

EHRlichiosis

Ehrlichiosis is an emerging infectious disease, but it has probably been around for a long time - just not recognized. In 1998, deer in 4 southern Ohio counties (Adams, Gallia, Jackson, and Lawrence counties) were found to be infected with bacteria that cause Human Monocytic Ehrlichiosis (HME). Eleven of 133 (8.3%) deer blood samples tested positive for the bacteria. In 2002, there were 3 human cases of Ehrlichiosis in Ohio (Ashtabula, Cuyahoga and Geauga counties) reported to CDC, while 8 human cases from Athens, Clermont, Geauga, Jackson, Montgomery, Portage, and Summit counties were reported in 2003.

THE BACTERIUM

Human Monocytic Ehrlichiosis is caused by the bacterium, *Ehrlichia chaffeensis*. It is a rickettsia-like organism; an extremely small bacterium that is an intracellular parasite of white blood cells.

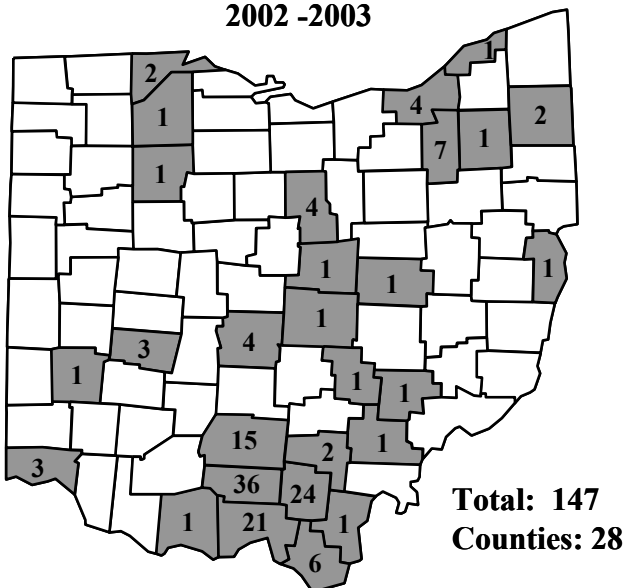
The bacterium was first isolated in 1986 from the blood of a U.S. Army reservist at Fort Chaffee Arkansas, and was subsequently named *E. chaffeensis* after the locality of the first isolate.

THE VECTOR

HME is transmitted by the Lone Star tick, *Amblyomma americanum*. Within the past 2 years, populations of this tick have been discovered in 28 Ohio counties. We suspect it will continue to spread in Ohio.

Amblyomma americanum

2002 -2003



SYMPTOMS

Onset of symptoms of HME occurs between 1 and 21 days following infection and may resemble the symptoms of Rocky Mountain Spotted Fever. The spectrum of this disease ranges from illness so mild that no medical attention is sought to a severe, life threatening condition. Clinical features include high fever and headache, malaise, muscle aches, vomiting, and loss of appetite. A rash similar to that seen in cases of Rocky Mountain Spotted Fever is present in about 20% of cases. Since the bacterium invades white blood cells, the body's immune system is also adversely affected.

REPORTING

Human Monocytic Ehrlichiosis cases **must** be reported by the end of the work week. Individual cases must be reported to the local health department. Local health departments then report cases via the Ohio Disease Reporting System (ODRS). The Tick-borne Rickettsial Disease Case Report Form (CDC 55.1) must be completed and sent to Vector-borne Disease Program, 900 Freeway Drive North, Columbus, Ohio 43229 (Attention: Kim).

REMOVING TICKS

The bacteria that cause Rocky Mountain Spotted Fever, Ehrlichiosis and Lyme Disease are transmitted in the saliva while a tick is feeding. However, feeding begins a relatively long time after attachment and risk of infection during this time is low. For this reason, early detection and correct removal of the tick will help to prevent infection.

Care should be exercised when removing ticks. If squeezed, the tick may involuntarily inject bacteria, like a mini-syringe. **NEVER** attempt to "burn off" a tick with a match. This will cause the tick to burst and inject more bacteria into the feeding site. Secretions and tick feces may also be infective, so it is best to avoid touching the tick. Grasp the tick as close to the skin as possible using fine-tipped tweezers or with fingers shielded with tissue or rubber gloves. Pull gently but firmly straight out until the tick pulls free. Wash the bite site with soap and water and apply an antiseptic. **KEEP THE TICK ALIVE.** Place it in a pill vial or film canister and attach a completed tick submission form indicating the county where the tick was picked up and the date it was found. It is also **very important** to include a small moistened piece of paper towel or napkin (one drop of water to wet the item is sufficient) in the container with the tick. Without this, or with too much water, the tick may die prior to reaching the VBDP lab for testing.

We can only test **live ticks**. However, all ticks, dead or alive, will be identified. For identification and testing, send the tick to the Vector-Borne Disease Program's Tick Identification and Testing Service at the address below. A tick submission form is at the bottom of the next page. Please make copies as necessary.

TICK IDENTIFICATION & TESTING SERVICE

Tick identification and testing is currently available through the Vector-Borne Disease Program. The purpose of this service is to supply correct identification of ticks, results of pathogen testing and information about diseases transmitted by ticks in Ohio. Proper tick identification is essential to determine the potential risk of infection associated with a particular disease. For example, the American Dog Tick is a vector of Rocky Mountain Spotted Fever but **NOT** Lyme Disease. Tick testing at the Vector-borne Disease Program for Rocky Mountain Spotted Fever and Lyme Disease is not diagnostic of human illness, but indicate risk if the tick is infected.

**Ohio Vector News is Compiled
by the Staff of the
Vector-borne Disease Program, ODH,
900 Freeway Drive North
Columbus, Ohio 43229**

Phone: **614-752-1029**; FAX: **614-752-1391**

For additional information / comments etc., call or e-mail us at: zoonoses@gw.odh.state.oh.us

Information for items was abstracted from CDC's VECTOR listserver and other sources. Ohio data and maps are original items.

Date Received: _____

Lab
Use
Only:

Identification: _____

Results: _____ ♂ ♀ N L %

Mail tick to:

**Vector-borne Disease Program (VBDP)
900 Freeway Drive North
Columbus, Ohio 43229
Ph: (614) 752-1029**

Instructions for submitting ticks:

- 1. Keep ticks alive!** Dead ticks will be *identified*, but cannot be tested.
- Moisten paper strip with **one** drop of water, place tick and paper strip in vial and close tightly.
- Complete this form and send it with your tick to VBDP in the tube provided.

Collector/Patient: _____

Address: _____

City/State/Zip: _____

Age: _____ Sex: _____ Phone: _____

Mail results to: (if different from above)

Important! Tick test results do not indicate presence of human disease. If you think you have contracted a tick-borne disease, seek medical attention - don't depend on, or wait for, tick test results. For more information about tick-related diseases, contact us or your local health department, or see the CDC website www.cdc.gov (type tick into the search bar).
