

Chiggers

in Arizona?

Illustrated by Joel Floyd in *Venomous Animals of Arizona*, Arizona Cooperative Extension



Figure 1. Larval harvest mite or chigger.

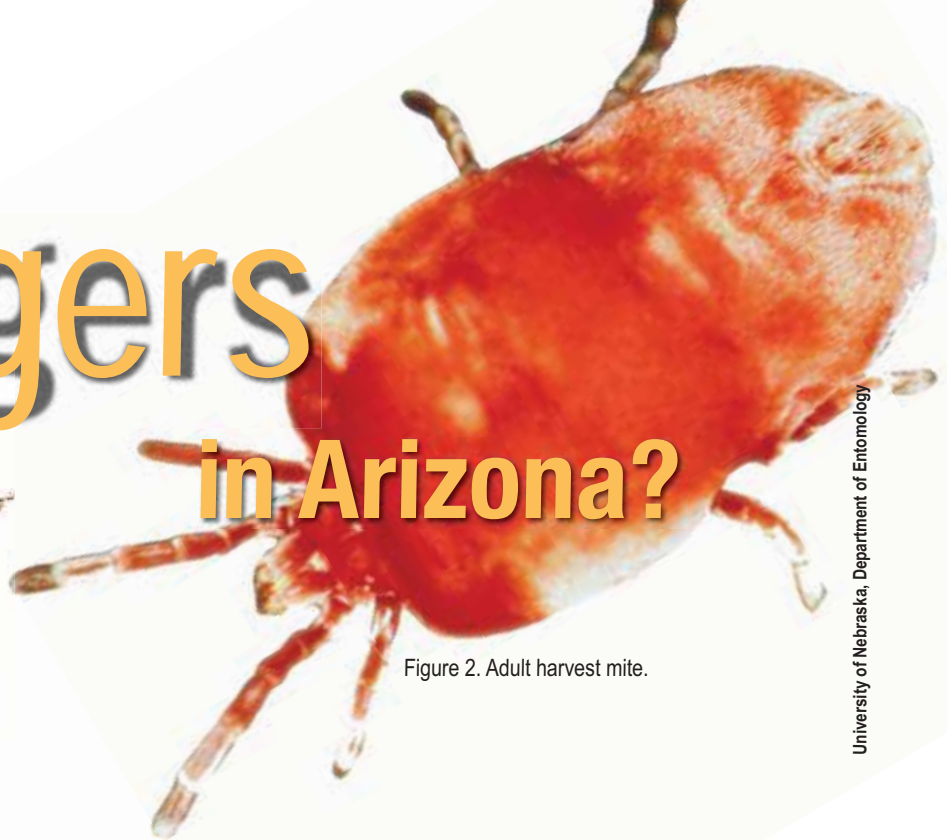


Figure 2. Adult harvest mite.

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Many people will tell you that chiggers do not occur in Arizona. I have first hand experience as the recipient of numerous itching welts that they were responsible for producing right here in Arizona. One book that I read states that chiggers seem to occur only in the southern part of the state. While I have encountered them in several mountain ranges of southeastern Arizona, I have also had chigger bites in Pinetop and along the Verde Rim.

Chiggers are the larval stage of the harvest mite in the *Trombicula* family (Fig. 1). Closely related to ticks and spiders, adult harvest mites have eight legs (Fig. 2). They are usually red in color and can be easily seen walking across the soil surface. Adult harvest mites lay eggs in the soil during the spring, from which the larval stage (chiggers) hatch later in the year. My Arizona encounters with chiggers have typically been during late summer or early fall when vegetation growth is hitting its peak production for the year. At this stage of development, the chiggers have only six legs and are about 1/50th of an inch in size. Hungry for their first meal, chiggers climb to the top of grass or other higher points and wait for animals to pass by and jump onto them. Humans are not primary hosts for chiggers. They prefer rodents, birds and other vertebrate animals.

Once on a human, chiggers tend to migrate to areas where clothes are confined. Bites tend to be found around the ankles, behind the knees, around the waistband, and with less frequency, the armpits. The chiggers clasp onto the skin with specialized mouth parts, injecting saliva filled with enzymes that break down skin tissue. The skin cell contents are what the chiggers feed on, not blood as some people think. Another myth that I remember from childhood is that chiggers burrow under your skin. They actually attach themselves near a skin pore or hair follicle. When the chigger injects the enzyme, our bodies react by hardening the cells around the saliva-injected cell. This makes a tube that the chigger uses to drink the cell contents. This tube is

called a stylostome, which is actually the thing that becomes irritated and red and produces an intense itch.

Chiggers that attach themselves to humans probably never finish their meal. They will most likely be brushed, scratched, or showered off within a couple of hours. On other host animals, once the chigger has had its fill (3-4 days), it will drop from the host. It will then proceed to the nymph stage (where it develops eight legs), and later become an adult. At these two later stages, the mites are harmless to humans.

It is nearly impossible in Arizona to recognize and avoid chigger infested areas. If you are going to be spending some time in areas of heavy vegetation (including open grasslands) some precautions can be taken. Wearing long pants, long sleeve shirts and high top boots or shoes will help. Make sure that they fit snugly, but not tight as this may become a possible feeding site. Tucking pants into boots can also be helpful. Applying insect repellent on your skin and to your clothing around your ankles, wrists, neckline and waist will increase your chance of avoiding bites. Be sure to reapply repellents as often as necessary since the effects of many will only last for a couple of hours.

If you happen to come home with chigger bites, expect the itching to last for a week to ten days. There are a few things you can do for some relief. Take a hot, soapy shower or bath as soon as you return home. This will remove any chiggers that may still be hanging on. Applying over-the-counter anti-itch lotions and creams will give some temporary relief. Another popular myth associated with chigger bites is that applying nail polish to the bite will suffocate borrowing chiggers. Since chiggers don't borrow into the skin, there is no value in this particular treatment. It is important to realize that the source of the itching is the stylostome, and until your body completely breaks that down and absorbs it, it will continue to itch. While scratching seems to give some short-term relief, it only further irritates the stylostome and can lead to secondary infections.