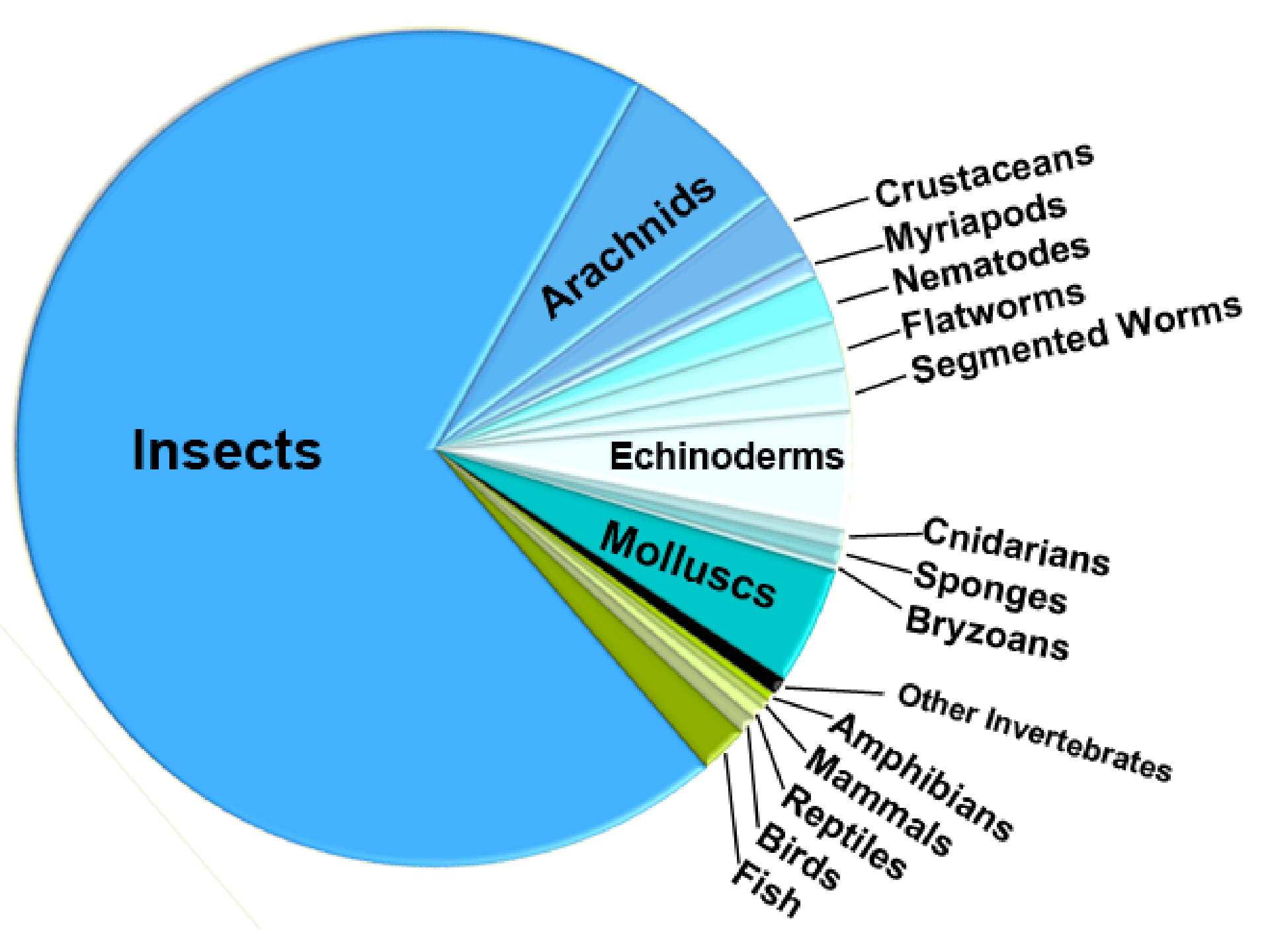




**ANIMAL PESTS THAT
BOTHER HUMANS**





BITING MIDGES

PUNKIES

NO-SEE-UMS

SWEET ITCH

CULICOIDES HYPERSENSITIVITY

SUMMER ECZEMA





“BUFFALO GNAT”



Black Fly



Simulium vittatum Zett.

Female of *Simulium vittatum* s. s. Image by Klaus Bolte, copyright Canadian Forest Service, Ottawa.



BLACK FLY

DEER FLY



HORSE FLY

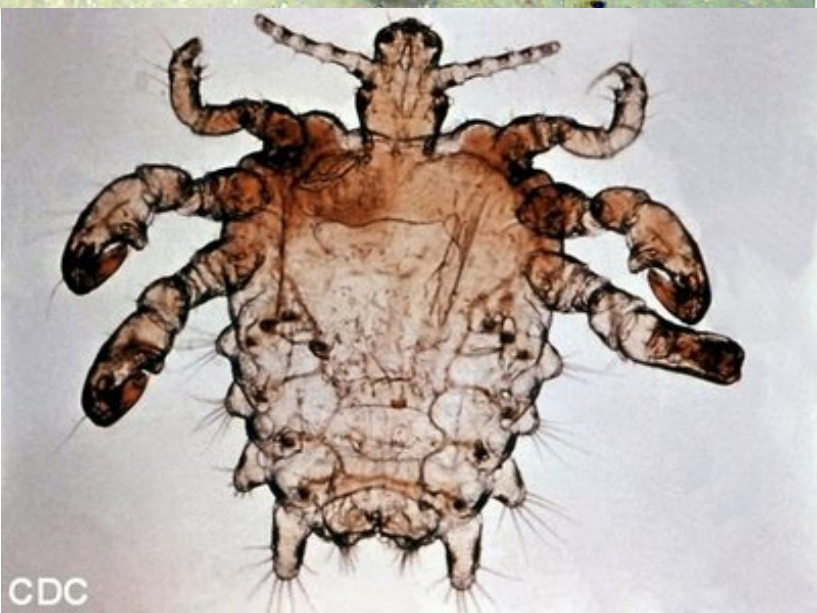


TABANIDAE

Animal lice cannot live on humans, and human lice cannot live on other animals.



LICE



BED BUG



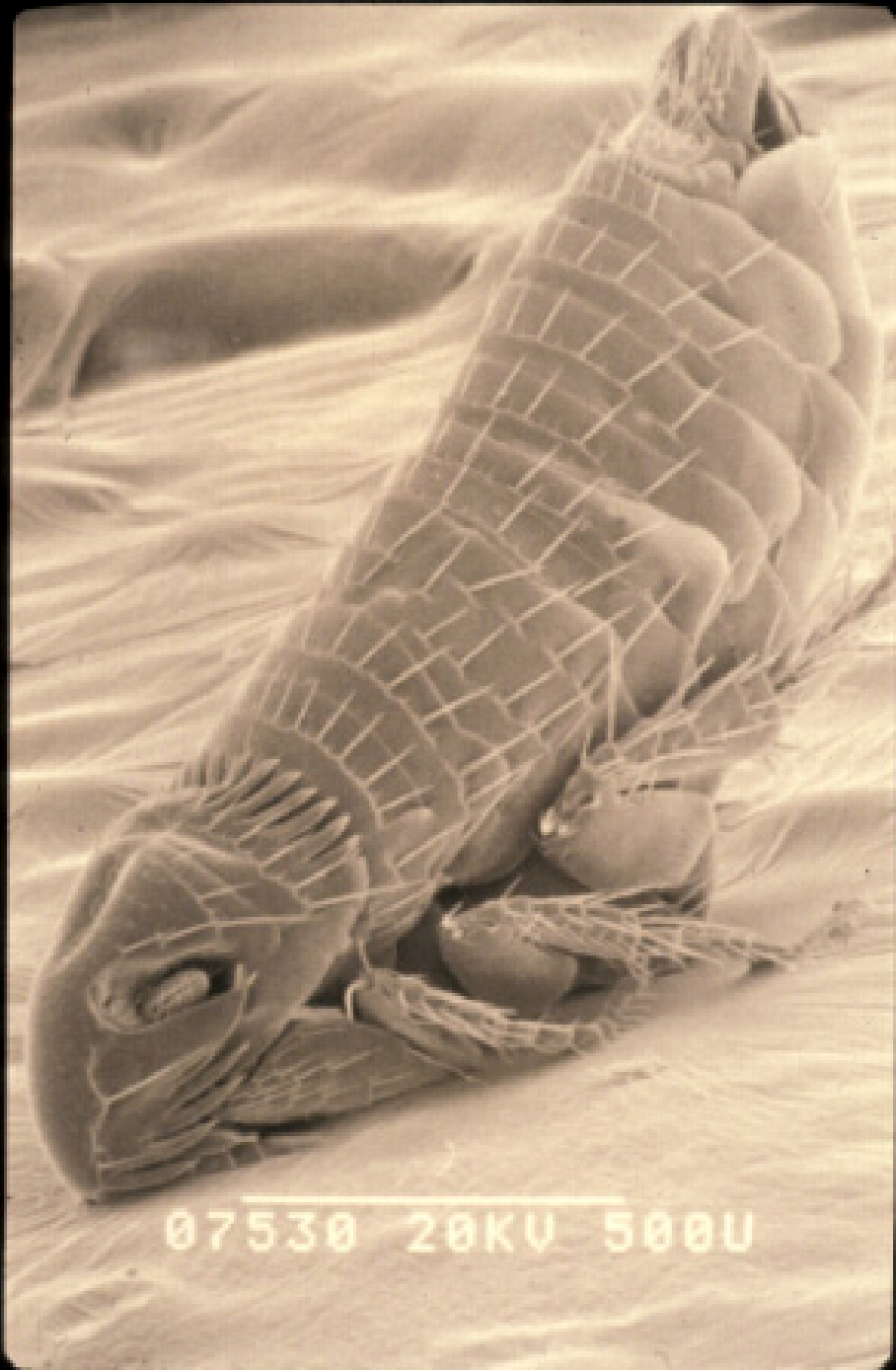
Does not transmit pathogens

**Transmits the protozoan that causes Chagas Disease – in its feces.
Our kissing bugs do not defecate while feeding, greatly reducing the
chance of transmission**



Kissing Bug

FLEAS







Flea Allergy Dermatitis

People react differently to flea bites



Brain Teaser – 2

What percentage of all new or emerging diseases that threaten human health today are zoonotic or vector-borne illnesses?

75 Percent!



Bubonic plague is a rodent disease. It is maintained in rats (the reservoir) and transmitted by bites of fleas (particularly the Oriental Rat Flea) from rat to rat and also from rats to humans – a true zoonosis.

Plague

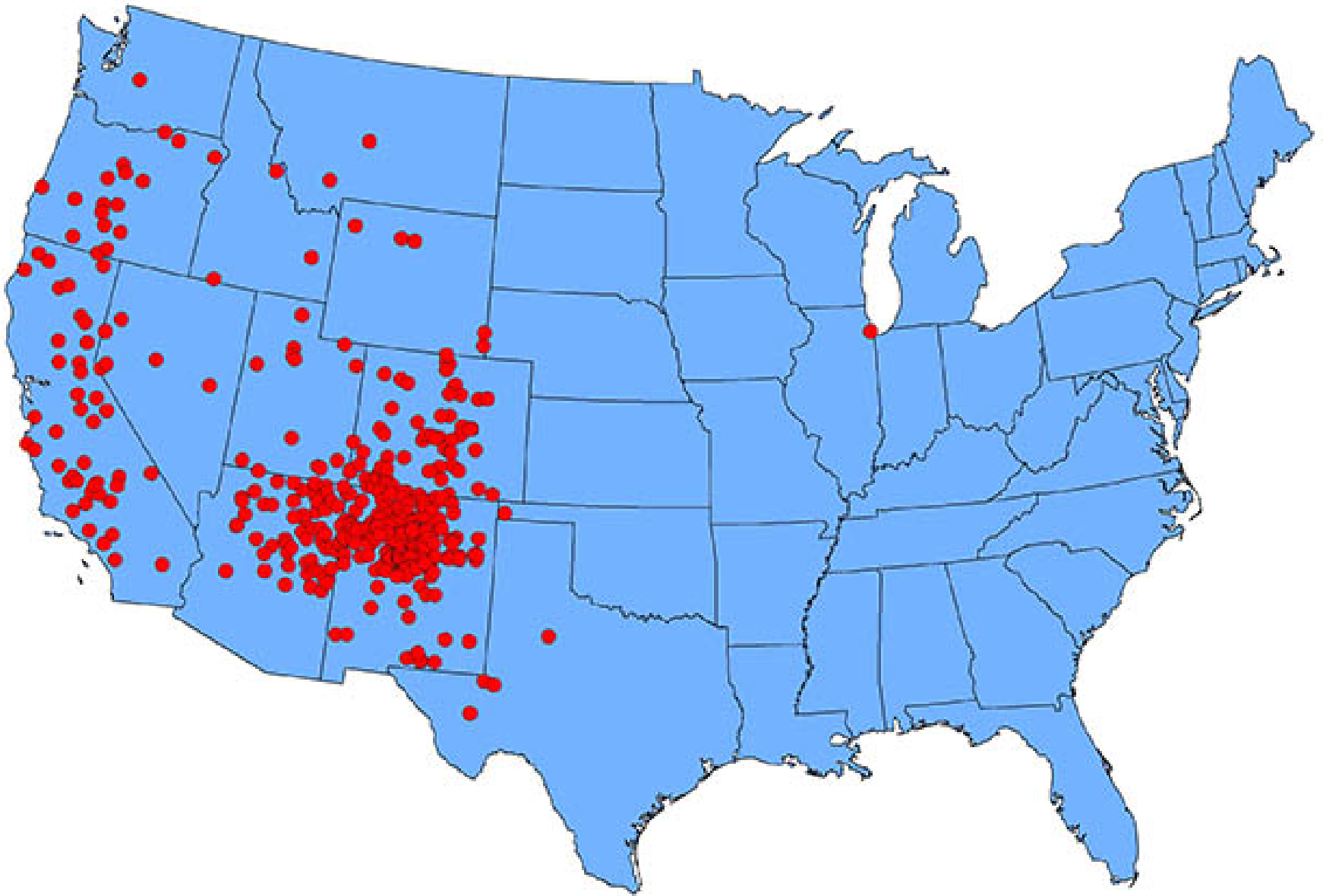
Cervical bubo



**Subcutaneous hemorrhage
resulting in necrosis**



Human Plague Cases in the United States over Past 50 Years





Mites on chickens



Northern Fowl Mites

Ornithonyssus sylviarum



Northern Fowl Mite

> 74 wild bird spp. host NFM



Northern fowl mites migrate away from wild bird nests within a week following fledging.

38% of sampled nests (39 of 102) positive for NFM

Most (82%) NFM-positive nests were collected in June and July.

Larval Mite

Chigger



Red Bug

Chigger

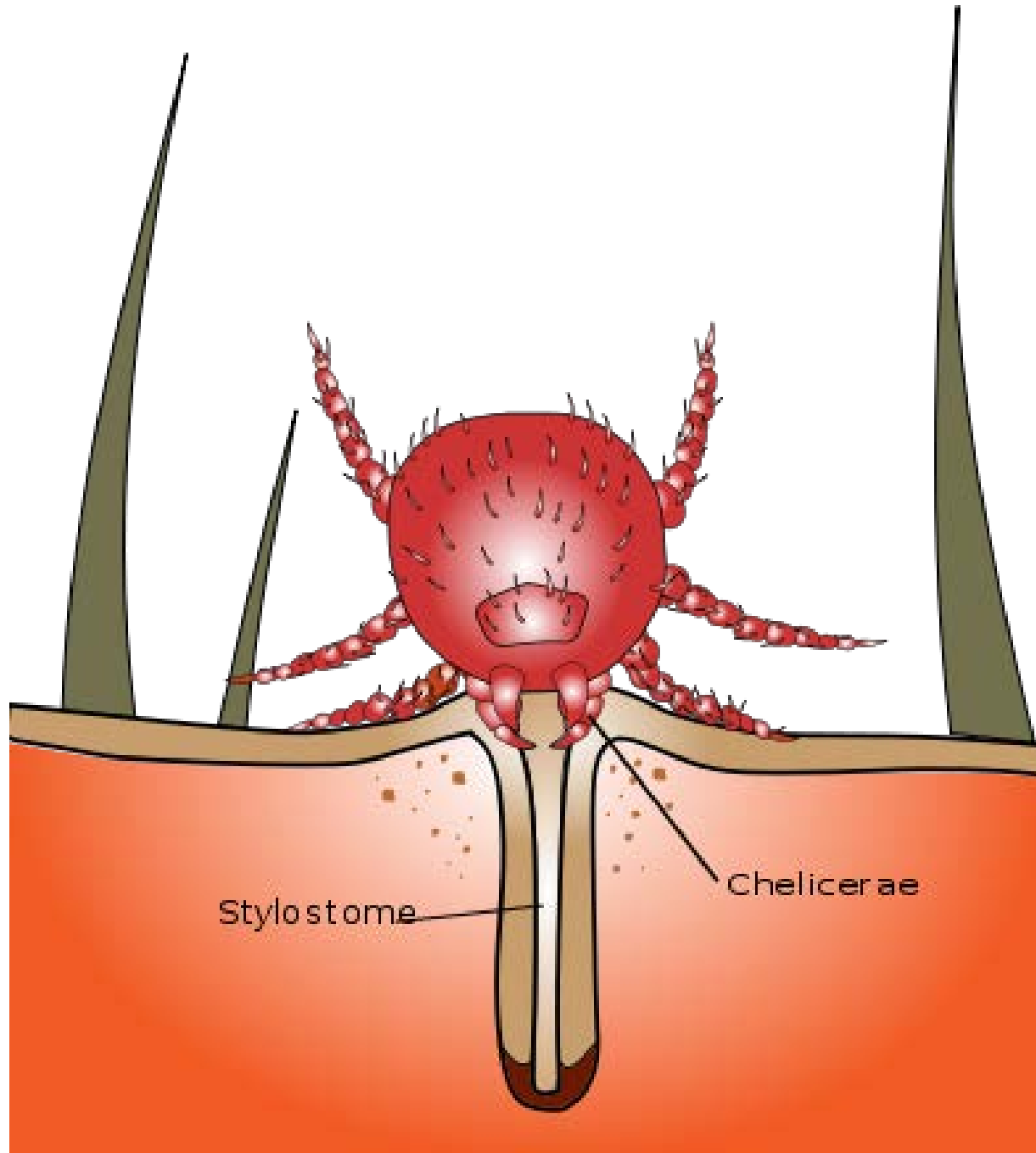




Natural chigger hosts include reptiles such as lizards and snakes. Chiggers develop on these hosts without causing discomfort.



CHIGGER





Trombiculiasis





Any stimulus (cold, pain, pressure, etc.) can override the chigger itch temporarily.



Chiggers not in Spanish moss; in vegetation on ground (where lizards and toads are).

Pyemotes tritici
Pyemotes ventricosus



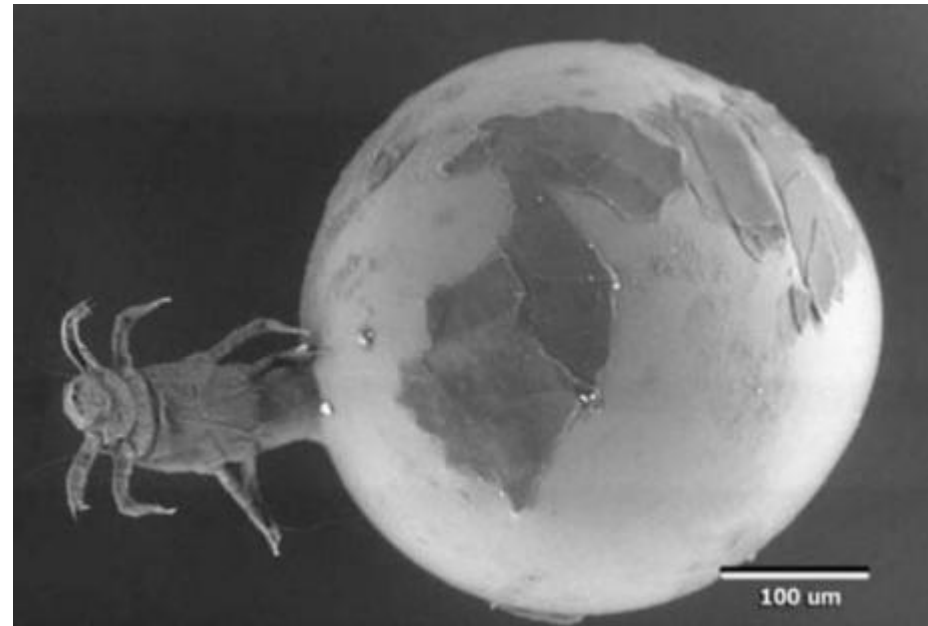
Straw Itch Mites

In hay – affects horses
(pruritic papular dermatitis)



Pyemotes herfsi

Oak Leaf Gall Mite



Ixodes scapularis





Lone Star Tick (male)







Amblyomma americanum

Lone Star Tick

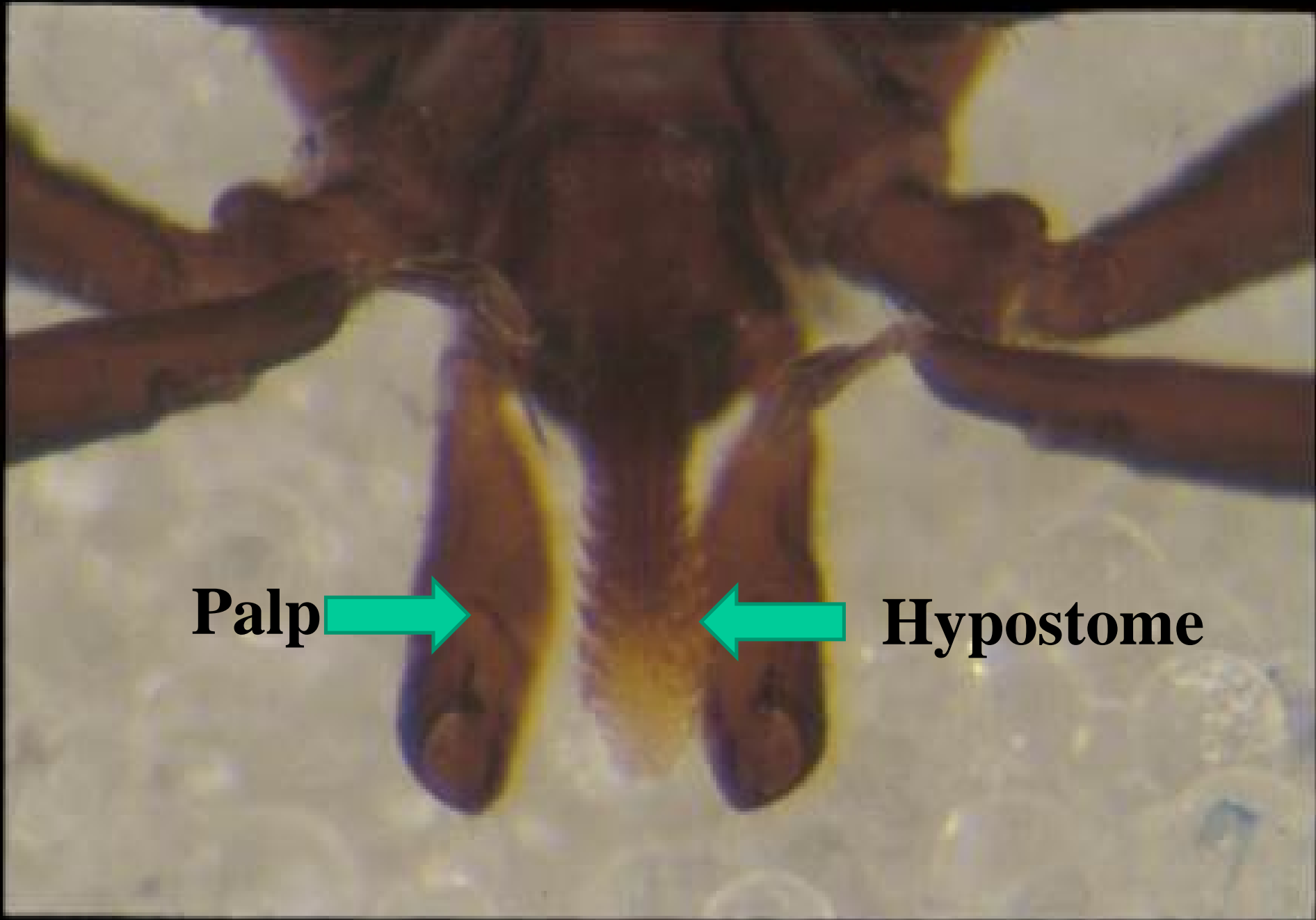
Dermacentor variabilis

American Dog Tick

Palp →



← **Hypostome**



Seed Ticks



Larval (6-legged) ticks



Seed Ticks (larval ticks)

Lone Star Tick

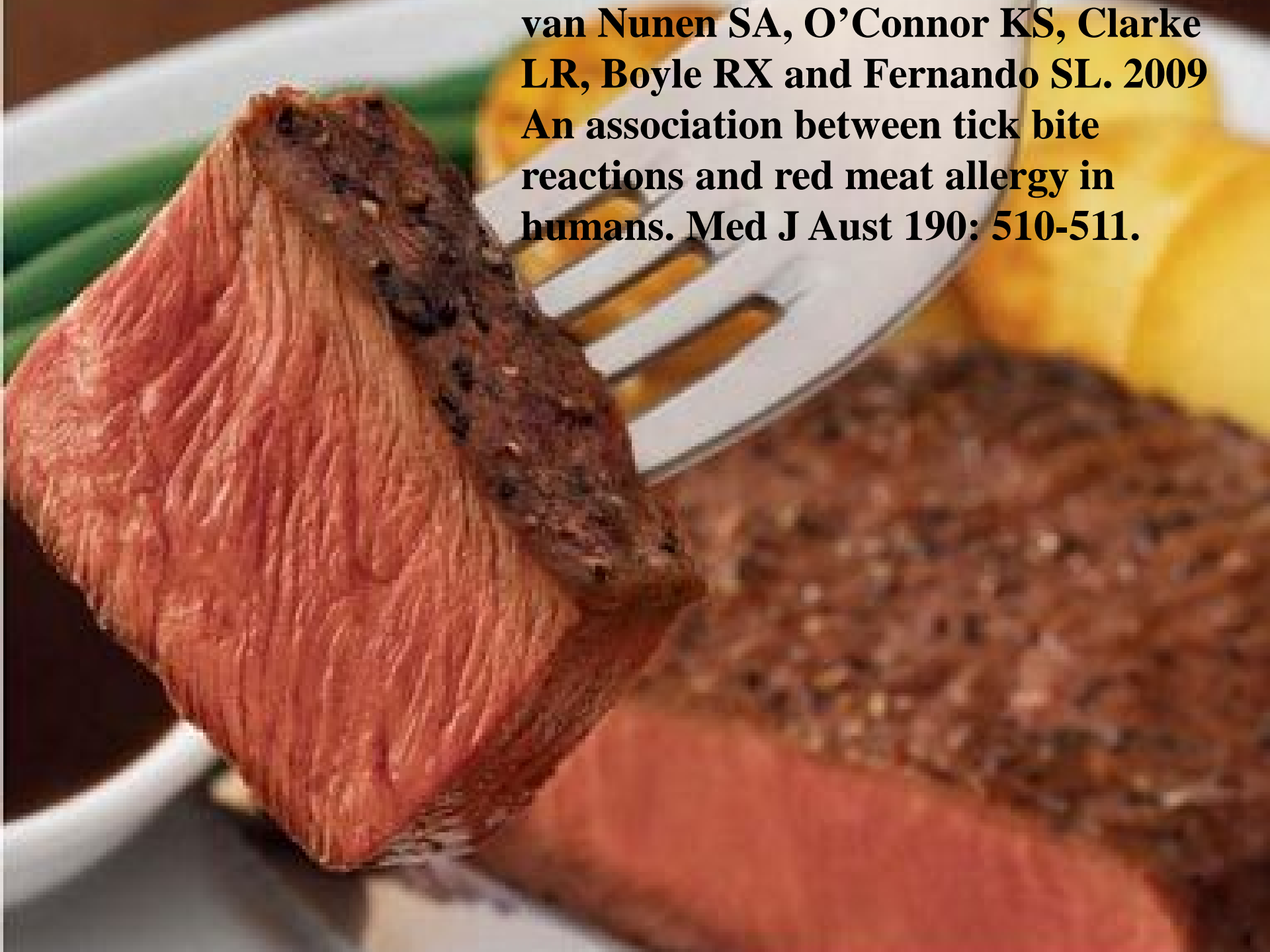


The Most Common Tick in the Southeast



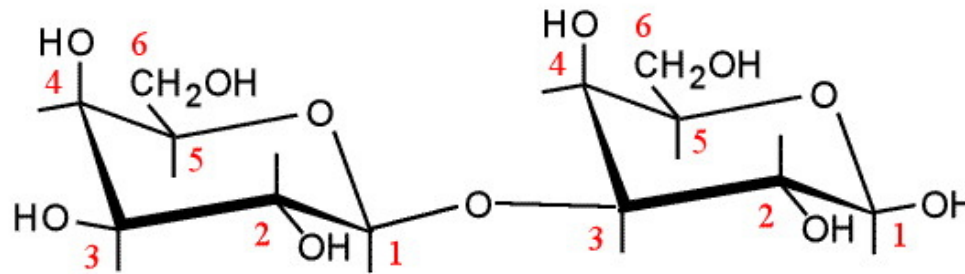
How to remove a tick

**van Nunen SA, O'Connor KS, Clarke LR, Boyle RX and Fernando SL. 2009
An association between tick bite reactions and red meat allergy in humans. Med J Aust 190: 510-511.**



Tick Bites and Red Meat Allergy

galactose- α -1,3-galactose (alpha-gal)



- 1. Develops later in life**
- 2. Sugar (not protein)**
- 3. Hives to anaphylaxis**
- 4. Delayed hypersensitivity**
- 5. Blood-type dependent (maybe)**

Commins S, et al. 2009. Delayed anaphylaxis, angioedema or urticaria after consumption of red meat in patients with IgE antibodies specific for galactose- α -1,3-galactose. *Journal of Allergy and Clinical Immunology* 123: 426-433.



External hives

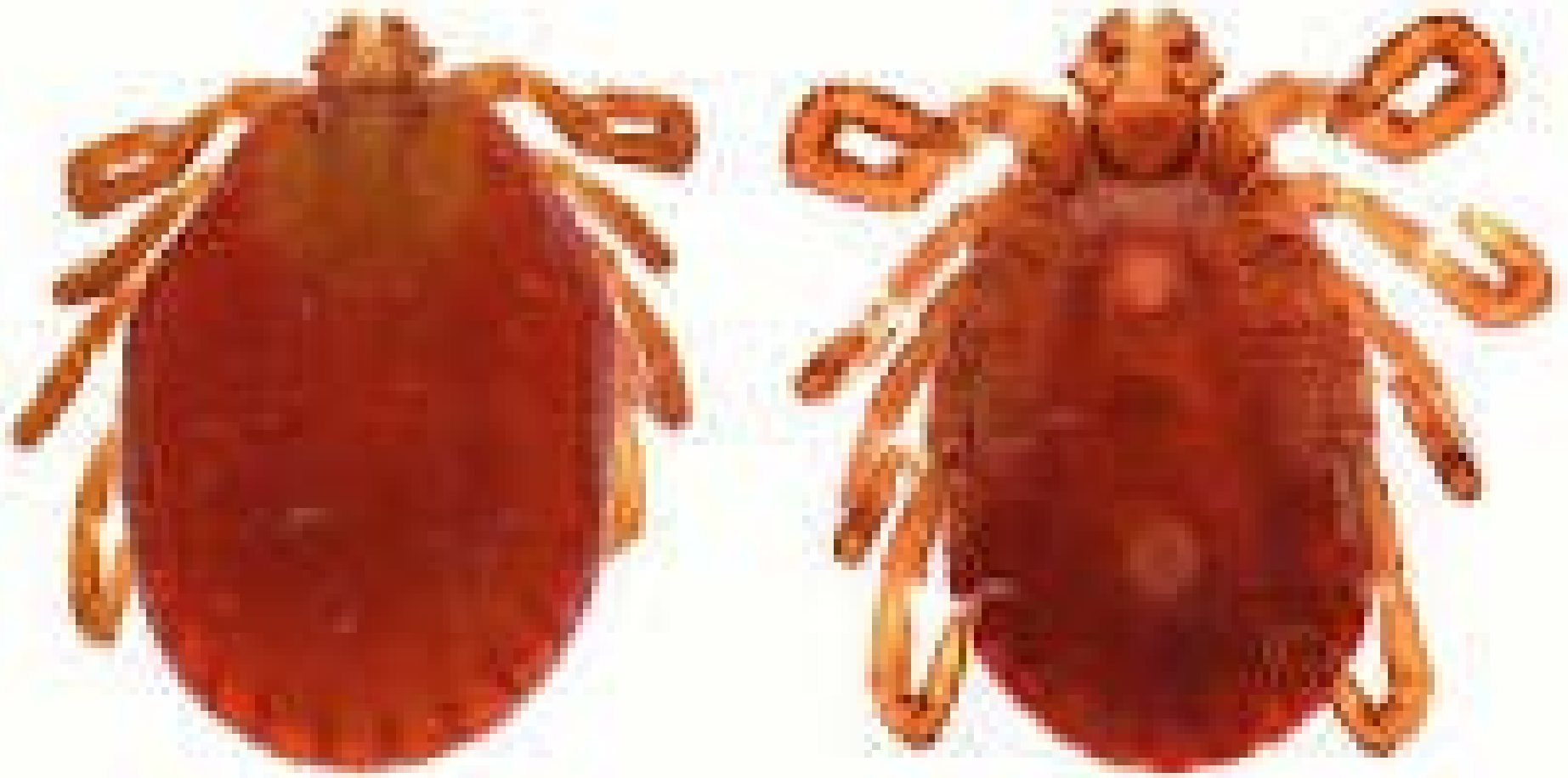
Nausea, diarrhea

Anaphylaxis



© j. occi, Rutgers
Center for Vector Biology

Asian Longhorned Tick (*Haemaphysalis longicornis*)



Asian Longhorned Tick was first found on a sheep in New Jersey in Fall 2017; identified in New York, Pennsylvania, West Virginia, Virginia, Maryland, Arkansas, and North Carolina in 2018. Found on sheep, cattle, dogs, deer, opossum, and other wildlife.

Treatment is symptomatic

Avoidance is the key

