

What's Biting You?

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A question that comes into the office year round is "What's biting me?" There are a variety of biting pests that drive us crazy, some require a blood meal to survive, others bite defensively and few appear to irritate us for no reason at all. Not all are technically insects, so we'll group them into the larger category called arthropods, which include all insects, ticks and mites.

Arthropods That Bite Humans as a Primary Host

TICKS



Lone star tick female has white spot on dorsum, which is still noticeable when engorged.



Photos by Jody Green

Ticks are arachnids, not insects. They are wingless, tough and leathery and always parasitic. Ticks find a host by "questing" from the ground and then move upward to warm areas such as the groin, armpit, behind the ears and on the scalp.

Two of the most prevalent ticks in Nebraska include the American dog tick and the lone star tick. When ticks bite, they embed their barbed mouthparts into the skin and can remain attached to the host for a number of days if undisturbed.

Remove ticks by grasping them as close to the skin as possible with tweezers and pulling straight out. If a tick is removed within 24 hours, there is little risk for disease. Ticks are known to vector diseases such as Rocky Mountain spotted fever, tularemia and ehrlichiosis

MOSQUITOES

Mosquitoes are the deadliest animals on the planet, vectoring disease such as malaria, yellow fever, dengue fever, Chikungunya, Zika virus and West Nile virus. Female mosquitoes lay eggs on the surface of standing water and the larvae require an aquatic environment to develop

before pupation. Mosquitoes seem to bite all over the body, and depending on the person, reactions can be insignificant or cause for major discomfort and itching.

BITING FLIES



Male and female stable flies feed on the blood of mammals. Biting flies have cutting mouthparts.

Other biting flies have mouthparts that cut through the skin and suck blood from the host. The eggs of flies are laid in the material that the larvae (maggots) develop, which are always associated with semi- or aquatic habitats involving water and moisture. Some biting flies include:

- stable fly,
- biting midge or no-see-um,
- black fly or buffalo gnat,
- horse fly,
- deer fly, and
- sand fly

Females require the blood meal of mammals to produce eggs. Most males feed on plant nectar (except stable fly). Some biting flies can transmit diseases to livestock animals.

BED BUGS



Bed bug adults are wingless, can be up to 1/4" long, oval-shaped and flattened from top-to-bottom, but most specimens are younger and smaller and can take on various shapes and color depending on its age and feeding status.

Bed bugs are closely associated with human sleeping quarters (usually within an 8-foot radius) as they often bite during the night while we are sleeping. They detect humans by heat and carbon dioxide and require a blood meal to survive. A bed bug infestation is signified by bites, fecal stains, cast skins, eggs and live bugs of all stages. Bed bugs are active all year

round since they live where we live. They feed on the exposed skin of sleeping humans, typically not the scalp.

Bed bugs look similar to bat bugs, so it is important to have bed/bat bugs identified by an expert because treatment and prevention methods differ. Bed and bat bugs are not vectors of disease.

Arthropods That Bite Humans in Absence of a Primary Host

BAT BUGS

Bat bugs look similar to bed bugs, but their primary host are bats.

MITES

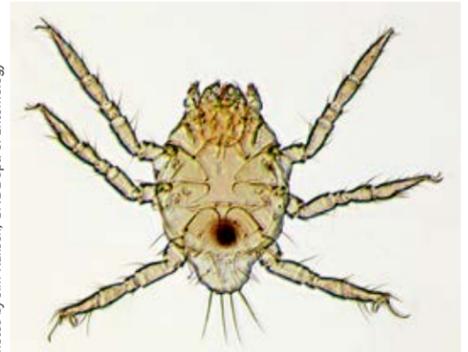


Oak leaf gall mites (above highly magnified) feed on midge larvae living in marginal leaf fold (below) of infected pin oak trees.



Mites are closely related to ticks and are wingless arachnids. The mites that irritate humans are tiny, microscopic ones, unseen to the naked eye. Reactions from mites occur hours after exposure as it takes a while for mites to attach and feed. Itching usually lasts about 10 days and bites can persist for two weeks, unless infected. Mites are not vectors of disease.

Itch mites are not blood feeders, but when exposed to humans will feed on tissue. The straw itch mites infest people handling infested grains such as wheat, oats, barley and grass seed. Oak leaf gall mite has affected people in Lincoln periodically since 2004. The oak leaf gall mite is a predator of midge larvae living in growths on the leaves of pin oak trees. When the mites lose their host, they drop down and land on people. Bites usually occur on the upper body: head, neck, shoulders and upper torso.



Chigger mites (above highly magnified) are the larval form of the red harvest mite. Chigger bites (below) are usually located on the lower body, including ankles.



Chigger mites are the larval form of the red harvest mite; which feeds on other insects and insect eggs as an adult. They do not suck blood, but cut into the skin and digest liquefied cells. Chiggers spend most of their lives in the cracks in the soil and populations in the lawn can be spotty. Chigger bites are usually located on the lower body in clusters where skin is thin, soft and warm, which is why they bite around ankles, knee pits and waist bands where clothing is tight.

Bird mites are ectoparasites of birds. They become a problem when birds nesting in or near the home abandon the nest, leaving the bird mites hungry for a blood meal. They can only live for 10 days and can't multiply without a bird host.

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How to Prevent Bites

Ticks and fleas are commonly brought in on the family pet or on clothing. Talk to the veterinarian about preventative treatments, groom and brush pets and check yourself, family members and pets immediately after outdoor activity.

To protect yourself against **mosquitoes**, wear long sleeves and long pants, wear permethrin-treated clothing, apply effective repellents (DEET, Picaridin, IR3535, oil of lemon eucalyptus) and limit exposure during periods of high pest activity.

To reduce bites from **itch mites** and **chiggers**, avoid sitting on grass and walking under infected oak trees, launder clothing and shower immediately after coming in from outdoors.

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