CFAES

Everything you need to know about ticks, and some things you'll wish you didn't!

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Courtesy, Department of Veterinary Preventative Medicine

The Ohio State University

EXTENSION

Myth #1 – Ticks are only active in summer.

- Ticks take one to three years to complete their life cycle depending on species and are active all year long.

Myth #2 – Ticks prefer the woods.

- Some tick species such as American Dog Tick and Gulf Coast Tick prefer open habitat such as pasture and field.

Myth #3 – Takes a day to transmit disease.

- The disease transmission time varies depending on tick species, life cycle stage, and what the disease is.

Ohio Ticks

Common ticks found in Ohio

From left to right: blacklegged tick nymph, blacklegged tick female, blacklegged tick male, American dog tick female, American dog tick male, lone star tick female, lone star tick male.

- American Dog Tick
- Black Legged Tick
- Lone Star Tick
- Gulf Coast Tick
- Longhorned Tick

https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/zoonotic-disease-program/resources/tickborne-diseases

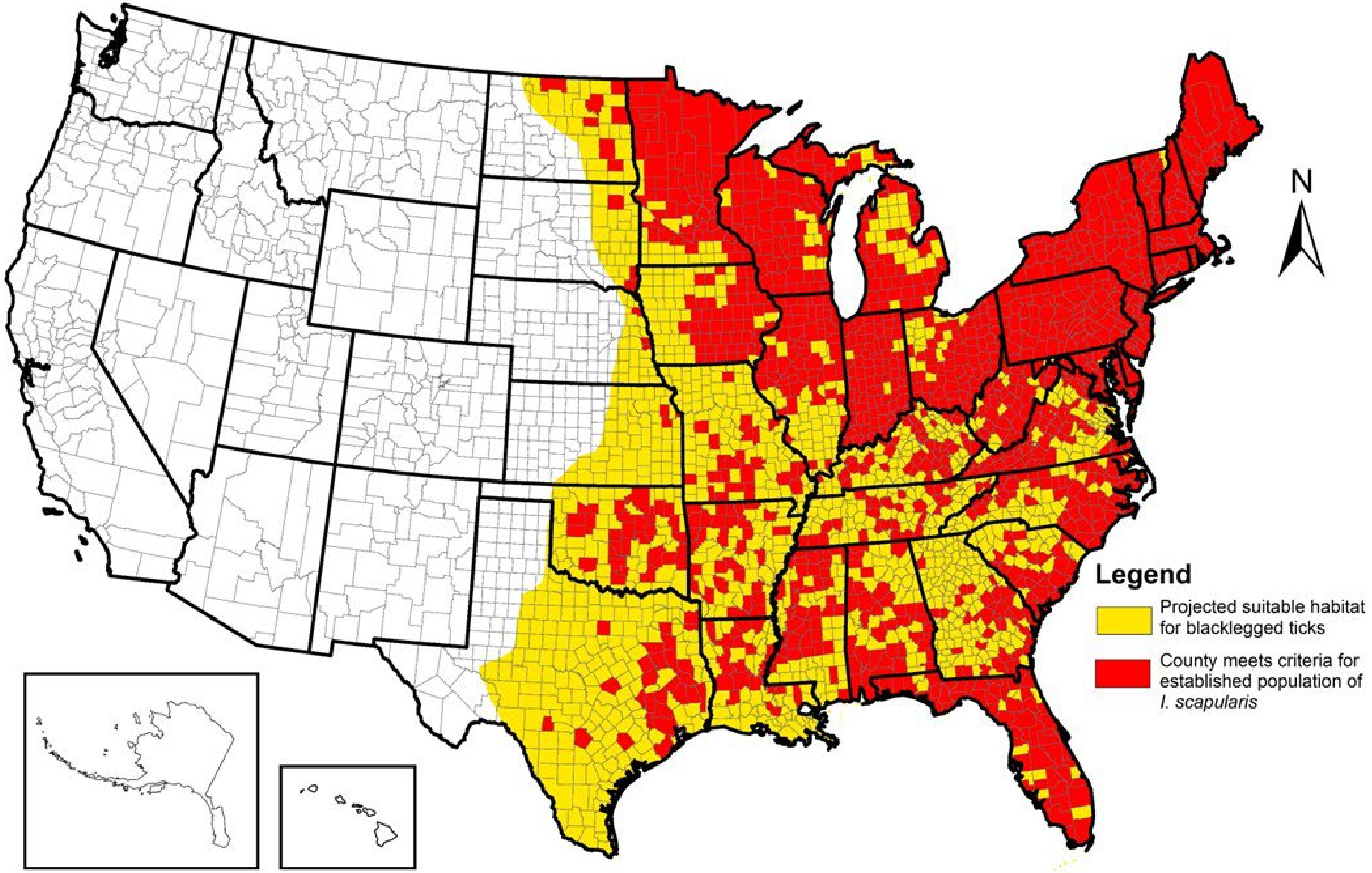
American Dog Tick – *Dermacentor variabilis*

Photo Credit: https://tickencounter.org/

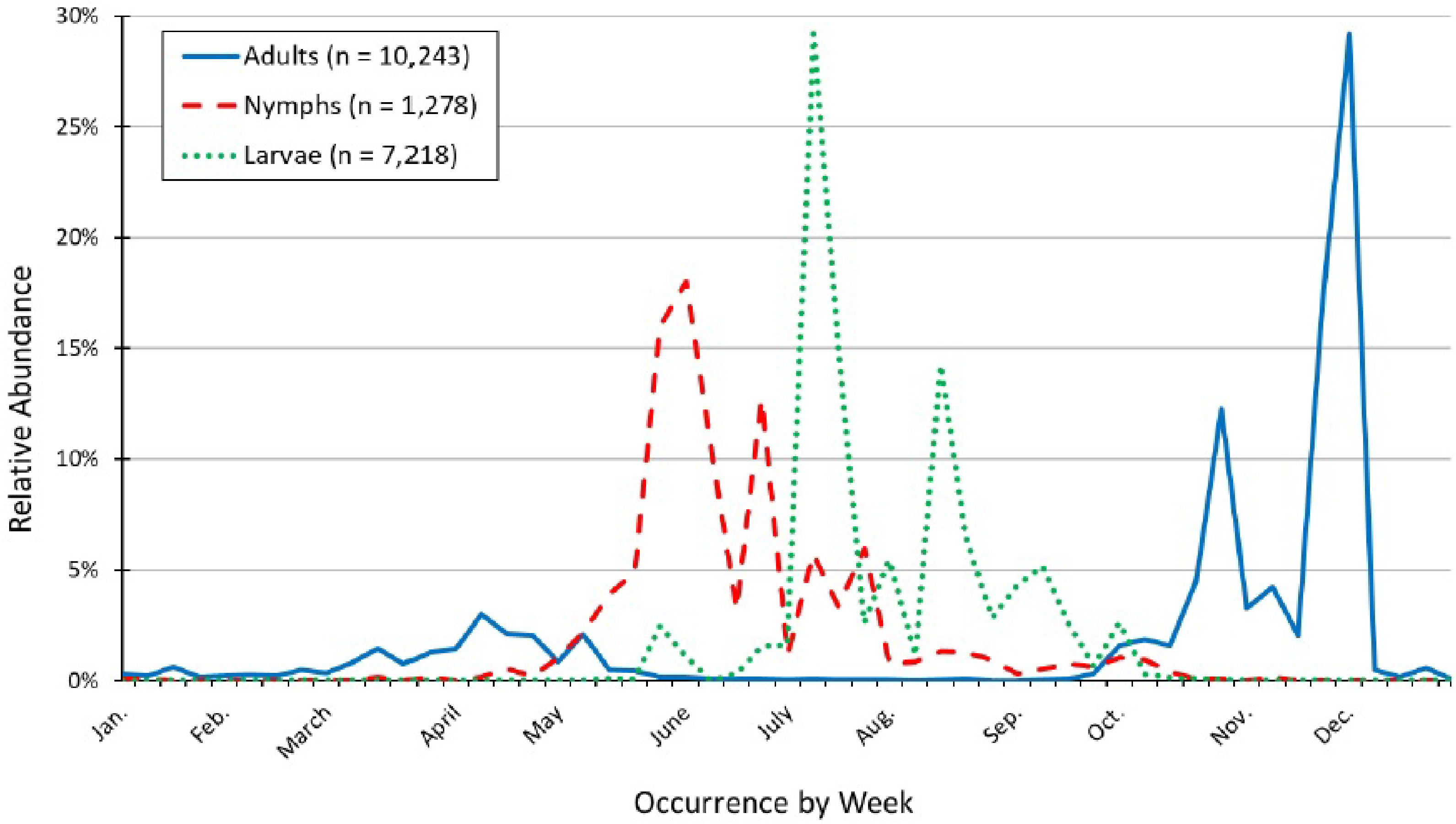

CDC
Tick Surveillance
(by species)
Select a tick surveillance year
2022
American Dog Tick Surveillance
Dermacentor variabilis - Estimated and Established Distribution
Esri Data and Maps | Sources: Esri, TomTom, U.S. Department of Commerce, U.S. Census Bureau | Centers for Disease Control and Prevention (CDC), Nation...
Powered by Esri

Black Legged (Deer) Tick – *Ixodes scapularis*

Photo Credit: https://tickencounter.org/

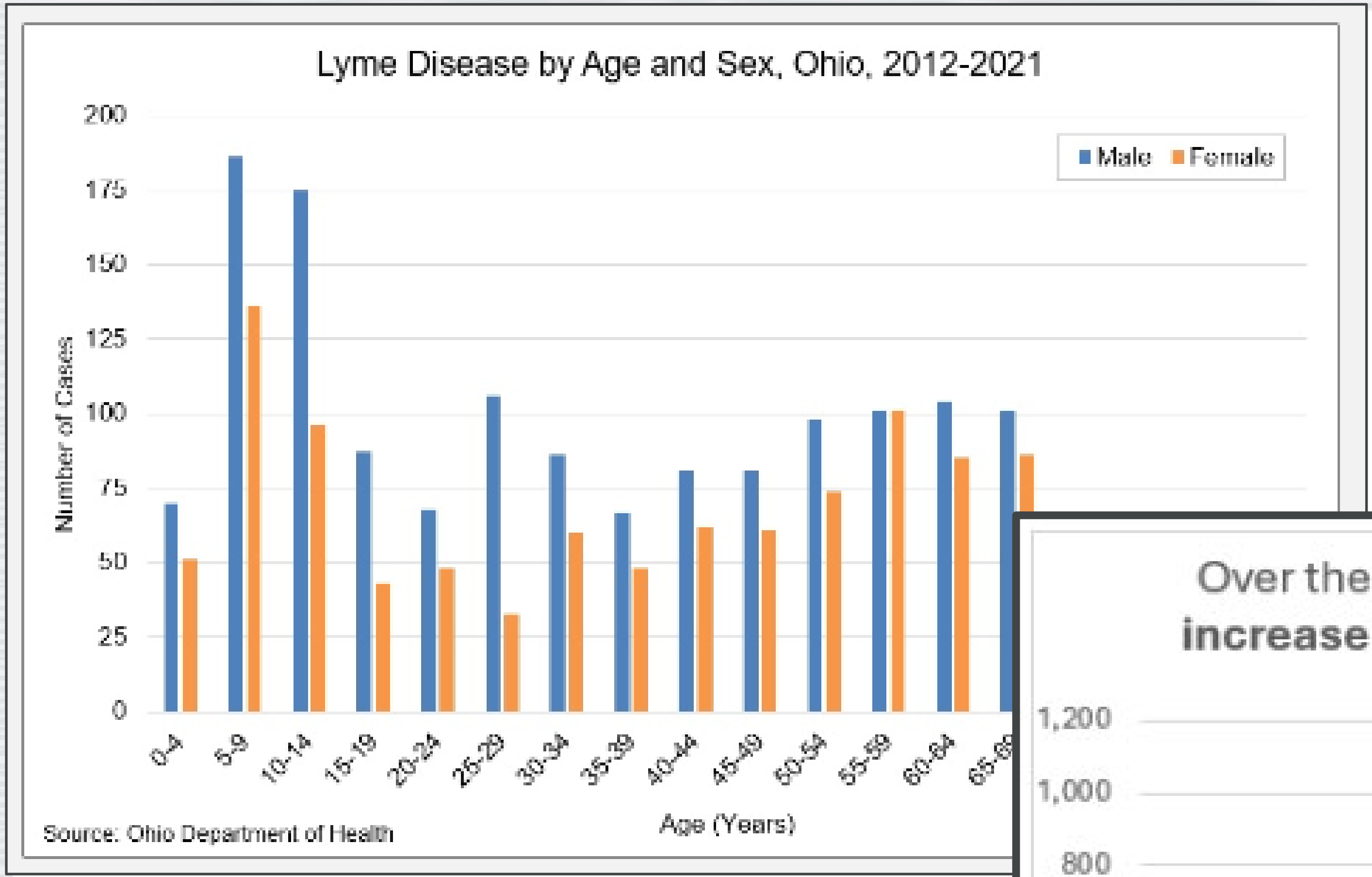

N
Legend
Projected suitable habitat for blacklegged ticks
County meets criteria for established population of *I. scapularis*

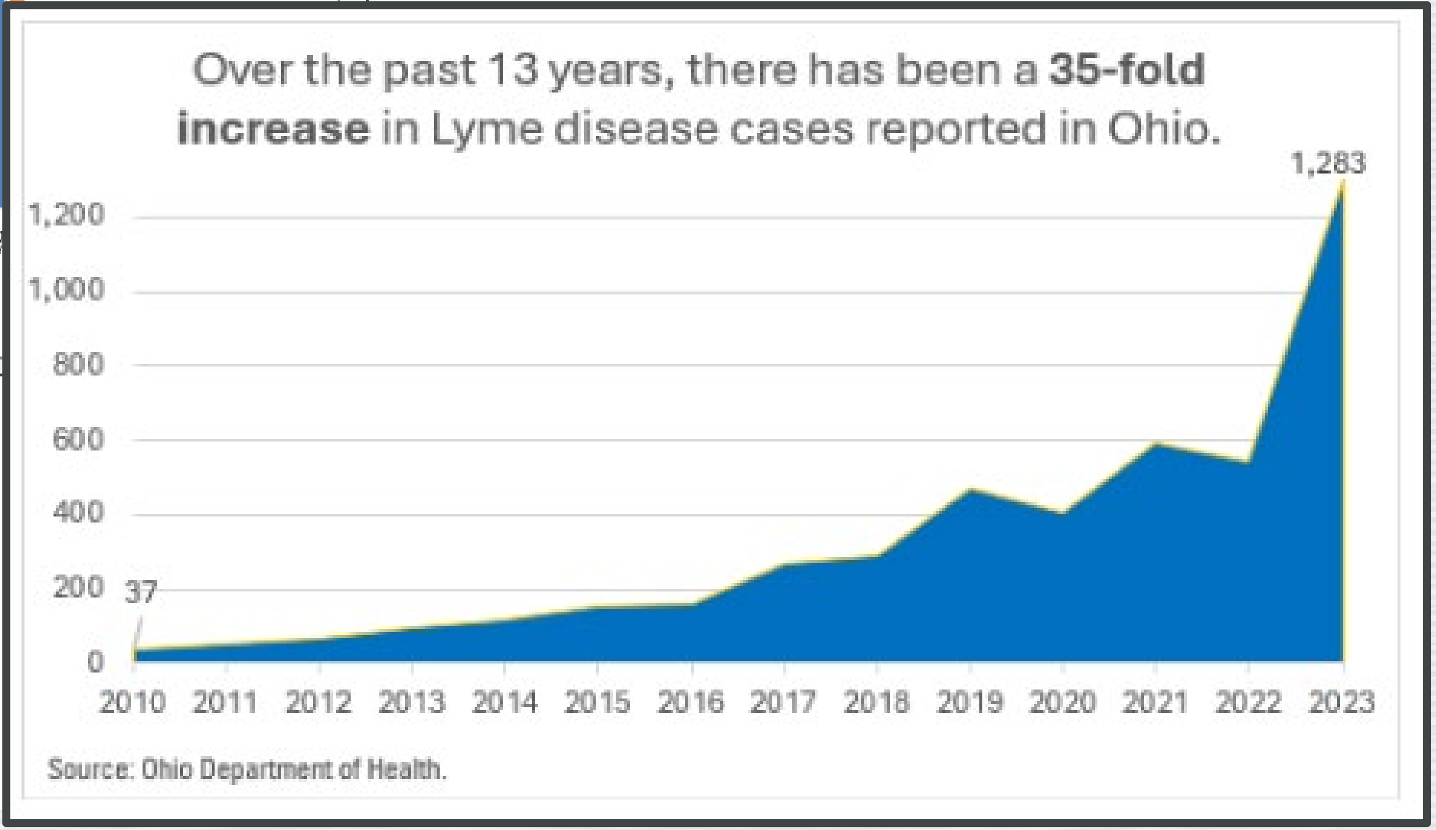
Seasonal Activity of Blacklegged Ticks *(Ixodes scapularis)* in Ohio, 2010-2024

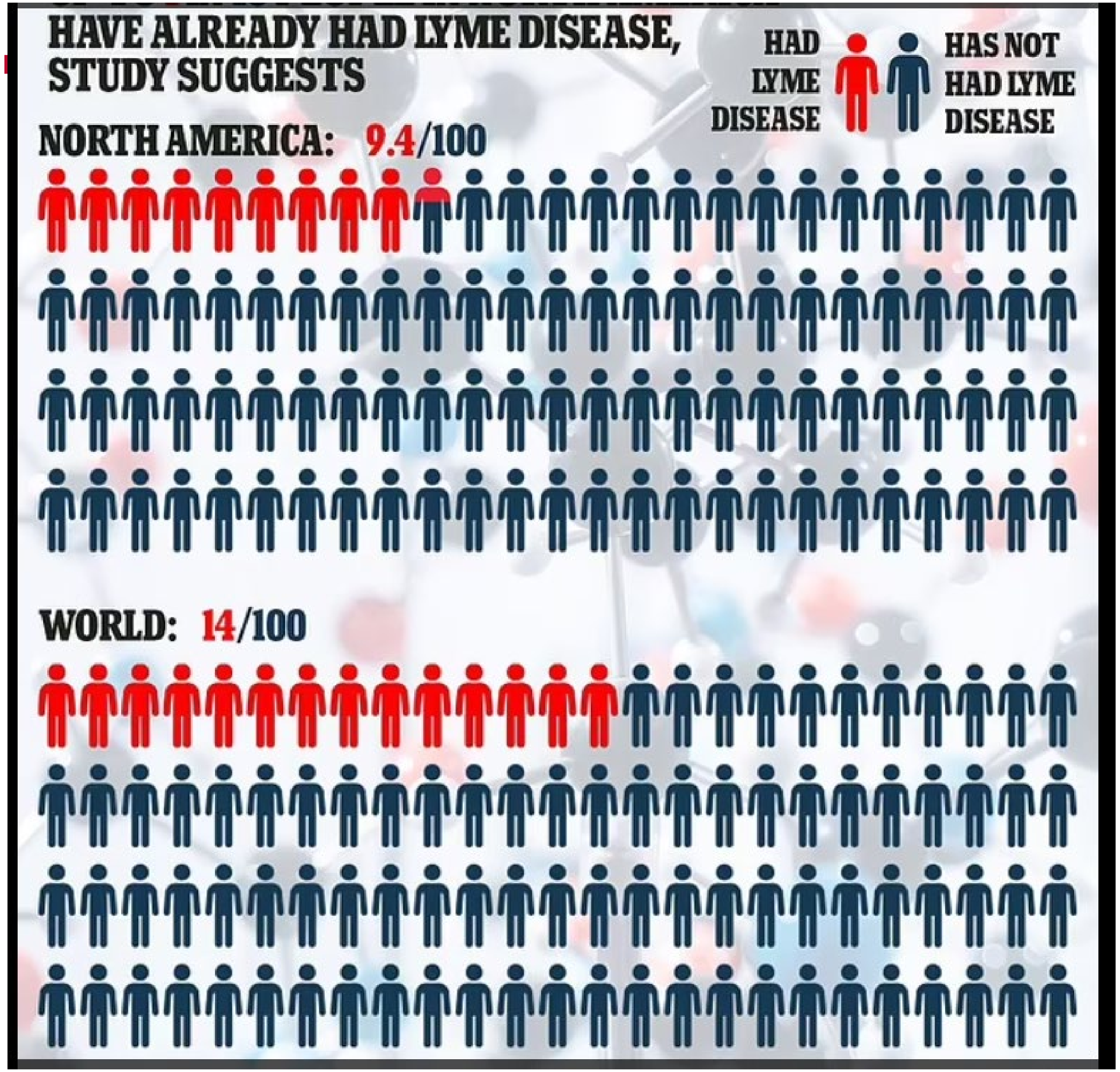


Based on identification records from both passive and active surveillance conducted by the Ohio Department of Health, the Ohio State University, local health agencies, private laboratories, published research, and other sources.

Last updated: 9/10/2024


Lyme Disease by Age and Sex, Ohio, 2012-2021
Male
Female
Number of Cases
200
175
150
125
100
75
50
25
0
0-4
5-9
10-14
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
Age (Years)
Source: Ohio Department of Health


Over the past 13 years, there has been a **35-fold increase** in Lyme disease cases reported in Ohio.
1,283
1,200
1,000
800
600
400
200
37
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Source: Ohio Department of Health.



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Nearly 10% of people in North America - about 50million people - have had tick-borne illness Lyme disease, new study finds

- Scientists estimate about 50million people in North America have previously been infected with the tick-borne illness Lyme disease
- Meta-analysis was based on blood data from studies involving 150,000 people
- Globally up to 14.5 percent were estimated to have caught Lyme disease
- Highest proportion of cases were in Central Europe, followed by Eastern Asia

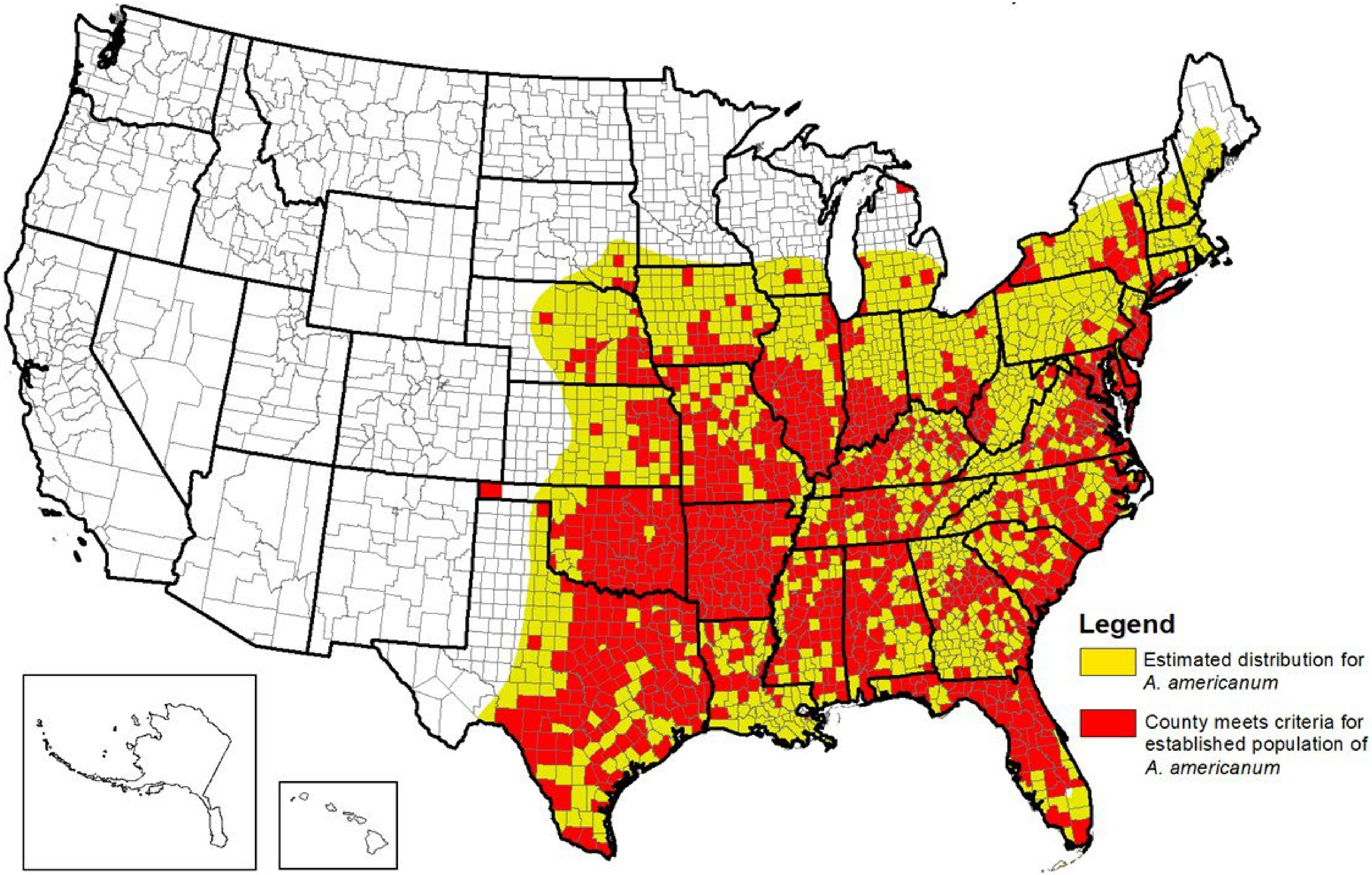
Deer Ticks account for 97% of tick-borne disease in the US.

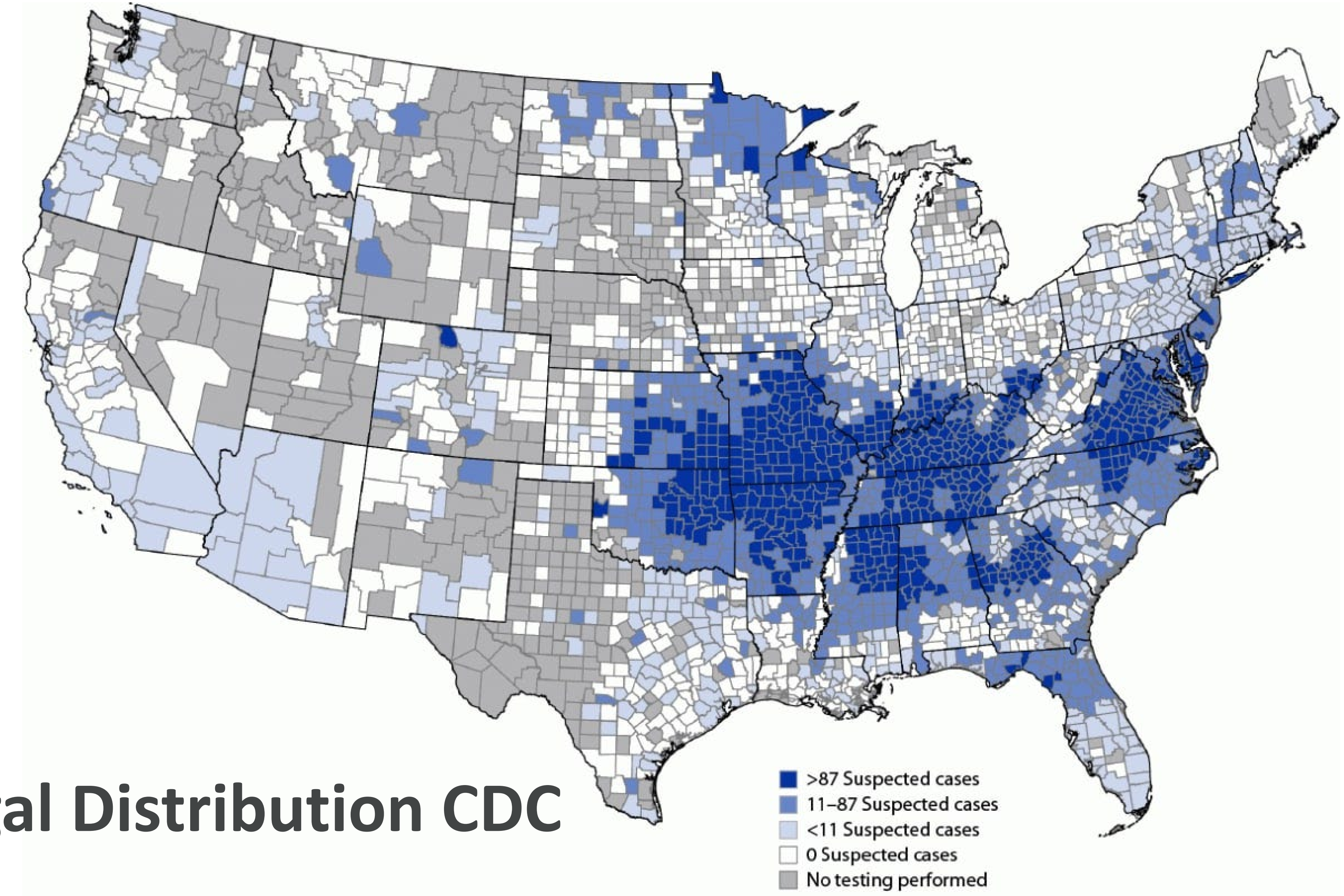
https://news.yale.edu/2023/10/18/racing-defuse-ticking-public-health-time-bomb

https://www.dailymail.co.uk/health/article-10916181/Nearly-10-people-North-America-deadly-tick-borne-illness-Lyme-disease.html

Lone Star Tick – *Amblyomma americanum*

Photo Credit: https://tickencounter.org/


Legend
Estimated distribution for A. americanum
County meets criteria for established population of A. americanum



Apha-gal Distribution CDC

Gulf Coast Tick – *Amblyomma maculatum*

Photo Credit: https://tickencounter.org/

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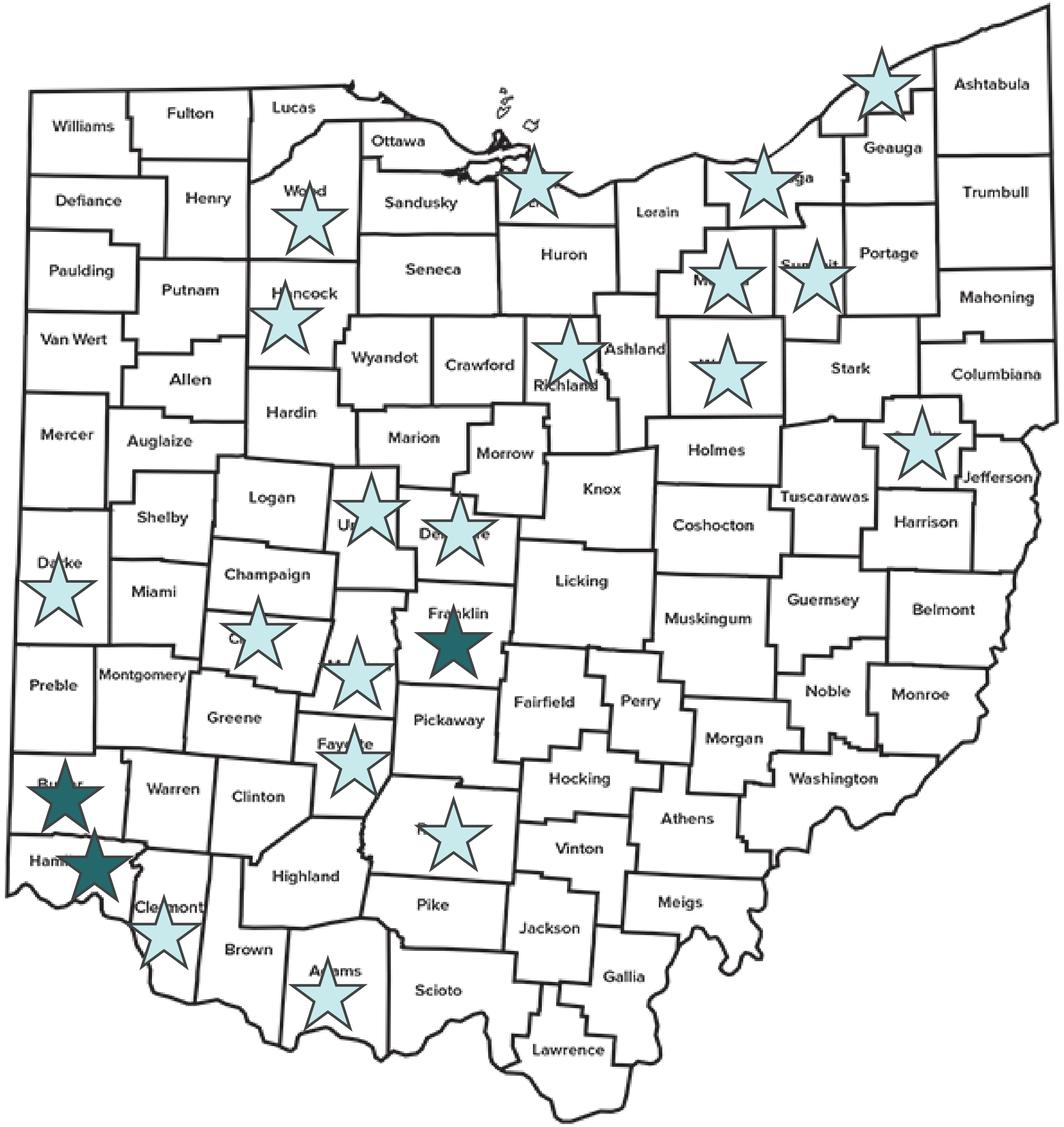
Gulf coast tick reports in Ohio 1994 to 2023

Humans: ***Rickettsia parkeri***
Canine: ***Hepatozoon americanum***
Cattle: Gotch ear

Reported

Established



Longhorned Tick Characteristics of Note:

- Vector multiple pathogens
- Wide host range
- Parthenogenetic reproduction

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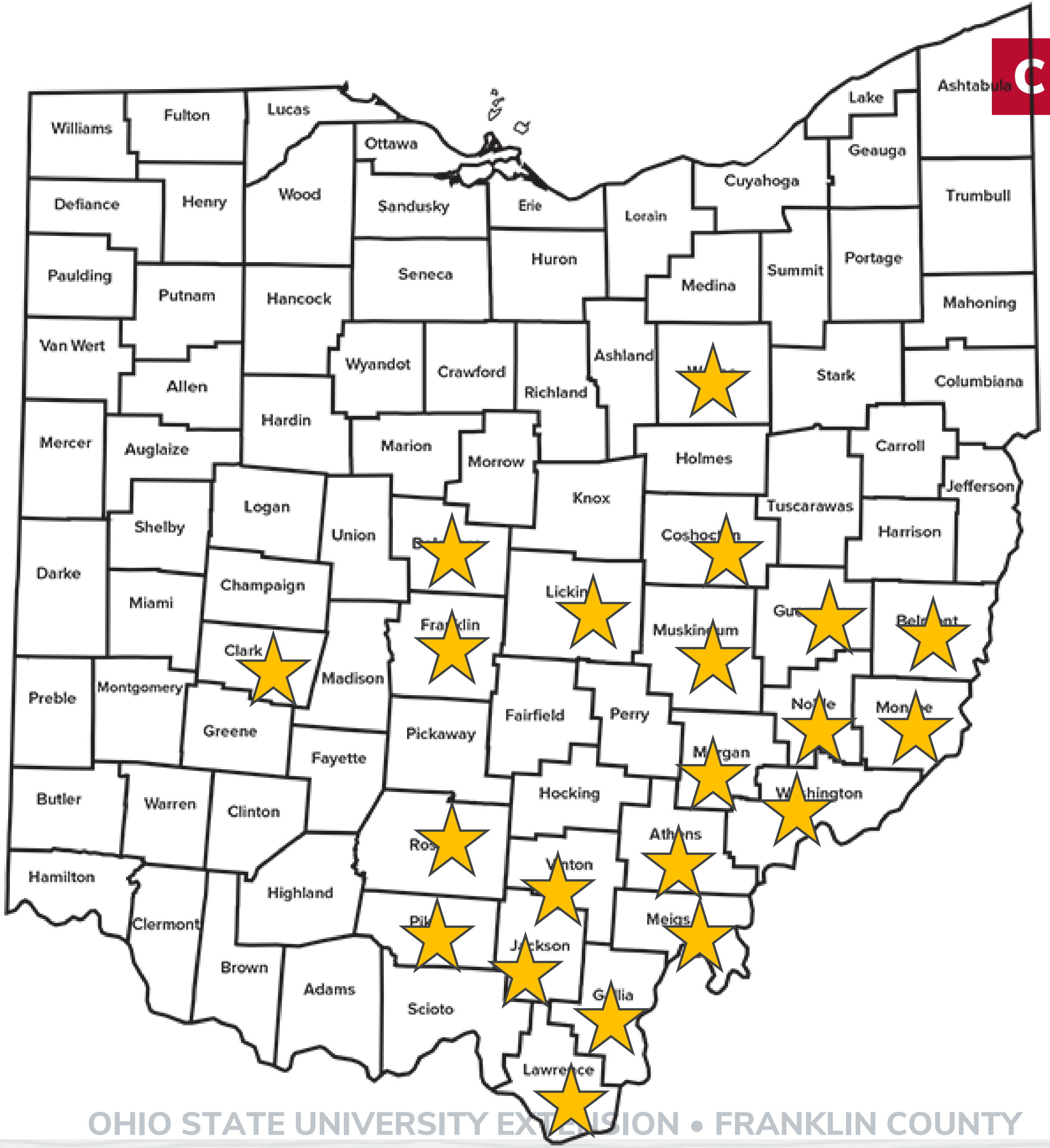
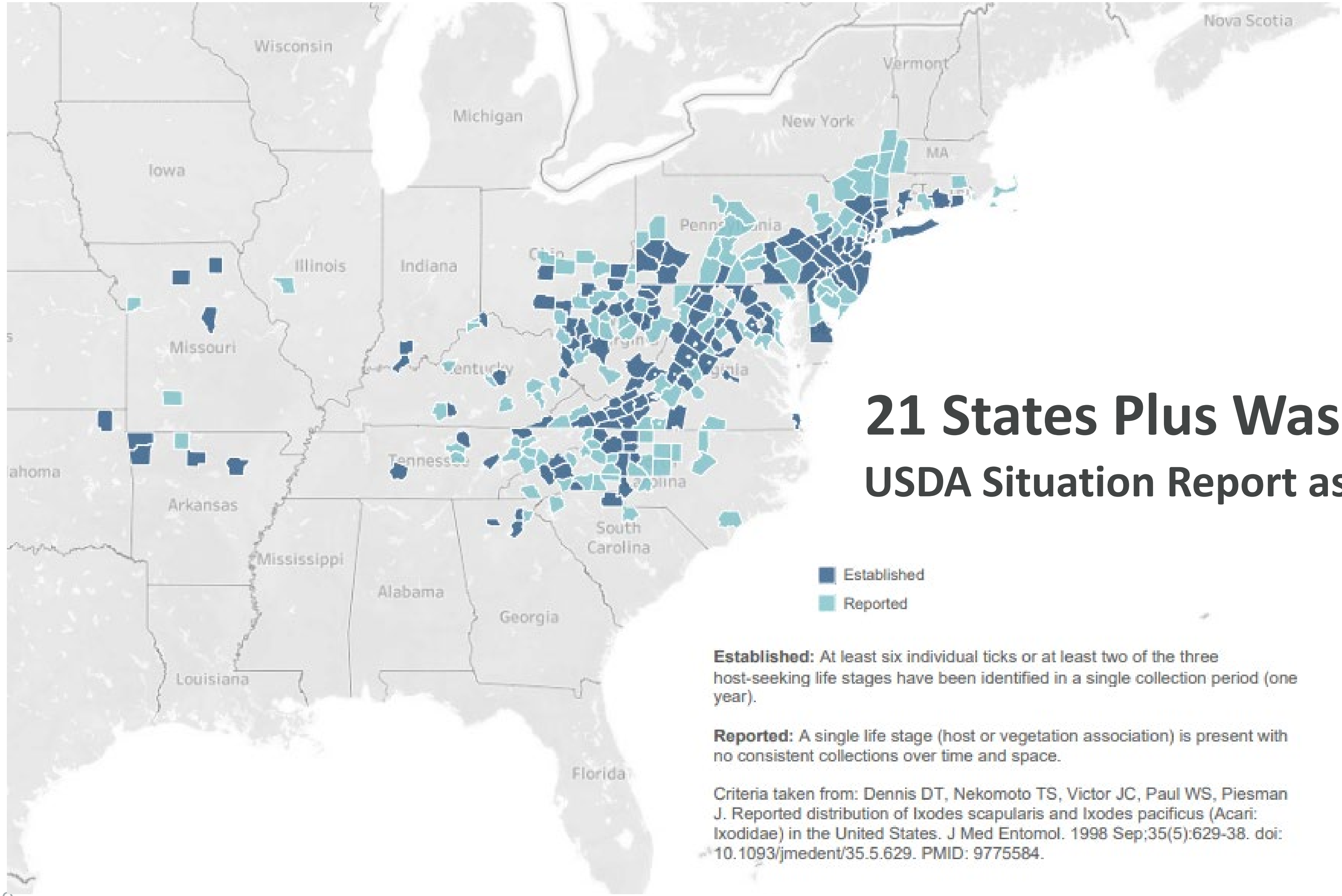
Ohio counties with Longhorned Ticks ★





21 States Plus Washington DC

USDA Situation Report as of October 1, 2024.

Additional:

- Michigan
- Iowa

https://www.nature.com/srep/

Potential Spatial Distribution of the Newly Introduced Long-horned Tick, *Haemaphysalis longicornis* in North America

R. K. Raghavan[1], S. C. Barker[2], M. E. Cobos[3], D. Barker[4], E. J. M. Teo[2], D. H. Foley[5], R. Nakao[6], K. Lawrence[7], A. C. G. Heath[8] & A. T. Peterson[3]

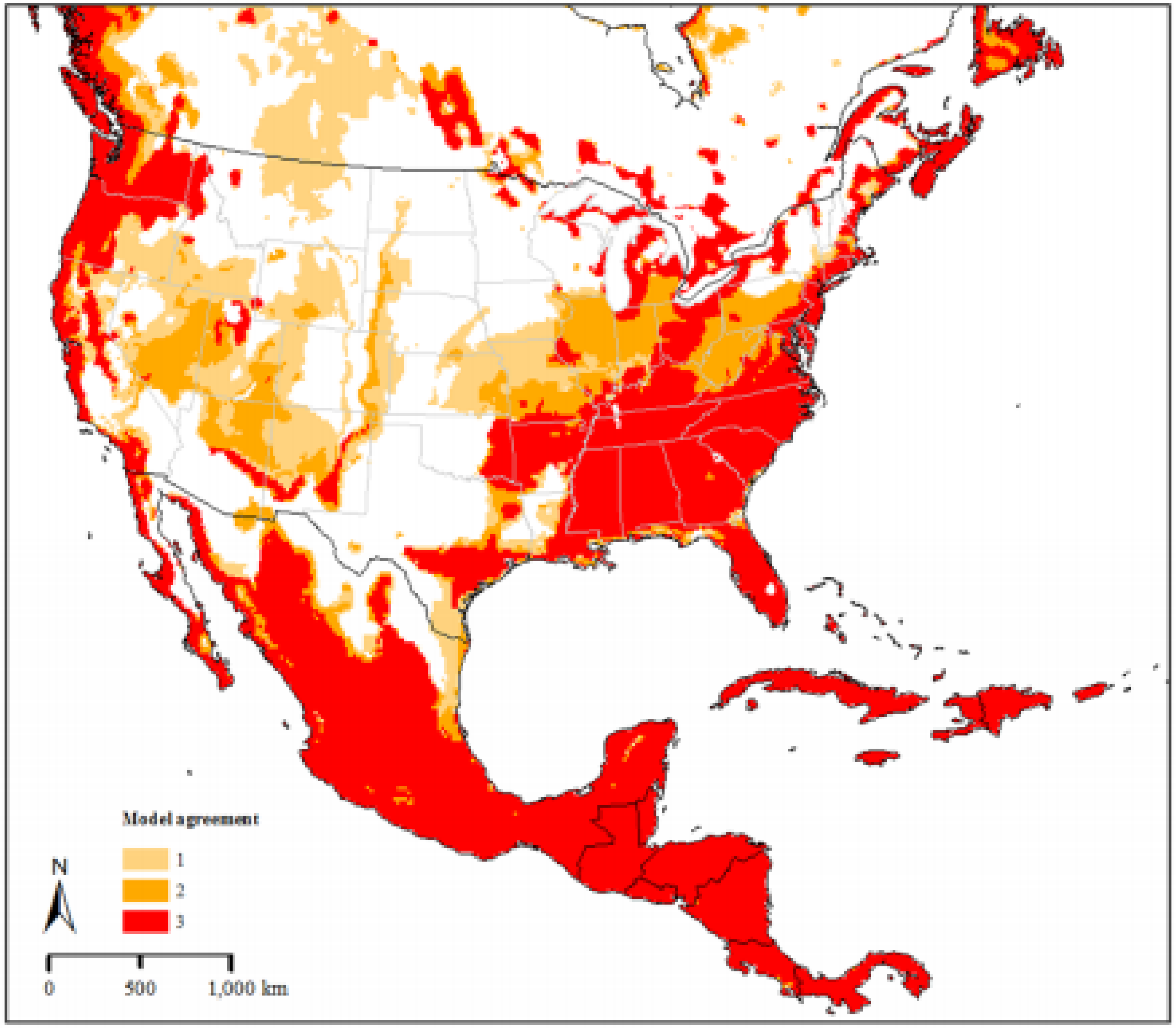


Figure 2. Predicted suitable areas for *Haemaphysalis longicornis* across North America. 1, 2, and 3 represent areas that were predicted to be suitable for the establishment of *H. longicornis* in North America by one, two and three models, respectively. Darker areas represent progressively higher agreement between the models.

US field collected ALHT with pathogen positives:

- PCR positive ticks:
  - *Theileria orientalis* Ikeda type
  - *Borrelia burgdorferi* (Lyme dz.)
  - *Anaplasma phagocytophilum*
  - Bourbon virus
  - *Babesia microti*
  - *Ehrlichiosis*

Pathogens transmitted laboratory:

- *Rickettsia rickettsii* (RMSF)
- *Theileria orientalis* Ikeda
- Heartland virus
- Powassan virus
- **NOT**
  - Lyme , *A. phag*, Tularemia

Allergy EUROPEAN JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY EAACI

Brief Communication | Full Access

Haemaphysalis longicornis tick bites are a possible cause of red meat allergy in Japan

Y. Chinuki, K. Ishiwata, K. Yamaji, H. Takahashi, E. Morita

Tick Control - Personal

Permethrin Treated Clothing

- Purchased
- Self Treat

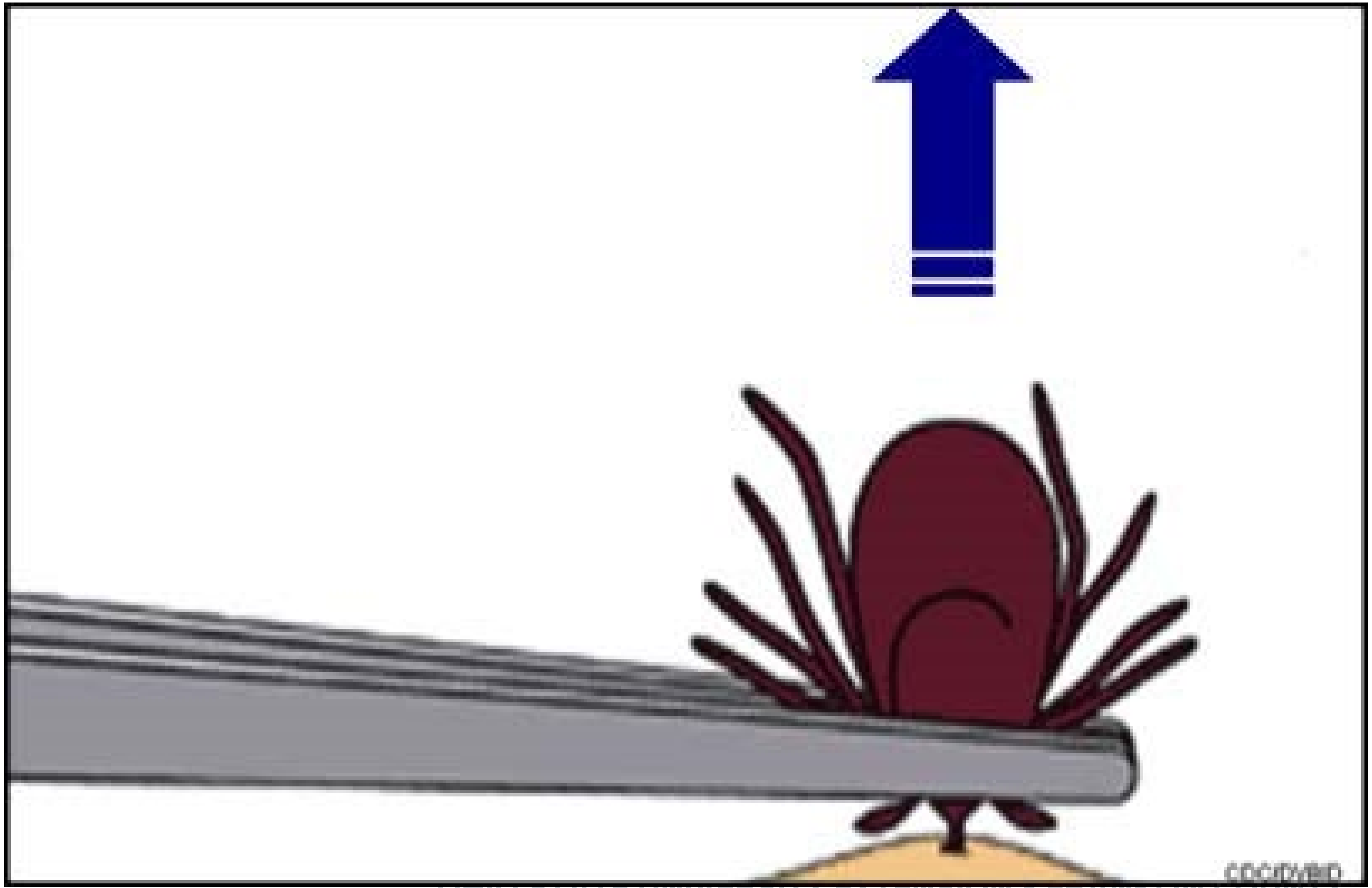
Repellents – Topical

- DEET
- Picaridin
- IR3535
- Nookatone

Personal

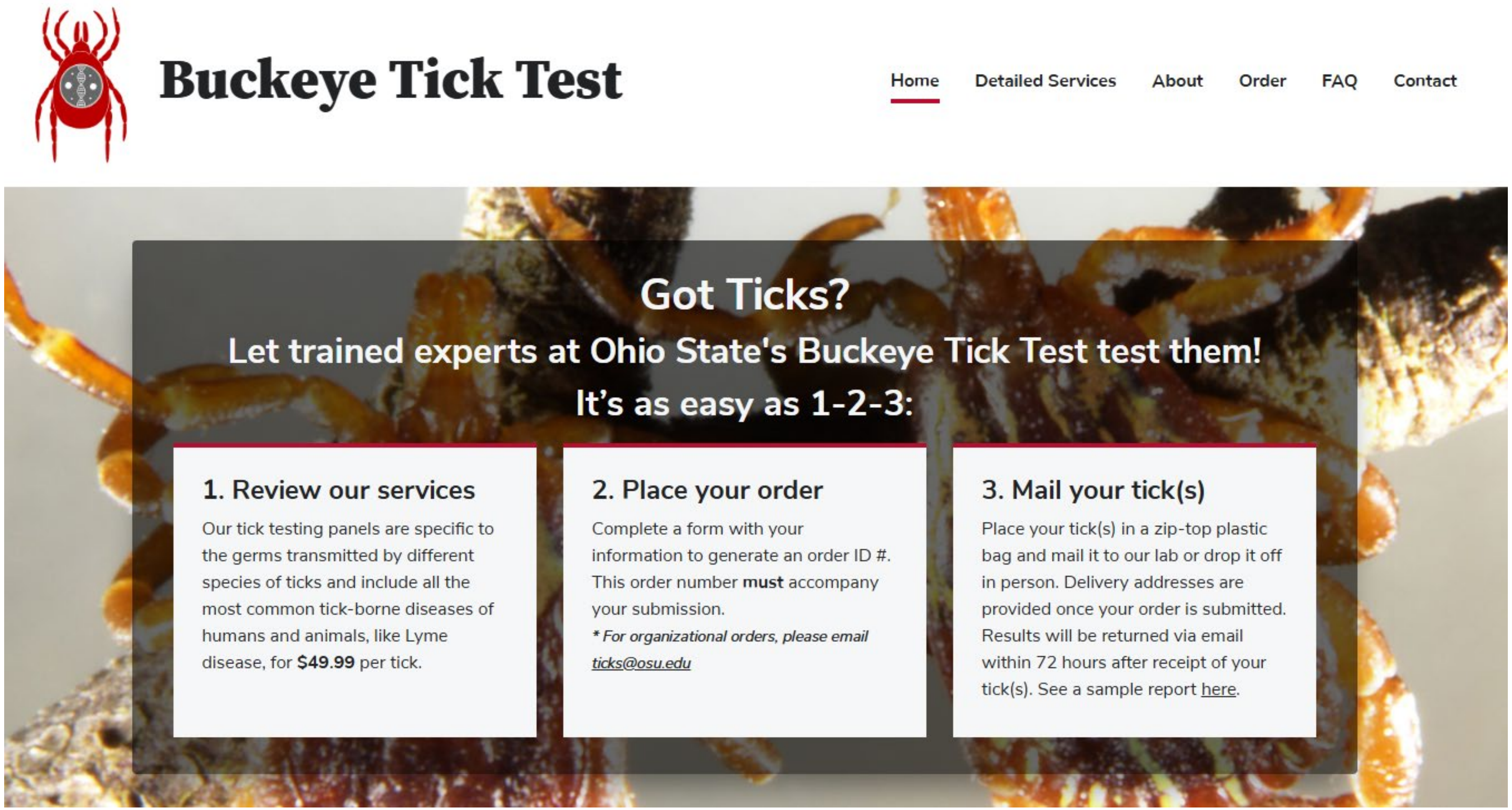
- Tick Checks
- Knowledge
- Companion Animals

Correct Removal of a Tick



Take Homes

- Tick diseases are prevention diseases
- All FOUR Seasons
- New diseases/species/ranges
- Bacterial, Viral, Protozoal, Allergic
- Need a personal plan for safety
- Permethrin Treated Clothes + Repellants
- Companion Animals can break biosecurity
- Proper Removal
- Submit Tick for Testing



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https://buckeyeticktest.osu.edu

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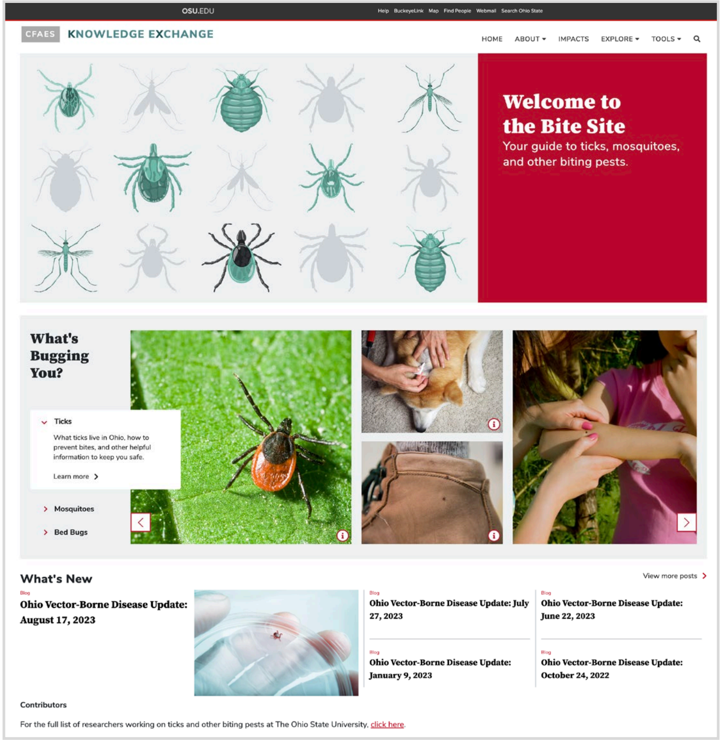
Introducing The Bite Site



kx.osu.edu/bite

Note: "This work is supported by the Crop Protection and Pest Management Program grant 20247000643574, from the U.S. Department of Agriculture's National Institute of Food and Agriculture."

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USDA National Institute of Food and Agriculture
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