

## EDUCATION



KENDALL WARNER, THE VIRGINIAN-PILOT

The TickBot, designed and operated by members of the Old Dominion University Tick Research Team, travels down a trail in the Preserve on the Elizabeth neighborhood of Chesapeake on Monday, July 27.

# A ROOMBA FOR TICKS?

## ODU researchers pilot remote-controlled tick prevention

**NATALIE ANDERSON**  
The Virginian-Pilot

As Virginia sees an uptick in tick-related illnesses, a Roomba-type technology dubbed the TickBot may be the answer to fighting off the pesky parasites.

A group of researchers at Old Dominion University in Norfolk called the ODU Tick Research Team has set out to test a new technology intended to kill ticks without harming the surrounding environment or wildlife by using a remote-controlled robot on four wheels. The robot is armed with a cloth treated with permethrin, a chemical insecticide typically sprayed on military uniforms and boots. The chemical is a neurotoxin that kills ticks within 45 minutes of exposure to the treated fabric while posing little risk to other critters.

“The huge advantage of this is that it’s self-contained, and the moving vehicle will scare off the most beneficial insects,” said Holly Gaff, who heads the tick research team and chairs the school’s biological sciences department. “They’ll fly away from something moving.”

Since 2012, the researchers have collected at least 350,000 ticks across Hampton Roads, aiming to better understand

health risks, prevention strategies, diagnostics and treatment. Current efforts come as Virginia, and most of the rest of America, is seeing an increase in emergency hospital visits for tick bites.

Trails within the Preserve in the Elizabeth neighborhood in Chesapeake are among the first sites in the pilot program. Researchers have also tested the technology at Hoffer Creek Wildlife Preserve in Portsmouth and NASA’s Langley Research Center in Hampton.

The TickBot models a typical tick collection, which involves waving a white permethrin-treated cloth over vegetation and leaf litter where many ticks hang out to find a host. Researchers are relying on the Chesapeake neighborhood to test the technology so it can eventually be commercialized into an accessible tool for people to perhaps use in their own backyards. The ongoing research also helps to better understand the risks ticks pose to humans by studying their habits and pathogens.

A robot that operates on the ground is ideal — despite a common myth, ticks live and move on the ground, not in trees.

“From that initial idea of some very small-scale surveillance, it’s kind of blown

up into this entire team of really understanding what’s going on in our neck of the woods,” Gaff said. “It’s kind of like Roomba for ticks in your backyard.”

Tick bites pose a significant health risk for pets and humans, spreading illnesses such as Lyme disease, Rocky Mountain spotted fever and alpha-gal syndrome. In Virginia, the most common are black-legged ticks, lone star ticks, American dog ticks and Gulf Coast ticks.

In the 2000s, Virginia became a “bat-tleground” state for Lyme disease, which can cause rashes, fatigue, headaches, fevers, muscle and joint aches, and swollen lymph nodes that worsen if untreated. Rocky Mountain spotted fever has some of the same symptoms and can even be fatal if untreated.

A condition that needs more research, but is a growing concern in Virginia, is alpha-gal syndrome. It can often be mistaken for food poisoning, as it often results in a serious intolerance to red meat that sets in months after a tick bite. The reaction comes from a sugar carbohydrate found in ticks that’s foreign to humans,

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## ELECTION 2026

# Retired general Bert Mizusawa wins GOP nomination for Senate

Will face Mark Warner in November

**ERIC KOLENICH**  
Richmond Times-Dispatch

Bert Mizusawa, a retired general in the U.S. Army, claimed victory Tuesday night in the Republican primary for the U.S. Senate.

With 93% of precincts reporting, Mizusawa collected 51% of the vote. The Fairfax County resident is poised to face incumbent Democrat Mark Warner in November’s general election.

David Williams, a Fairfax resident who served in the U.S. Marine Corps, U.S.



Mizusawa

Navy and CIA, had 29% of the vote. Kim Farington, a certified public accountant also from Fairfax, claimed 20%.

“We campaigned hard across Virginia and thanks to you, we now move on to defeat Senator Mark Warner,” Mizusawa said on

social media.

A political newcomer, Mizusawa reached the rank of major general and was commander of the Joint Interagency Task Force to combat corruption, narcotics

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CAL TOBIAS, THE DAILY PROGRESS

U.S. Sen. Mark Warner, a Virginia Democrat, speaks during a campaign meet-and-greet, Saturday, July 18, at Piedmont Virginia Community College’s Eugene Giuseppe Center in Stanardsville.