HOLLINS UNIVERSITY

Professor Hopes Arctic Research Reveals How Species Survive

Roanoke, Va. – Churchill, Manitoba, is probably best known for the hundreds of polar bears that gather there each summer and fall and the thousands of tourists who flock to see them. It's also home to a harsh but uniquely diverse environment. Morgan Wilson, assistant professor of biology at Hollins University, is fascinated with how animals, particularly birds, can reproduce successfully under the unpredictable circumstances the Arctic presents. He hopes that Hollins students can help him to unravel how some species are reproductively successful under a wide variety of circumstances, while others are not.

Wilson, who joined the Hollins faculty in August, has conducted ongoing research at the Churchill Northern Studies Centre (CNSC), located just below the Arctic Circle on the western edge of Canada's Hudson Bay.

"Three different ecosystems converge at Churchill – marine, the northern edge of the boreal forest, and the beginning of the tundra – and there are about 100 species of birds either breeding there or migrating through the area," he explained. "Interestingly, the entire breeding season is very short, only mid-June to early August, so organisms have only a very limited window of opportunity in which to attempt to reproduce."

Wilson has spent three summers in Churchill studying how breeding Yellow Warblers respond hormonally to potentially harsh and unpredictable conditions. "I've been looking at the ways they react both physiologically and behaviorally to avoid stress.

(more)

I'm interested in why some species do well in this kind of environment while others don't."

Beginning next summer, Wilson, along with Ben Cash, a colleague at Maryville College, hopes to take one or two Hollins biology students to Churchill to aid in the research. Later, 10 to 20 students may go there to participate in an Arctic biology course. "When we take the train from Winnipeg to Churchill, the students will get a rare chance to see the progression of the region's ecosystem – from boreal forest to the edge of the tundra," he said. "In Churchill, they will be able to stay at the CNSC while working on research and participating in the course. Plus, they will experience the different cultures of the area."

Wilson, a native of Winchester, Va., is a graduate of Hampden-Sydney College and earned his master's degree in biology from Virginia Tech. This spring, he completed his Ph.D. in biology at the University of Mississippi. At Hollins, Wilson teaches comparative invertebrate anatomy, physiological ecology, human physiology, and invertebrate biology.

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September 24, 2002