Announcer: The Missouri State Journal, a weekly program keeping you in touch with Missouri State University.

Emily Yeap: What species of ticks live in Missouri and in what quantities?

Dr. David Claborn, director of the Master of Public Health program at Missouri State University, is trying to answer these questions through his latest tick surveillance project. It's made possible through a grant from the Missouri Department of Health and Senior Services. I'm Emily Yeap.

Clayborn joins me today to highlight his research and share some facts about ticks.

David Claborn: My research mainly is focusing on identifying which species are in which counties around the state. One of the things that is of importance is that there has been a new invasive species of tick that's been introduced to the United States, called the Asian longhorned tick. This was introduced into the eastern part of the United States and now has been detected in Northwest Arkansas. Part of my research is to find out if this particular species has made it into Missouri. This is important, because this particular species of tick is quite good at transmitting several different diseases in the area where it's from, so we think it may have potential to increase the disease risk.

Emily Yeap: Since the beginning of summer, Claborn and his team have traveled to different parts of the state looking for ticks. What have they found so far?

David Claborn: Mainly that Missouri has a whole lot of ticks. We've collected ticks in about 24 counties so far, somewhere around 3,000. Right now we've only identified a couple of different species. One is called the American Dog tick, and the other one is called the Lone Star tick. Anyone who's ever been around these ticks and sees a tick with a big white dot on its back, that's the Lone Star tick. These are very, very numerous. So far we haven't found very much else, but our biggest focus so far is collecting the ticks, freezing them, storing them in alcohol, and we'll get caught up on the identification later on.

Emily Yeap: He explained some of the tick-borne diseases common in Missouri.

David Claborn: Missouri has the unfortunate privilege of being a focus of some tick-borne diseases. The one that we don't seem to have in any large amount is actual Lyme disease, which is focused in the northeast. We do have a similar Lyme-like disease that may occur down here, but we do have many other diseases for which we're actually the focus for the entire country. There's one called ehrlichiosis, which is a bacterial disease, and we had almost 400 cases of it diagnosed in Missouri in 2013. You can compare that to West Nile virus cases, which is the biggest disease caused by mosquitoes, and they only had 25 cases of that in 2013. So, 400 cases of this one tick-borne disease compared to 25 cases of the most important mosquito-borne disease. That gives you an idea of the disease risk associated with ticks.

We also have some other diseases around here like, Rocky Mountain spotted fever. We have a couple of new viral diseases that have only been identified in the last 10 years, one called Heartland virus and the other called Bourbon virus, both transmitted by ticks, and we're the focus for a disease called tularemia, a bacterial disease that is very, very infectious. It is so infectious that it was one of the first diseases developed as a biological warfare agent by the Soviet Union.

Emily Yeap: He offers a few tips to prevent tick bites.

David Claborn: The first thing is to avoid the areas where these are going to be really, really bad, so hiking on a deer trail is not a good idea. The other thing is they tend to be in what's called an ecotone, which is a transitional area from one type of habitat to another. In particular, they tend to be in the transition between forest and meadow. The other thing is you can treat your clothing with permethrin. It's actually an irritant, and this is done by hunters. The US military uses this a lot. Take the clothing, lay it down on the sidewalk or someplace like that, and you treat it on both sides and let it dry. You don't want to wear this stuff while it's wet. It's a very good protectant from ticks, because once ticks get on there, it irritates them, and they drop off. That combined with a good repellent like deet is pretty protective. Nothing is 100%, but that's a pretty good way of protecting yourself.

Emily Yeap: According to Claborn, the tick surveillance focuses on areas with high human population in four corners of the state, as well as Kansas City and St Louis.

I'm Emily Yeap for the Missouri State Journal.

Announcer: For more information, contact the Office Of University Communications at (417) 836-6397. the Missouri State Journal is available online at KSMU.org.