

Announcements

- Register for the Epi-Tech Trainings:
 1. Log-on or Request log-on ID/password:
<https://tiny.army.mil/r/zB8A/CME>
 2. Register for Epi-Tech Surveillance Training:
<https://tiny.army.mil/r/dVrGO/EpiTechFY14>
 - Please enter your name/service and e-mail into the chat box to the left or email the disease epidemiology program at:
USAPHC.Disease.Epidemiology@us.army.mil
 - You will receive a confirmation email within the next 48 hours with your attendance record
- Please mute your phones and DO NOT place us on hold. Press *6 to mute your phone.



Lyme Disease

Sponsored by

Navy and Marine Corps Public Health Center

U.S. Army Public Health Command

U.S. Air Force School of Aerospace Medicine

24 June 2014

0900, 1500, 1700 EST

Lyme Disease

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Entomologist

USAFSAM Epidemiology Consult Service

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The Basics

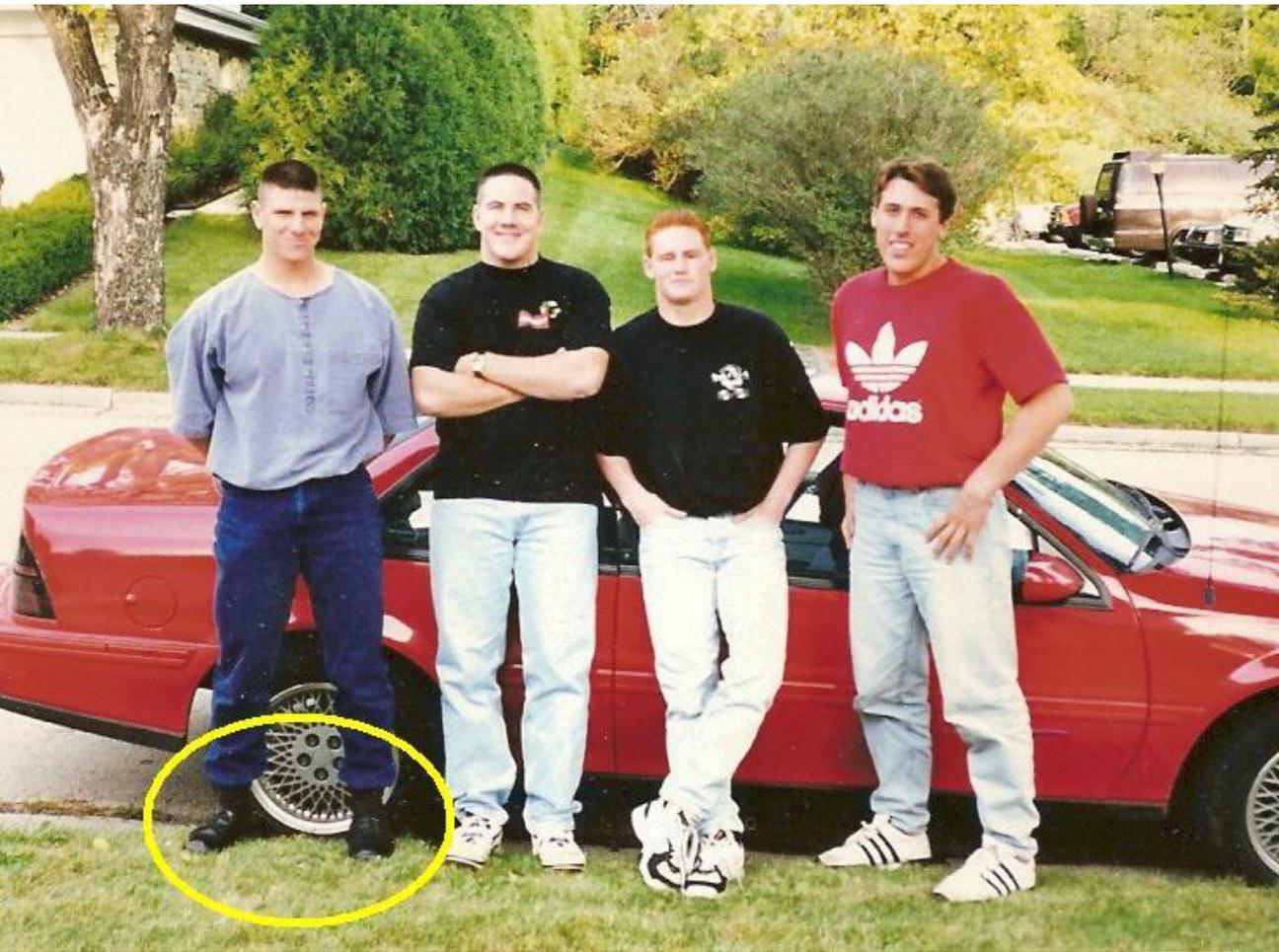
What are vectors?

What are hosts?



Preventing Bites







WOODANDMETAL.COM

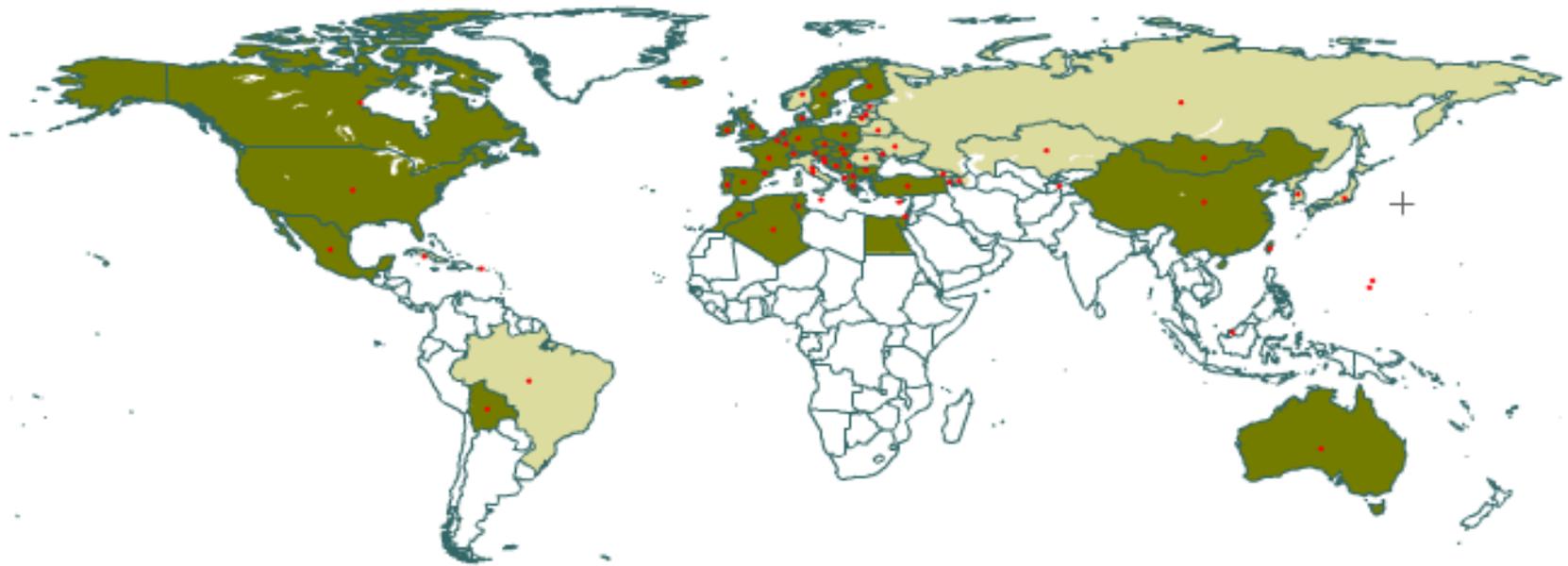




Lyme disease: Global distribution



Disease is endemic or potentially endemic to 63 countries



Not Endemic Sporadic Endemic

Click to view country-specific notes.

Fast Facts from the CDC

In 2012, 95% of Lyme disease cases were reported from 13 states:

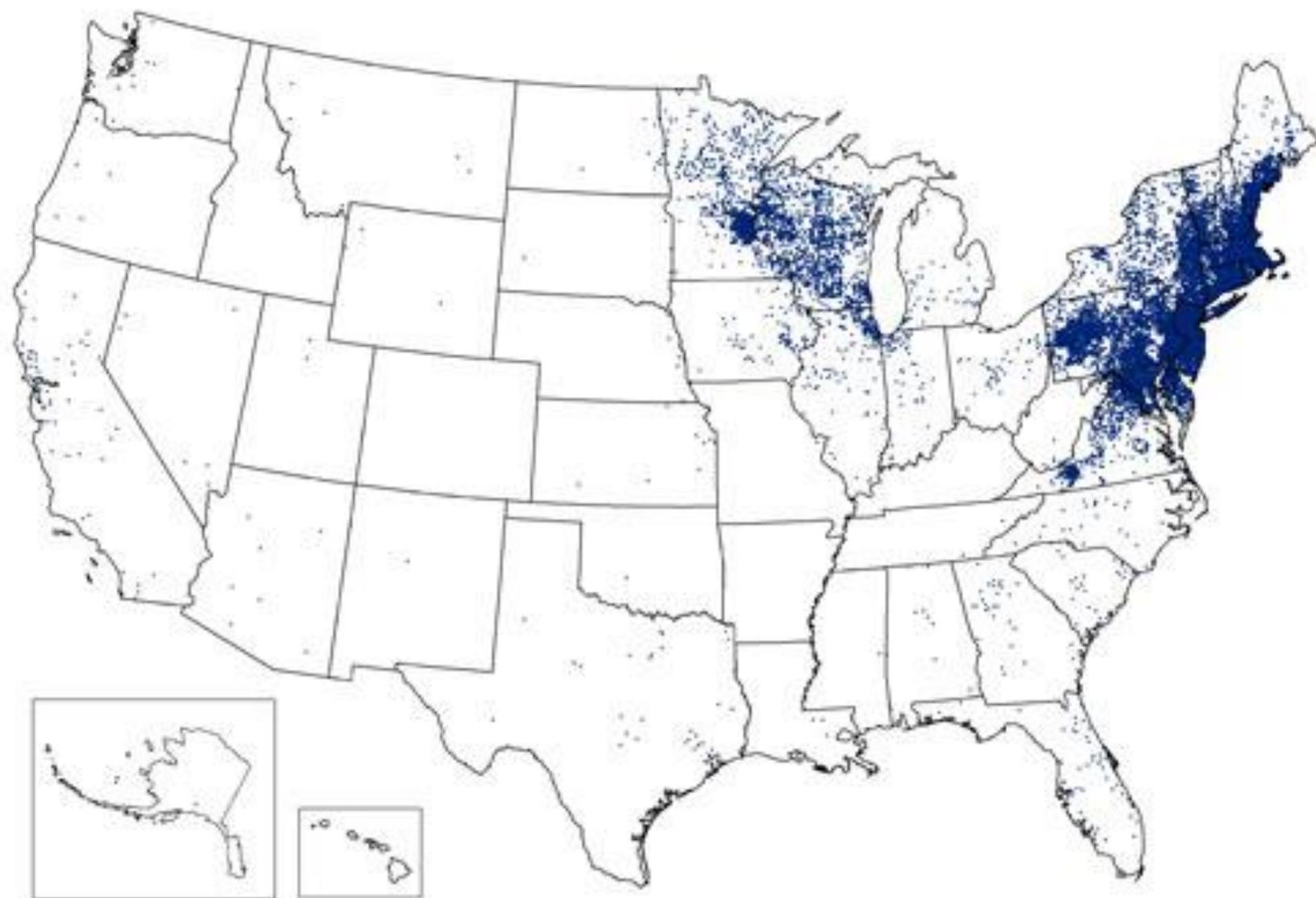
Connecticut	New Jersey
Delaware	New York
Maine	Pennsylvania
Maryland	Vermont
Massachusetts	Virginia
Minnesota	Wisconsin
New Hampshire	

Lyme disease is the most commonly reported vector-borne disease in the United States.

In 2012, it was the 7th most common [Nationally Notifiable disease.](#)

However, Lyme disease does not occur nationwide and is concentrated heavily in the Northeast and upper Midwest.

Reported Cases of Lyme Disease -- United States, 2012



1 dot placed randomly within county of residence for each confirmed case

Ixodes ricinus

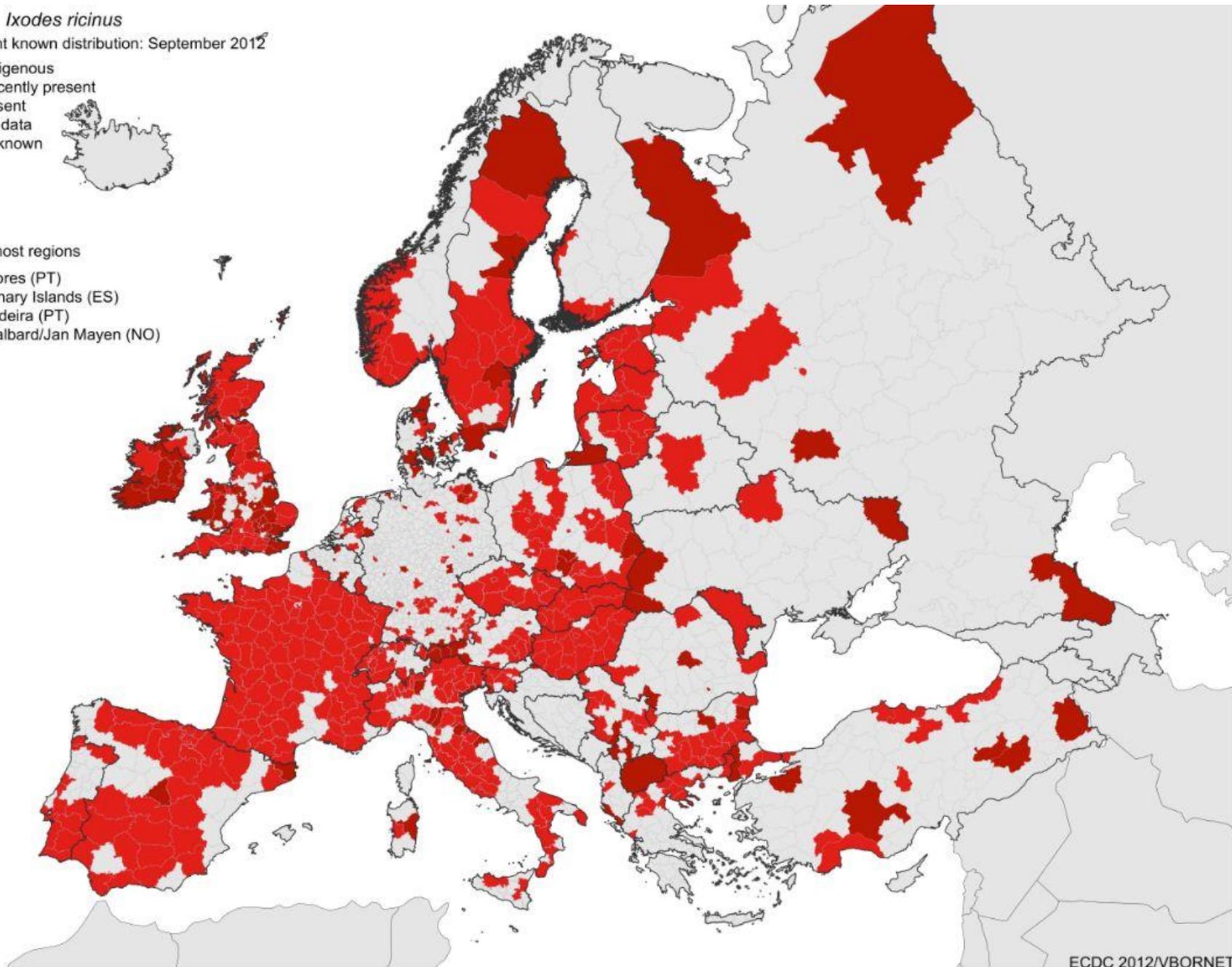
Current known distribution: September 2012

- Indigenous
- Recently present
- Absent
- No data
- Unknown

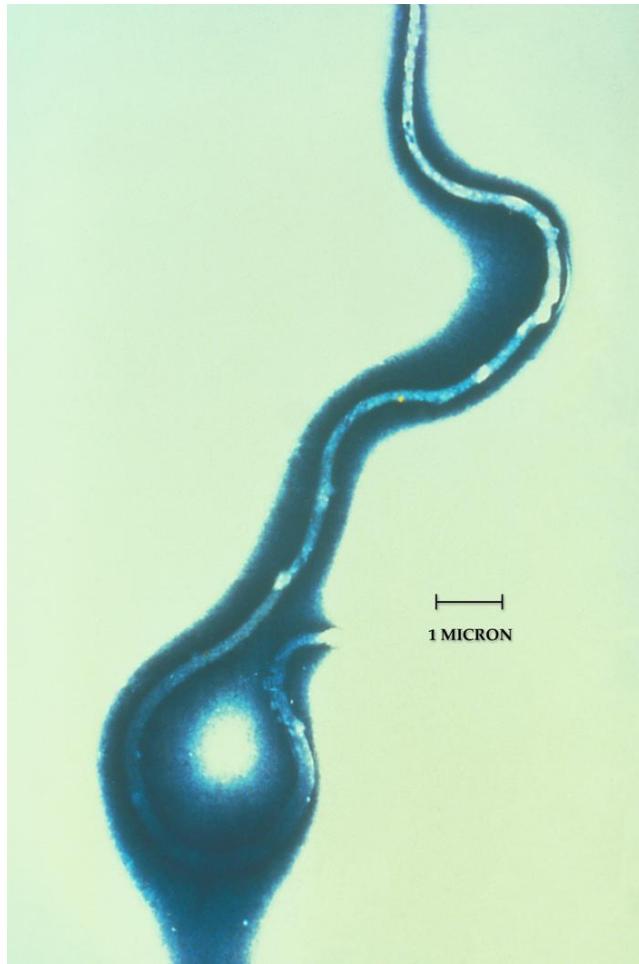


Outermost regions

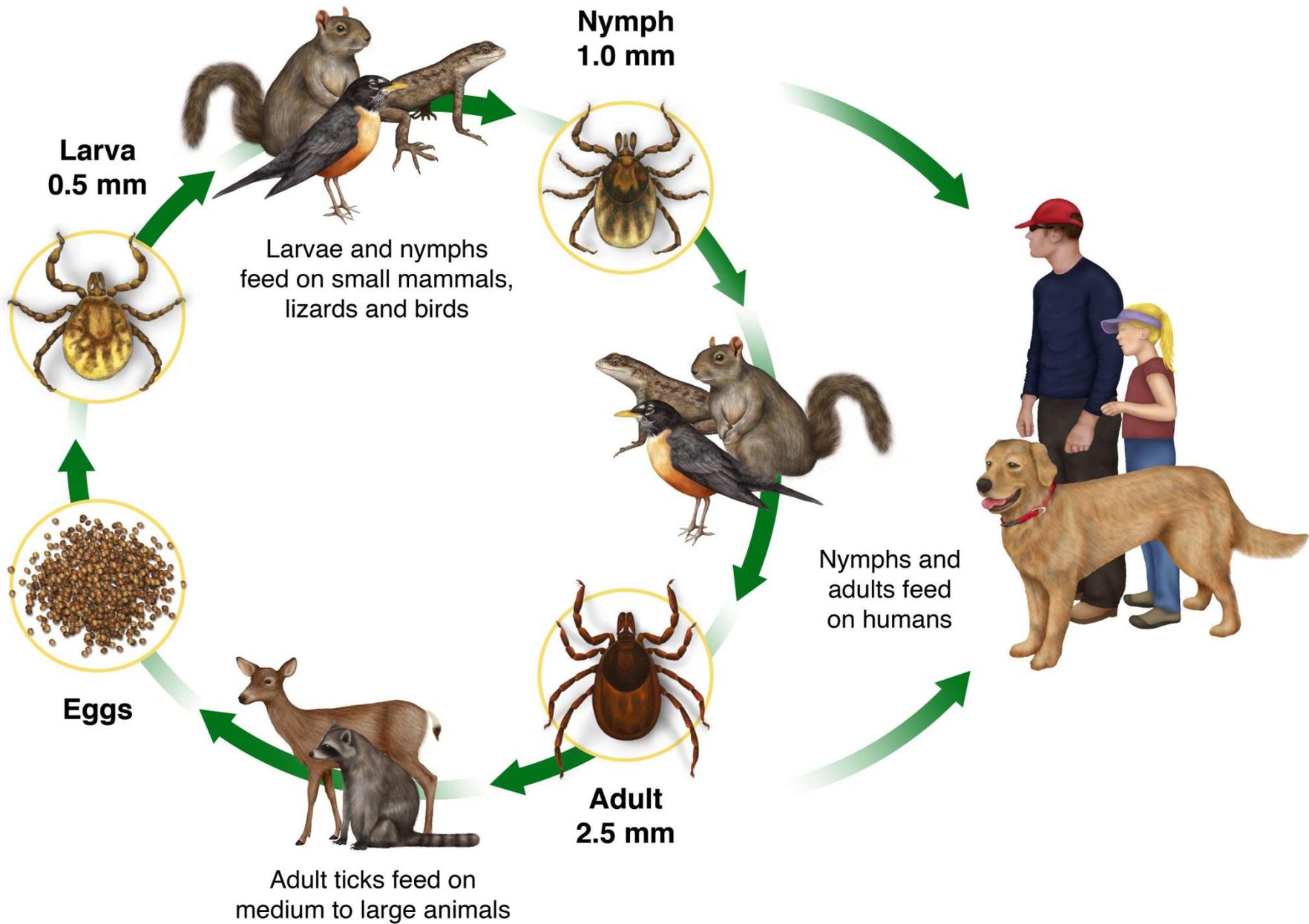
- Azores (PT)
- Canary Islands (ES)
- Madeira (PT)
- Svalbard/Jan Mayen (NO)



Vector: Deer or Black Legged Tick



Pathogen: *Borrelia* spp.



Lyme Disease



Tick must feed for ~24 hours.

Symptoms begin 1 to 4 weeks after a tick bite.

- **Red, expanding rash called erythema migrans (EM)**
- **Fatigue, chills, fever, headache, muscle and joint aches, and swollen lymph nodes**
- **Heart palpitations and dizziness due to changes in heartbeat**
- **Bell's Palsy (Rare)**
- **Approximately 60% of patients have intermittent arthritis.**

European Lyme Disease

There are several different bacteria *B. afzelii* and *B. garinii* that cause Lyme Disease in Europe. These cause different symptoms including more skin and joint problems.

What about tropical countries

Transmission has not been documented in the tropics. Lyme disease is rarely reported in returning travelers.

Post Treatment Lyme Disease

10-20% have symptoms months - years after treatment with antibiotics.

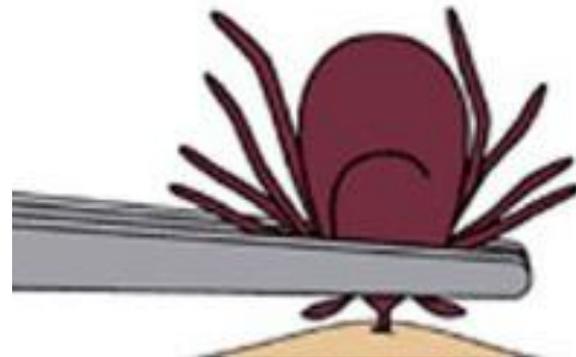
Including muscle and joint pain, cognitive and sleep disturbance, and fatigue.

How to Remove a Tick:

Use tweezers to grasp the tick as close to the skin's as possible.

Pull upward with steady, even pressure. If the mouth-parts to break off remove the mouth-parts with tweezers. If you are unable to remove the mouth leave it alone and let the skin heal.

After removing the tick, thoroughly clean the bite area with rubbing alcohol, an iodine scrub, or soap and water.



CDC's Treatment Guidelines

Patients treated with appropriate antibiotics in the early stages of Lyme disease usually recover rapidly and completely.

Antibiotics commonly used for oral treatment include doxycycline, amoxicillin, or cefuroxime axetil.

Patients with certain neurological or cardiac forms of illness may require intravenous treatment with drugs such as ceftriaxone or penicillin.

Reporting Cases to DRSi

2012 Armed Forces Reportable Medical Event Guidelines

- **Suspected**

- Case of Erythema Migrans (EM), with no known exposure, and no laboratory evidence

OR

- Case w/ lab evidence of infection but no clinical signs

- **Probable**

- Any other case of physician diagnosed Lyme disease w/ lab evidence of infection

- **Confirmed**

- Case of EM w/ a known exposure

OR

- Case of EM w/ lab evidence but no known exposure

OR

- Case with at least one late manifestation that has lab confirmation

Summary

Ticks

Preventing Tick bites

Tick Removal

Disease Distribution

Signs and Symptoms

Treatments



Contact Information



Air Force:

USAFSAM – Epidemiology Consult Service

Email: episervices@wpafb.af.mil

Website(CAC-required): <https://gumbo2.wpafb.af.mil/epi-consult/>

COMM: (937) 938-3207; DSN: 798-3207

Navy: Contact your cognizant NEPMU

NEPMU2: COMM: (757) 950-6600; DSN: (312) 377-6600

Email: NEPMU2NorfolkThreatAssessment@med.navy.mil

NEPMU5: COMM: (619) 556-7070; DSN (312) 526-7070

Email: ThreatAssessment@med.navy.mil

NEPMU6: COMM: (808) 471-0237; DSN: (315) 471-0237

Email: NEPMU6ThreatAssessment@med.navy.mil

Army:

USAPHC – Disease Epidemiology Program

Aberdeen Proving Ground - MD

COMM: (410) 436-7605 DSN: 584-7605

Disease.epidemiology@amedd.army.mil