





## THE TIDEWATER APPALACHIAN TRAIL CLUB PRESENTS

EAGERLY AWAITING YOUR RETURN TO THE TRAIL

**CHIGGERS**



**TICKS**



**MOSQUITOS**





## EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

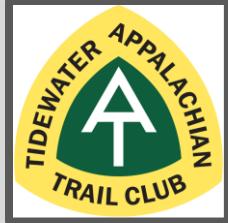
Welcome everyone, especially those who are going to be clearing trail in the next few weeks while working in high weeds or other favorite haunts of arthropod parasites. As the trail crew at First Landing State Park found out last week, overgrown weeds, trees and shrubs are home base for small creatures who see us as lunch. Moreover, they are not just irritants. They can damage our health while snacking on us.



## EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

When we're finished we hope you will know more about chiggers, ticks, and mosquitoes and how to combat them on the trail--and at home. We'll endeavor to answer the following questions.

- a. What are these creatures?
- b. Why do they want to attack me?
- c. How will they attack me?
- d. Will their attacks serious affect me?
- e. How can I defend myself?
- f. If they get through my defenses, how will I know?
- g. If I get sick, what should I do?



## EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

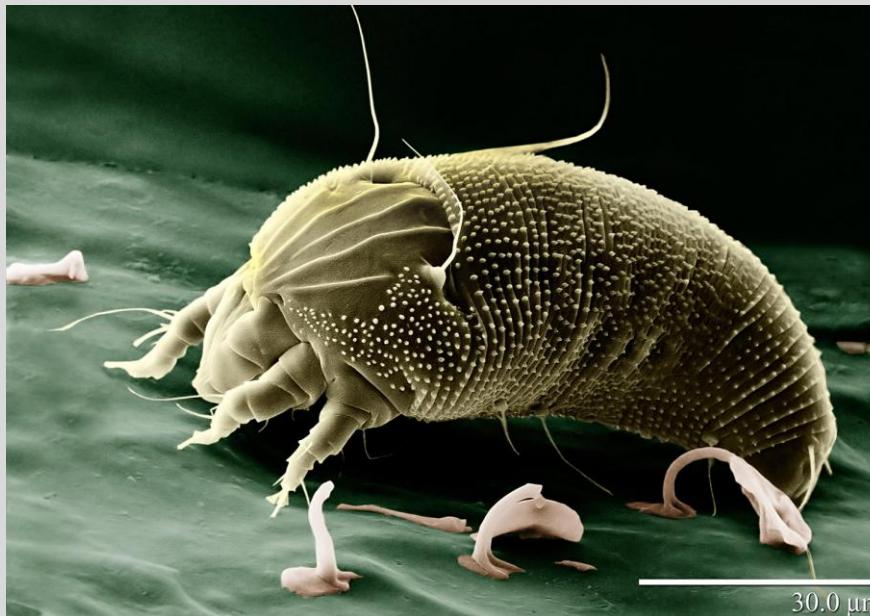


For anyone out there who is into entomology, you probably know that mosquitoes are insects and that chiggers and ticks are not. They are arachnids putting them in the same Class as spiders and scorpions. The distinction is important as ticks and chiggers attack in a similar way.



# EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

## MEET YOUR PARASITE: THE CHIGGER





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### MEET YOUR PARASITE: THE CHIGGER

Chigger Myths Part I: (The reality is bad enough)

- Chiggers will suck your blood. **Wrong**. They liquify your skin and drink it. More details follow. You'll love it.
- Chiggers lay eggs in their host's skin. (That's you by the way.). **Wrong**. After they snack on your skin, chigger moms jump off, continue their growth cycle, and then lay eggs on the ground.



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### MEET YOUR PARASITE: THE CHIGGER

Chigger Myths Part II: (The reality is bad enough)

- Some people believe chiggers will infect the host. **Wrong--sort of.** The CDC and other authorities refute these claims for chiggers in the U.S. However, they note that chigger bites can become infected if extensively scratched--which is easy to do as they itch like crazy.
- Also, some people are sensitive to the enzyme chiggers deploy. This sensitivity can cause severe reactions. More on that later.



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### MEET YOUR PARASITE: THE CHIGGER

<https://www.youtube.com/watch?v=sAe14qm7ZjM>

Now on to a video about the fascinating life cycle of chiggers. Of all the videos viewed, this one from Thailand is the most succinct. It is consistent with the CDC and universities' descriptions.



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### MEET YOUR PARASITE: THE CHIGGER

Hard to believe that something so small can cause these welts--and as a bonus, they itch like crazy.





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### MEET YOUR PARASITE: THE CHIGGER

Palatives for chigger bites:

The National Center for Biological Information (part of the National Institutes of Health) notes that chigger bite treatment is usually restricted to oral antihistamines, cold compresses, and topical corticosteroids.

The internet is littered with various home remedies for chigger bites. Many of these are actively discouraged by CDC and NIH. After a brief survey, I've found that the advice in YouTube music videos especially **unhelpful**.



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## MEET YOUR PARASITE: THE CHIGGER

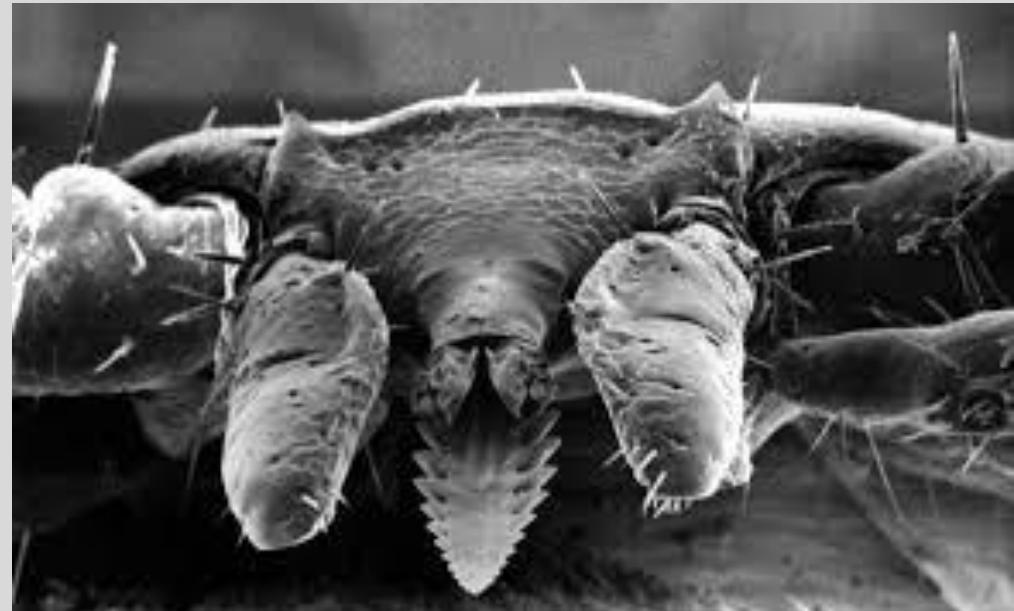
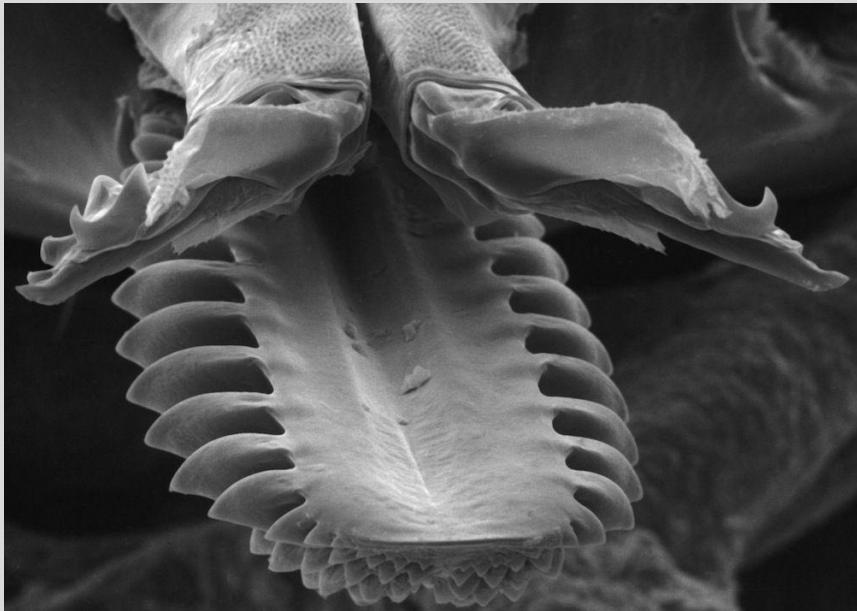
Palatives for chigger bites according to Seasick Sam





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## MEET YOUR PARASITE: THE TICK





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## MEET YOUR PARASITE: THE TICK





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### MEET YOUR PARASITE: THE TICK

As hikers, we probably all know about ticks and Lyme disease, but there is more to learn.

- Did you know that we have four species of ticks in Virginia and each one can be the carrier for one or more of 12 diseases.
- Next week, we will post the Virginia Department of Health flier on tick borne diseases on the TATC website under the Education heading. It's worth reading.



## EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

### MEET YOUR PARASITE: THE TICK

<https://www.youtube.com/watch?v=m4DKOfQHmDo>

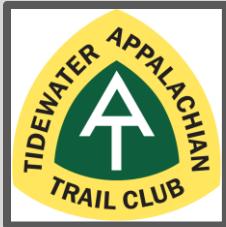
Now on to a succinct video from the ATC that really digs deep into the subject of ticks.



# EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

## MEET YOUR PARASITE: THE MOSQUITO





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### MEET YOUR PARASITE: THE MOSQUITO

[https://www.youtube.com/watch?v=rD8SmacBUcU&list=PLdKlcEDdCQBpNSC7BIONruffF\\_ab4cqK](https://www.youtube.com/watch?v=rD8SmacBUcU&list=PLdKlcEDdCQBpNSC7BIONruffF_ab4cqK)

We've all been bitten so we know what to expect, more or less. This video explores how, when, and why mosquitos attack and what they may leave behind.



## EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

### DEFEATING THE PARASITES DURING TRAIL MAINTENANCE

- Trail maintainers have a special problem. Unlike hikers who can try to avoid weedy, wet, and overgrown areas where these parasites live and lie in wait, maintainers have to dive right in, often in hot weather, to get the job done. How can we do that without getting bitten?
- Fortunately, we have physical and chemical barriers to keep them at bay--***if we use and maintain them***. That means stopping during the day, just as we would for water, to reapply or adjust our protective layer.



## EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

### DEFEATING THE PARASITES DURING TRAIL MAINTENANCE

CDC recommendations to optimize protection against mosquitoes and tick bites:

- Wear a long-sleeved shirt, long pants, and socks.
- Treat clothing with permethrin or purchase pretreated clothing.
- Permethrin-treated clothing will retain repellent activity through multiple washes.



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### DEFEATING THE PARASITES DURING TRAIL MAINTENANCE

CDC recommendations:

- Repellents approved for use on skin can also be applied to clothing but provide shorter duration of protection (same duration as on skin) and must be reapplied after laundering.
- Apply lotion, liquid, or spray repellent to exposed skin.
- Use repellent whenever outdoors (or indoors [tents] if mosquitoes can get inside); mosquitoes can bite any time of day or night.
- Check yourself during and after outdoor activity (your entire body); remove any attached ticks promptly.



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### DEFEATING THE PARASITES DURING TRAIL MAINTENANCE

University of Maine additional recommendations:

- Inspect yourself, your clothing, your children, your companion, and your pets for ticks when you return indoors. Ticks often attach in body folds, behind ears, and in the hair. If possible, shower and wash clothes immediately. Heat drying is effective in killing ticks.



# EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

## DEFEATING THE PARASITES DURING TRAIL MAINTENANCE

### How Repellents Work

<https://www.youtube.com/watch?v=pd4KTI9WhYQ>

- The repellents on the CDC list work by hiding us from insects and arachnids.
- CDC lists DEET, picaridin (known as KBR 3023 and icaridin outside the US), IR3535, oil of lemon eucalyptus (OLE), para-menthane-diol (PMD), or 2-undecanone as effective and safe as labelled.
- Here's quick explanation of how repellents work.



# EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

## DEFEATING THE PARASITES DURING TRAIL MAINTENANCE

### How Permethrin Works

<https://www.youtube.com/watch?v=9Ezb1uSgGSs>

Permethrin, the CDC recommended pesticide, affects the nervous system in insects, causing muscle spasms, paralysis, and death. It affects them if they eat it or touch it. Here is an explanation of how to use it properly.



# EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

## WHAT IF YOUR PROTECTION FAILS

- If the chiggers, ticks, or mosquitoes get through the barriers, what will happen? You'll get an itchy reminder that they were there, and that may be the end of it. However, you could start to get sick from one of the many illnesses they carry.
- The next slides cover the illnesses and the CDC list of symptoms for parasite borne diseases. If you begin to feel ill, especially if you know you were bitten, don't self-diagnose. See your doctor and describe when and where you were in the woods and the chronology of symptoms you've experienced.

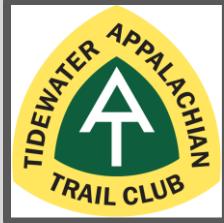


## EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

### A PARTING GIFT FROM YOUR PARASITE: THE CHIGGER

Most people just itch after a chigger encounter provided they don't self-inflict an infection. However, some folks are seriously allergic to chigger enzymes. They can experience severe reactions. Symptoms can include:

- Rash
- Hives
- Difficulty breathing
- Drop in blood pressure
- Dizziness or faintness
- Nausea or vomiting
- Severe stomach pain



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### A PARTING GIFT FROM YOUR PARASITE: THE TICK

- Common tick borne illnesses in Virginia include Lyme disease, Rocky Mountain spotted fever, and ehrlichiosis. Symptoms for each of these illnesses can range from mild to potentially life-threatening. Symptoms may develop weeks after exposure. (Virginia Department of Health)
- The following lists combine VDH and CDC published symptoms, but they are not exhaustive. Be prudent. If you have been in an area likely to contain our parasites and you feel sick, see your doctor. All authorities agree. Early treatment works better and is easier on the patient--that's you.



## EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

### A PARTING GIFT FROM YOUR PARASITE: THE TICK

Symptoms can include:

- "Bull's-eye" skin rash that spreads
- Fever
- Headache
- Fatigue
- Rash (anywhere)
- Abdominal and muscle pain or aches
- Lack of appetite
- Chills
- Nausea
- Vomiting
- Diarrhea
- Confusion



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## **A PARTING GIFT FROM YOUR PARASITE: THE MOSQUITO**

Common mosquito borne illnesses in Virginia include Zika virus, West Nile virus, Chikungunya virus, dengue, and malaria. (Virginia Beach Department of Health)



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### A PARTING GIFT FROM YOUR PARASITE: THE MOSQUITO

- The most common symptoms for mosquito borne illnesses are identical to those of ticks. The bad news is that your doctor will have to do some testing to determine which illness it is.
- See your doctor if you are sick and match any of the symptoms after trail maintenance or a walk in the woods. Remember, the symptoms can occur weeks after the parasite says goodbye. All authorities agree. Early treatment works better and is easier on the patient--that's you.



# EAGERLY AWAITING YOUR RETURN TO THE TRAIL: CHIGGERS, TICKS, AND MOSQUITOES

## DID WE GET THERE?

Our objectives for this briefing were to answer these questions. Where we successful? Do you want to know more? Please email your thoughts to Lee at [Education@Tidewateratc.com](mailto:Education@Tidewateratc.com)

- What are these creatures?
- Why do they want to attack me?
- How will they attack me?
- Will their attacks serious affect me?
- How can I defend myself?
- If they get through my defenses, how will I know?
- If I get sick, what should I do?



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QUESTIONS AND COMMENTS