Delaware mayor, horseshoe crab expert featured on the award-winning podcast Radiolab

Jessica Bies Updated 5:17 p.m. ET Sept. 12, 2018

Horseshoe crabs may not be much to look at, as Little Creek mayor and conservationist Glenn Gauvry noted in a recent episode of the award-winning podcast Radiolab.

But they are drawing the attention of researchers and pharmaceutical companies worldwide.

The crustaceans' baby blue blood has been used for decades now to help detect traces of endotoxins — released by bacterial cells when they disintegrate — in injectable drugs or implanted medical devices.

It contains a substance known as Limulus amebocyte lysate, or LAL, that instantly coagulates, or thickens, when contaminated.

In nature, LAL helps horseshoe crabs heal when their shells crack or are otherwise injured, according to the Radiolab episode "Baby Blue Blood Drive." In biomedical circles, it helps make sure surgical implants and IV fluids aren't killing patients or making them sick.

"We use it to test the purity of all pharmaceutical drugs that are taken intravenously," said Gauvry, who is the founder and director of The Ecological Research and Development Group in Little Creek. The nonprofit, whose primary focus is the conservation of the world's four horseshoe crab species, is internationally recognized.

That's one of the reasons Gauvry was initially contacted by Radiolab reporter Latif Nasser for the roughly 60-minute episode on horseshoe crabs.

The show is produced in Chicago and hosted by Jad Abumrad and Robert Krulwich. Racking up millions of downloads every month, it is one of the most popular podcasts on the Internet.

Every spring, Gauvry takes a group of biomedical company employees who are in Annapolis, Maryland, for an annual pharmaceutical conference on a field trip to Pickering Beach. Afterward, they go to Sambo's Tavern for lunch.

Horseshoe crabs are considered an important species in Delaware, both ecologically and economically, state environmental officials say. Their eggs are a vital food source for shorebirds migrating through the state each spring, creating a spectacle that draws many visitors, they say. They also are valued as bait and their odd copper-based blood is used in medical testing. ***(Photo: AP)***

Nasser tagged along to see the horseshoe crabs' annual "sex prom," or mating season.

In the podcast, Gauvry talks about his background — he saw his very first horseshoe crab in 1969 while he was stationed at Dover Airforce Base — and why he's so committed to protecting the scuttling creatures.

"They're not all that attractive unless you've been around them a while," Gauvry tells Nasser. "I find them quite beautiful."

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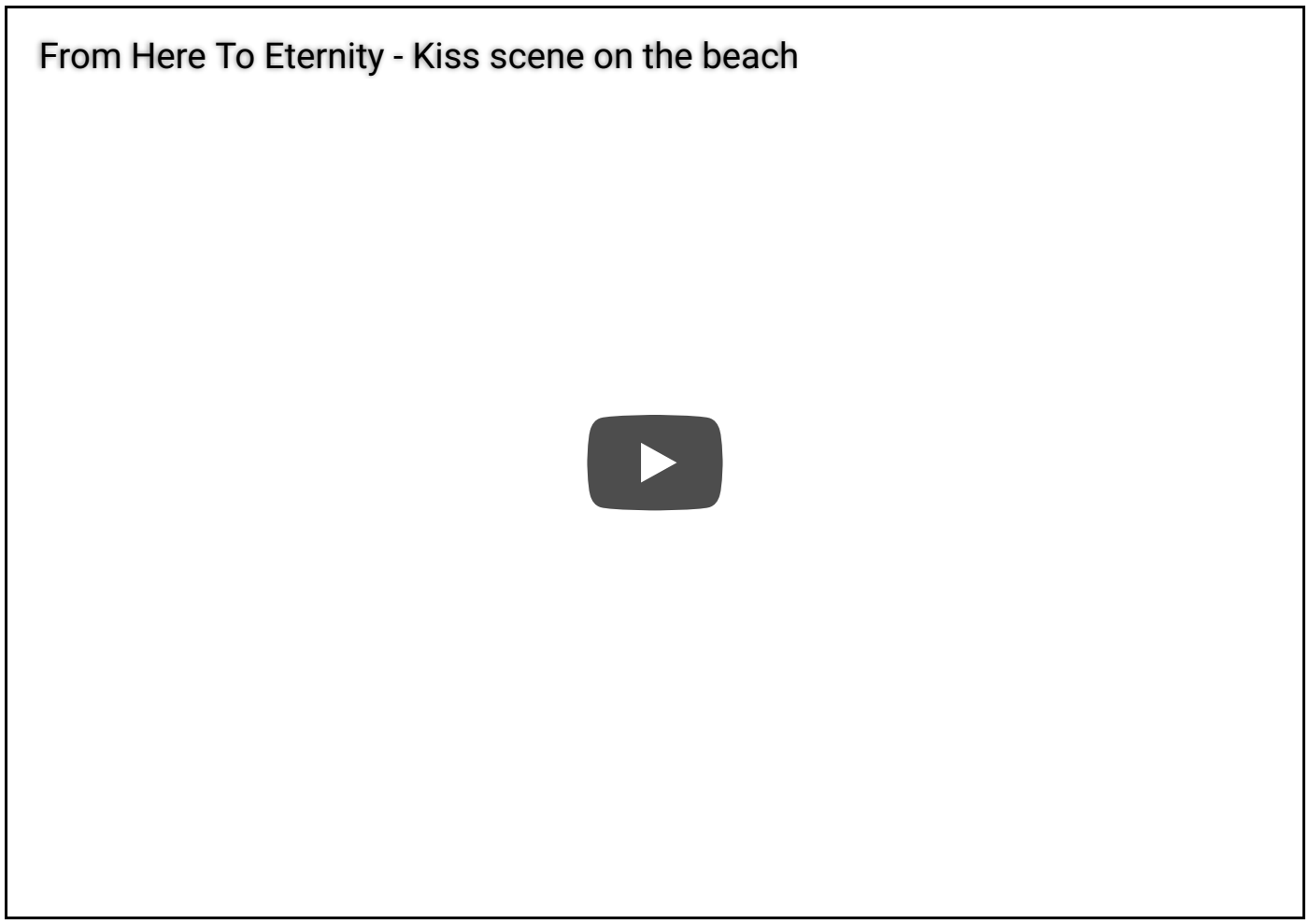
PEACE, LOVE AND HORSESHOE CRAB FEST: Samantha Dunn, 7, of Smyrna, learns about horseshoe crabs at the sixth annual Peace, Love & Horseshoe Crab Festival, celebrating the annual spring spectacle of migrating shorebirds and spawning horseshoe crabs at DNREC's DuPont Nature Center at Slaughter Beach. ***(Photo: JASON MINTO/THE NEWS JOURNAL)***

Gauvry also compares the horseshoe crabs' mating season to an animal-world version of famous kiss scene between Burt Lancaster and Deborah Kerr from the movie "From Here To Eternity."

Radiolab plays snippets of it during the podcast.

"I never knew it could be like this," Kerr says breathily. "Nobody ever kissed me the way you do."



In an interview with The News Journal on Tuesday, Gauvry said he actually started working with horseshoe crabs while part of Tri-State Bird Rescue and Research's oil response team. In the late 80s and 90s, the nonprofit was trying to figure out how they would save and protect the horseshoes and Delaware's migratory bird population if there were an oil spill in the Delaware Bay.

Of course, Gauvry isn't the sole focus of the Radiolab episode. After a romp down Pickering Beach, listeners are transported to a "bleeding facility" at Charles River Laboratories in South Carolina, where workers actually extract the horseshoe crabs' blood for use in biomedical testing.

Milton's Horseshoe Crab & Shorebird Festival is timed to play off the spring arrival of horseshoe crabs heading to the shores by the thousands to spawn and lay eggs. ***(Photo: U.S. Fish and Wildlife Service)***

After their blood is drawn, the horseshoe crabs are returned to the wild — if they live. Between 10 and 15 percent of the creatures die in the process.

That's bad news for the Red Knot, a bird that nests in the Delaware Bay and eats horseshoe crab eggs. It is currently at risk of becoming threatened or endangered because its food source is declining.

There is some evidence that bleeding horseshoe crabs has a negative impact on their ability to spawn and reproduce. They are also used by eel and conch fishermen for bait.

But the birds' declining population also gives the crustaceans a way out.

Red Knots are popular among birders, who are calling for wider use of synthetic LAL in an attempt to secure their food source. Which means horseshoe crabs may not be needed by the biomedical field anymore.

HORSESHOE SEASON: Volunteer leader Dennis Bartow finds a pair of mating horseshoe crabs wading in the brink at James Farm Ecological Preserve. ***(Photo: Joe Lamberti/The (Salisbury, Md.) Daily Times)***

The Radiolab episode says that may be a bad thing, because people may not be as invested in horseshoe crab conservation when there's no obvious financial benefit.

Gauvry disagrees, however.

“I just happen to know there are a lot of people up and down the coast and around the world that are interested in horseshoe crabs because they're horseshoe crabs," he said. “I think humans can rise above that type of greed."

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