

UNCW Alumna Discovers Crustacean Camouflage

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Laura Bagge '08, '11M first discovered marine biology catching ghost crabs during summer visits to the aquarium near Emerald Isle, NC. That early interest inspired her to major in biology and marine biology at UNCW.

Bagge, who earned her scuba diving certification at age 13, explored her first shipwreck off the North Carolina coast. Now, as part of her doctoral degree program at Duke University, she is a scientific diver. Doing what she loves has led Bagge to an exciting scientific discovery about how some mid-water crustaceans camouflage themselves from predators.

Bagge's Ph.D. dissertation research findings have recently been published in the journal *Current Biology*. As part of their camouflage, the amphipods Bagge studied are covered in an anti-reflective coating made of what appears to be living bacteria, which dampens the reflection of light, making them less visible to predators and prey. While there is much more for Bagge to study, her research may also have implications for applied science in biomedicine and military defense.

"Laura has been a terrific collaborator, and she has identified a novel way in which an animal's physiology interacts with its ecology," said UNCW biology and marine biology professor Stephen Kinsey. "Having known her since she was an M.S. student at UNCW, it has been very gratifying to see her continued growth into the independent scientist that she is today."

"Laura is an outstanding young scientist," said Richard Dillaman, professor emeritus who worked with Laura during her time as a student at UNCW. "It was a pleasure to have Laura in our lab. She will be an outstanding representative of both Duke and UNCW."

As Bagge first began developing ideas for her dissertation, she turned to the influential professors at her alma mater who inspired her as an undergraduate and graduate student. Her use of the UNCW microscopy lab helped launch her research and pointed her toward several major discoveries.

"My experience doing research at UNCW has been nothing but collaborative," said Bagge. "Every time I visit UNCW, I am inspired by all the research that is being done there."

She will continue to work with UNCW faculty in the biology and marine biology department as she finishes her dissertation research. Another paper, co-authored by Kinsey, is forthcoming for submission to a scientific journal and will focus on how transparency in shrimp can be disrupted.

"I received an excellent, broad background in animal physiology and biology during my time at UNCW that led me to develop my research project for my doctoral dissertation," said Bagge. "All the help I received in learning how to be a scientist has been invaluable to my career thus far. For the future, I hope to continue to do research that asks questions about how animals see and avoid being seen."

-- Caitlin Taylor '18M

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