

## What are chiggers and where are they found?

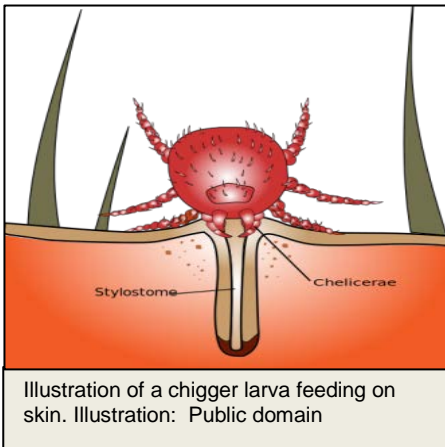
A “chigger” is a type of mite that feeds on birds, reptiles, amphibians, mammals, and humans. There are about 20 species of chigger mites around the world that are known to feed on humans, and of those, only two species are known to bite humans in the United States. Chiggers live in a range of habitats from meadows to swampy areas, but are most commonly found in grassy or scrubby vegetation, shaded areas, leaf litter, rotten logs, and stumps.

## What do chiggers look like?

Chiggers are the larval stage of a mite in the family Trombiculidae. The chigger mite has a lifecycle similar to a tick. Adult females lay eggs, which hatch into six-legged larvae. These 6-legged larvae are the only life stage that feeds on humans. The larvae develop into 8-legged nymphs and then into adults after feeding. Chigger larvae are extremely small (1/100 to 1/120 inch) and will appear red, orange, or yellow through a magnifying glass. The larvae are active from early spring through late fall. Chigger nymphs and adults do not bite humans; they feed on small, soil-dwelling insects and insect eggs. Adult chigger mites are figure-eight shaped and covered in dense red, yellow, or orange hairs. Adults are active in the fall, overwinter in the soil, and lay eggs early in the spring.



A magnified image of a chigger larva, with a close-up of the claws and blade-like chelicerae.  
Photo: D. Nielsen, ESB, USAPHCR-N



## How do chiggers bite?

Contrary to popular belief, chiggers do not burrow into the skin or suck blood. Using large claws located near their mouths, chigger larvae quickly attach to any exposed skin that contacts infested grass or soil in vegetated areas. The larvae then cut the skin with blade-like mouthparts called chelicerae and inject an enzyme into the cut that digests the skin at the bite site. This makes the cells around the bite site harden into a “drinking straw”, which the chigger uses to suck up the liquefied tissue. Chigger larvae will feed for several hours and then drop off the host to find a sheltered place to digest the meal. The bite site stays irritated by the digestive enzymes long after the chigger finishes feeding and detaches.

## Can chigger bites make me sick?

In the United States, chiggers do not transmit diseases, but feeding larvae can cause extreme skin irritation. In parts of Southeast Asia and the islands of the southwest Pacific, chiggers transmit scrub typhus, a potentially life-threatening bacterial disease in humans. Scrub typhus can cause welts, swelling, and fever within several hours of chigger exposure. Seek medical attention if you think you may have been exposed to scrub typhus.

## What are the signs and symptoms of chigger bites?

Chiggers prefer to bite skin where clothing fits tightly, such as around waistlines, sock lines, and behind the knees. Skin begins to itch approximately 1-3 hours after being bitten by chigger larvae. The skin will eventually develop itchy, red or puss-filled bumps at the site of attachment which can be extremely irritating. The itching persists for up to a week and complete healing of the skin lesions can take up to 2 weeks.

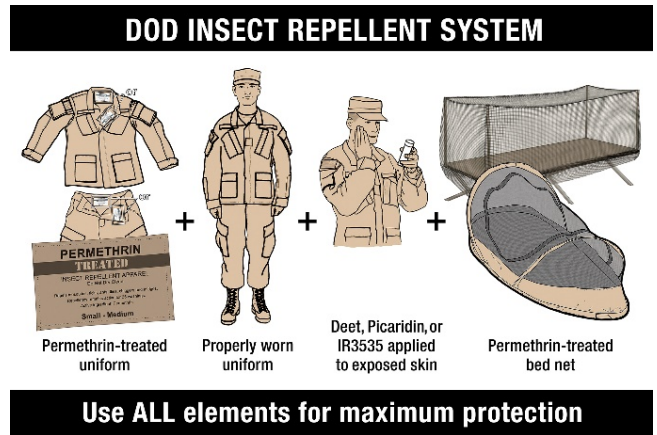


Reaction to bites from chigger larvae.  
Photo: © 2014 WebMD, LLC.

## How do I prevent chigger bites?

The best defense against chiggers is to avoid them. Chigger infestations are less common in maintained lawns and landscaped environments. Do not sit, lay down, or walk barefoot in chigger habitat. Cover your skin to limit access to your feet, ankles, and legs. Wear loose-fitting, tightly-woven fabrics to prevent chiggers from moving through clothing.

**Use the DOD Insect Repellent System for maximum protection from chigger bites.** This system incorporates permethrin repellent on the uniform; properly worn uniform; DEET, picaridin, or IR3535 repellent on exposed skin; and sleeping inside a permethrin-treated bed net. To keep chiggers on the outside of your clothing, tuck pant legs inside boots, and fasten your cuffs snugly at the wrist.



## What standard military insect repellent products will repel chiggers from exposed skin?

Approved military insect repellents for use on exposed skin come in a variety of formulations. Always refer to the label to determine frequency of repellent application based on activity. **Do not apply repellent to eyes, lips or sensitive/damaged skin.** Available military-approved repellents are:

- Cutter® pump spray (NSN 6840-01-584-8598) contains 25% DEET; one application protects for up to 10 hours.
- Ultra 30™ Insect Repellent Lotion (NSN 6840-01-584-8393) contains 30% Lipo DEET; one application protects up to 12 hours.
- Bullseye™ Bug Repellant pump spray (NSN 6840-01-656-7707) contains 20% IR3535®; provides protection for up to 8 hours.
- Natrapel® pump spray (NSN 6840-01-619-4795) contains 20% picaridin; one application protects for up to 8 hours.
- Chigg-Away® lotion (NSN 6804-01-137-8456) contains 10% precipitated sulfur and 5% benzocaine, relieve itching and repels chiggers.
- Ultrathon™ (NSN 6840-01-284-3982) contains 34% controlled-release DEET lotion; one application protects for up to 12 hours.



## How do I treat chigger bites?

Chigger bites can be extremely irritating and uncomfortable. If you suspect you have been exposed to chiggers, immediately take a shower and scrub your skin vigorously with a washcloth will dislodge any still-feeding mites. Once a pustule (bump) has formed, do not scratch it to avoid opening the bite to possible infection. **Note: bites will remain irritated for days after the chiggers are gone.** Kill any remaining larvae on clothing by washing in hot (125°F) soapy water for at least half an hour. Do not wear clothing previously worn in chigger areas until it has been laundered. Ointments containing benzocaine, hydrocortisone, calamine, or other products recommended by your doctor may help temporarily relieve itching from chigger bites. Never apply household products such as kerosene, turpentine, ammonia, alcohol, gasoline, salt, or dry cleaning fluid to an affected area.

## What can I do to prevent chiggers from infesting my yard?

Chiggers quickly dry out and die from water loss in areas with short vegetation. You can make your yard less attractive to chiggers by mowing your lawn and keeping other plants trimmed.

## References:

University of Maryland Extension, Home and Garden, Chiggers:  
[http://extension.umd.edu/sites/extension.umd.edu/files/docs/programs/hgic/HGIC\\_Pubs/Chiggers%20web%20hg79.pdf](http://extension.umd.edu/sites/extension.umd.edu/files/docs/programs/hgic/HGIC_Pubs/Chiggers%20web%20hg79.pdf)

Armed Forces Pest Management Board, Technical Guide 36, Personal Protective Measures against Insects and Other Arthropods of Military Significance: <https://www.acq.osd.mil/eie/afpmb/docs/techguides/tg36.pdf>