

Hitchin' a Ride

Marine Life Find Homes on Horseshoe Crabs

Fans of the Atlantic horseshoe crab likely know that their eggs provide a food source for migratory birds, and that amoebocytes found in their blood are used to test the safety of vaccines and other drugs. But they may not know the arthropods also serve as home to several species of marine life.

Epibionts are organisms that attach to and live on other organisms, and basibionts, or host organisms, can be home to a variety of epibionts.

Researchers at DNREC's Delaware National Estuarine Research Reserve last year began building a database of the various epibionts found on horseshoe crabs and expanded upon that this year.

"There isn't a ton of information for epibionts on Atlantic horseshoe crabs in the Delaware Bay region, and this project builds a framework for identifying them," said Faye Desarro, a Delaware Department of Natural Resources and Environmental Control intern who collected epibiont information on more than 300 horseshoe crabs this summer. "The public is interested in horseshoe crabs, and they are a major part of Delaware's ecotourism, so it would be valuable to have a guide of the different epibionts they can find as they walk on the beach."



DNREC intern Faye Desarro catalogs epibionts found on horseshoe crabs.

Desarro is a rising Junior at Denison University, Granville, Ohio, studying data analytics and earth and environmental science.

Desarro made six visits to Kitts Hummock and four visits to Ted Harvey Wildlife Area in May and June to collect data. Data from the 304 crabs she cataloged.

Among the species she found making their homes on the horseshoe crabs were barnacles, slipper shells, jingle shells, mussels, bryozoans and *Sabellaria* reef.

“Barnacles and bryozoans appeared the most frequently,” she said. “Of the crabs I sampled, roughly 74% had barnacle presence and 72% had bryozoan presence.

She said she found only one horseshoe crab with mussels, but it had 65 mussels on it, which made it the most abundant epibiont when it was present.

“Further research is needed to see if this is similar to the true average mussel count,” she said.



She said she found other interesting things as well.

“Some crabs had unique epibiont presences,” she said. “I saw some epibionts attached to each other, such as a slipper shell that was covered in barnacles.”

She said she hopes that others who come after her will continue to build on the research to learn more about the Atlantic horseshoe crab.

“The public in general is curious about horseshoe crabs,” she said. “They are unique to this area. They are an ancient creature. They are important for birds. They are important for biomedical work. They are safe, gentle animals to interact with.”