1-7-2008

Newsroom

Georgia Southern University

Georgia Southern alumna earns first place in international science competition

JANUARY 7, 2008

Katalin Patonai has returned to her native Hungary, but the young scientist is still using the knowledge she acquired as a student at Georgia Southern University.

Patonai recently won first place in her division at the International Life Sciences Students' Conference hosted by the University of Ljubljana in Slovenia.

Patonai was honored for the research she conducted as an undergraduate assistant to Sophie George, a professor in Georgia Southern's Department of Biology.

Their project focused on Littoraria irrorata, a snail found in Coastal Georgia and more commonly known as the salt marsh periwinkle.

'Ecologically and economically, salt marshes are very important to Coastal Georgia," said Patonai, who graduated from Georgia Southern in Fall 2006 with a bachelor's degree in biology. 'Our research looked at the salt marsh periwinkle and its impact on these marshes."

Patonai attended Georgia Southern on a scholarship from the Georgia Rotary Student Program, which provides assistance to international students. In addition, she was a recipient of a Paulson Student Research Award, which is presented annually by the College Office of Undergraduate Research in the Allen E. Paulson College of Science and Technology at Georgia Southern. Patonai received the Paulson award for her work with George.

'Dr. George needed a student to assist her in a new study of the salt marshes," Patonai said. 'Coming from Hungary, the marshes were a completely new environment for me, so I was immediately interested in the project."

Patonai and George conducted their research at two locations: one at Tybee Island, near Savannah, and the other at Crooked River State Park, just north of St. Marys.

'The salt marshes are vital and beautiful areas in Coastal Georgia," Patonai said. 'From an ecological standpoint, they provide valuable shelter, breeding and feeding grounds for various species while functioning as a natural water filtering system. Economically speaking, their resources provide around $1.5 billion of income per year.

'However, these areas also experience massive die-offs, with complex reasons in the background. The herbivore salt marsh periwinkle can overgraze huge areas, turning previously dense vegetation into mud flats. In such cases, their numbers can increase dramatically, which suggests predators do not have the ability to control the periwinkles' abundance.

'Therefore, the investigation of predator-prey interactions is an important approach to understanding and preventing these die-offs."

Data was collected during the summer and fall of 2006.

'Our study sought to answer two questions," Patonai said. 'First, does shell size and shape differ between the two sites and over time? Secondly, if there are differences in shell morphology, can this be due to difference in predation risk at the two sites?"

Patonai's presentation at the International Life Sciences conference addressed the answers to these questions. Held in November 2007, the conference attracted participants from 20 countries.

Patonai presented her research in the conference's orange section, which included research projects devoted to zoology, botany, systematics, evolution, basic ecology, mirobal ecology, biodiversity, etology, biogeography and paleontology.

Titled 'Differences in Shell Size and Shape of the Salt Marsh Periwinkle in Coastal Georgia," Patonai's presentation focused on information collected from Tybee Island and Crooked River.

'According to preliminary data, the two sites differed significantly in vegetation cover," Patonai said. 'In comparison, Tybee Island was considered an exposed habitat, and Crooked River was a sheltered habitat. Because shelter gives prey a chance to seek refuge and escape predators, we expected to find differences in predation risk between the two sites.

'Our findings suggest that predators seem to exert strong selection on periwinkles at the exposed site, so they represent a potential control mechanism."

Today, Patonai is pursuing a master's degree in ecology at Eotvos Lorand University in Budapest, Hungary. She has fond memories of her experience at Georgia Southern.

'I was fortunate to participate in great classes, memorable field trips and research projects," Patonai said. 'I enjoyed the extensive facilities, which offered many more resources than had been available to me. I especially loved the centralized campus, which is not very common in Hungary, where university buildings are spread out across the city.

'The academic standards are quite good, too, and I made friendships that will last a lifetime. I would go back again, without hesitation, if I had the chance."

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