Creepy Crawlies

Emerging Tick-borne Diseases
TICKS AND DISEASES TRANSMITTED

American Dog Tick
- Tularemia
- Rocky Mountain Spotted Fever

Brown Dog Tick
- Rocky Mountain Spotted Fever
- Q Fever

Lone Star Tick
- Southern Tick Rash Illness (STARI)
- Heartland Virus
- Tularemia
- Ehrlichiosis
- Q Fever

Rocky Mountain Wood Tick
- Colorado Tick Fever
- Powassan Encephalitis
- Rocky Mountain Spotted Fever

Deer Tick
- Lyme Disease

Cayenne Tick
- Rocky Mountain Spotted Fever

Ixodes Ticks (Multiple Species)
- Lyme Disease
- Babesiosis
- Powassan Encephalitis
- Anaplasmosis (HGA)

African Tick
- Tick-Borne Relapsing Fever

PROTECTING, MAINTAINING AND IMPROVING THE HEALTH OF ALL MINNESOTANS

6/11/2019
GEOGRAPHIC DISTRIBUTION OF LEADING TICKBORNE DISEASES 2013

- Anaplasmosis
- Babesiosis
- Ehrlichiosis
- Tularemia
- Lyme disease
- Rocky Mountain spotted fever
DISCOVERY OF TICKBORNE PATHOGENS AS CAUSES OF HUMAN DISEASE BY YEAR, 1909–1959

- Amblyomma spp.
- Dermacentor spp.
- Ixodes spp.
- Ornithodoros spp.

- Borrelia hermsii (tick-borne relapsing fever)
- Borrelia turicatae (tick-borne relapsing fever)
- Borrelia parkeri (tick-borne relapsing fever)

- Rickettsia rickettsii (Rocky Mountain spotted fever)
- Francisella tularensis (tularemia)
- Colorado tick fever virus (Colorado tick fever disease)
- Powassan virus (Powassan encephalitis)

DISCOVERY OF TICKBORNE PATHOGENS HAS ACCELERATED, 1960–2016

- Amblyomma spp.
- Dermacentor spp.
- Ixodes spp.

- Rickettsia parkeri (rickettsiosis)
- Ehrlichia ewingii (ehrlichiosis)
- Ehrlichia chaffeensis (ehrlichiosis)
- Heartland virus (Heartland virus disease)
- Rickettsia philipii (Pacific Coast tick fever)

- Babesia microti (babesiosis)
- Borrelia burgdorferi (Lyme disease)
- Anaplasma phagocytophilum (anaplasmosis)
- Borrelia mayonii (Lyme disease)
- Borrelia miyamotoi (B. miyamotoi disease)
- Ehrlichia muris (ehrlichiosis)

US CASES OF TICKBORNE DISEASES

No. reported cases

- Babesiosis*
- Lyme disease
- Ehrlichiosis
- Anaplasmosis
- Rickettsiosis

[Graph showing reported cases of tickborne diseases from 2001 to 2013]
EXPLANATION FOR THE INCREASE

- Improved diagnostics and clinical recognition
- Range expansion and population increases of ticks
- Lack of effective prevention strategies
Available

• Lyme
• Ehlichiosis
• Babesiosis
• Tularemia
• Borrelia miyamotoi
• Colorado Tick Fever

Not-Available

• Powassan
• Heartland
• Bourbon virus
• ????
Thank you.