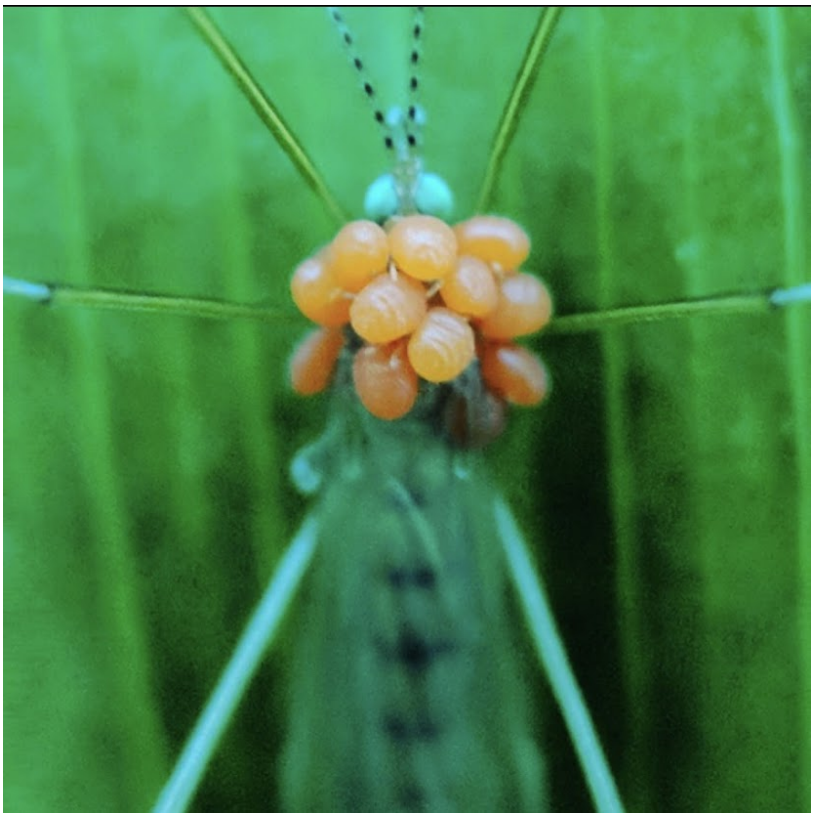

Wandering the Woods with Matt

Calyptostoma mite

on *Atarba picticornis* (limoniid crane fly)

observed early July

Kurmes Nature Preserve

Mites – hitchhikers or bloodsuckers?

Mites and ticks are gross, I get it. Even as an ecologist who tries to appreciate all living creatures, I experience a little frisson of disgust whenever I notice a tick crawling on me. There's the involuntary reaction at the threat of a bloodsucker attaching to my body and also the real danger of a small tick (black-legged or deer ticks - *Ixodes scapularis*) exposing me to Lyme disease. By the way, I was exposed to Lyme disease last fall, diagnosed in winter and successfully treated immediately afterwards.

And yet…Mites and ticks are undoubtedly understudied and have fascinating and complex life histories. Mites and ticks begin life as an egg, then go through a larvae stage, where they have a maximum of six legs, then a series of nymphal stages (where they grow their fourth pair of legs) before finally becoming adults. They might reside in different habitats for each of the life stages, and if parasitic, they might have a different host for each life stage. Placed in subclass Acari (of the Class Arachnida, which contains spiders, various orders of scorpions, harvestmen, and other lesser-known 8 legged critters), mites and ticks can be found virtually in every habitat. 50,000 species have been described, and some estimates are that as many as 1,000,000 remain described, which to me is a mind-blowing number. It's not hard to understand why: most mites and ticks are tiny, less than 1 mm, and even with a good macrolens they are hard to photograph.

Calyptostoma mite on *Atarba picticornis* (limoniid crane fly)

So, it's with a mix of revulsion and fascination that I photographed this mite on a cranefly at the Kurmes Nature Preserve recently. It seems that many mites have attached themselves to the thorax of this adult cranefly. Apparently, there are about six species known of Calytostoma and in their larval stage (as photographed) they are parasitic on adult craneflies. As they develop further, the adult mites become free living and predatory on larval dipterans (flies) in aquatic and semi-aquatic habitats (reference – Bugguide.net/calyptostoma page).

Elsewhere on the internet, I read that these mites are often using the craneflies for dispersal (known as phoresy). Mites can't fly, so by attaching to craneflies they can disperse more widely and also end up in an aquatic environment where the adult mites can prey upon larval dipterans (which could very well be those same craneflies's offspring).
We certainly have more to learn about these relationships, so if you ever see a funny orange-headed cranefly, take a closer look. There might be more than meets the eye.