

Study Indicates Shrews as a Reservoir for Powassan Virus



Photo from USGS: Northern Short-Tailed Shrew. Length: ~4 in.

Heidi K. Goethert, *et al.*, published, "Incrimination of shrews as a reservoir for Powassan virus," in *Communications Biology*. The study examines Powassan virus lineage 2 (deer tick virus), and the growing threat the pathogen poses to American public health. Powassan virus is known to cause severe neurologic disease although its life cycle in nature is poorly understood.

The researchers used a host-specific real-time PCR to investigate if white-footed mice—the primary eastern U.S. reservoir of Lyme disease—are also the reservoir for deer tick virus.

Of 20 virus-infected black-legged ticks, 65% fed on shrews and none fed on mice. This percentage of ticks feeding on shrews was clearly associated with the incidence of the deer tick virus infection, although not the Lyme disease agent. One

shrew had viral DNA in its brain.

Based on the findings, the research team proposed that shrews are a probable reservoir host for deer tick virus and that evaluation of host blood meals can provide clear evidence to implicate reservoir hosts, thus providing a better understanding of the ecology of tick-borne infections.

Read the study in *Communications Biology*.

Read more about Powassan virus.