biological sciences, SST, takes a self-portrait of himself in the Bahamas.

He hopped on a plane for a two-week mission in the Bahamas. His instructions, "Go to Little Harbour and ask for Allison."

Byrant Reynolds, MS, just graduated last month with a master's in biology from the School of Science and Technology. But before feeling the satisfaction of his leather bound diploma, Mr. Reynolds went through quite a few adventures while working on his thesis.

He studied the Cuban parrot on two islands of the Bahamas—Abaco and Inagua. With no plan but to find some Cuban parrots, present a poster at a conference, and find a woman named Allison who has lodging for biologists, Mr. Reynolds says, "I brought a tent with me, just in case."

As it turned out, he overheard a couple biologists talking in the plane. They were headed to the same conference, and they just so happened to not only know who Allison was, but they were staying at her "homestead," too. Allison Ball is a member of Friends of the Environment, an organization with a mission to preserve and protect Abaco's terrestrial and marine environments. Thankfully, Mr. Reynolds didn't need his tent.

After presenting his research poster at the Abaco Science Alliance Conference, sponsored by Friends of the Environment, it was time to get in his rental car and search for the Cuban parrots. Because the bird is most often found in the morning and evening, Mr. Reynolds would wake up at 5:00 a.m., drive around, and once he heard parrot calls, he pulled over and parked to measure the vocalizations by recording the birds' calls. After a four-hour morning escapade, he'd do the same in the evening.

One day, while he was recording calls behind the airport, the police showed up with weapons drawn. They shouted through a megaphone, "What are you doing?" Once the biology student explained what the parabolic dish was for, the police put their weapons

away and let him be.

His time on the island of Inagua was a different story. Although he booked a hotel for his stay, he had no rental car, and thankfully, no guns pointing at him either.

"The people were very friendly," he explains. While meeting locals on the street, he was able to hitchhike. They offered him rides outside of the city, where most Cuban parrots were.

"I even got a ride to the other side of the island and back," he says. One-way, it's a 20-mile trip that takes six hours. "The only paved roads are in the city, the rest is sand."

Much of the trip was spent removing branches with machetes. Was the 12-hour day in the car worth it? "I actually only saw four parrots on my trip across Inagua."

Back in Loma Linda, he borrowed 188 Cuban parrot specimens from six different museums: the Smithsonian, Harvard Museum of Comparative Zoology, and Carnegie Museum of Natural History, among others. While operating in the lab of William Hayes, PhD, MS, professor of biology, School of Science and Technology, Mr. Reynolds measured 18 morphological (e.g. size of bill, body size, etc.) and plumage (color of feathers) characteristics, representing the six extant and one extirpated island populations.

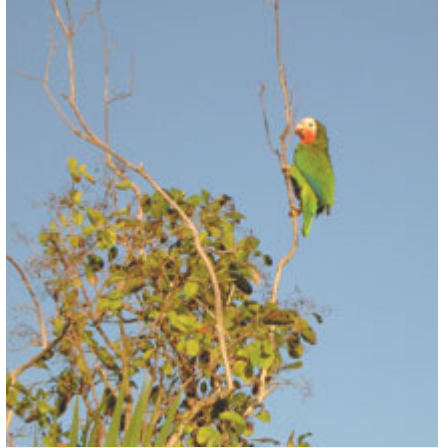
"I also examined 11 spectrographic characters from the flight calls of 23 parrots representing all six extant populations," he adds.

Mr. Reynolds' thesis, "Conservation taxonomy of the Cuban parrot: plumage, morphology, and flight call variation," shows significant results. His findings suggest that the Cuban parrot on Abaco should be considered a candidate for elevation to full species, since it nests in the ground, rather than in trees. If so, the bird would be endangered rather than threatened.

As the ancestors of the Bahama parrots moved away from Cuba, they started to form their own identity. "Although currently lumped into a single subspecies, each of the three Bahamas populations (including an extirpated population) was equally distinct as the four other currently-recognized subspecies," wrote Mr. Reynolds in his abstract.

He also found that parrots from each island possessed distinct flight calls.

"Presently, the two remaining and one extirpated Bahamas populations are considered a single subspecies," states Dr. Hayes. "Bryant's research shows that each population is as distinct as the other island populations on Cuba, Isle of Pines, Cayman Brac, and Grand Cayman. and therefore should be considered separate subspecies like each of the



Bryant Reynolds' research suggests that the Cuban parrot on the island of Abaco should be considered a new species.

others. But his research goes farther, suggesting that the Abaco population in particular might warrant elevation to full species. With the proposed changes, the conservation priority of the Bahamas populations changes markedly.”

By Patricia Thio

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