



Experiences with *Haemaphysalis longicornis* in NJ (so far)

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NJ Timeline

- **August 2017:** Ticks brought to Hunterdon Co. Health Dept
- **November 2017:** CVB barcode ID, followed by NVSL ID
- **April 2018:** Overwintered in Hunterdon; 2nd county detection
- **May 2018:** “Tick Blitz” detected HL in additional 2 counties
- **July-September 2018:** Additional 3 counties



Rainey *et al* 2018 *JME*

<http://vectorbio.rutgers.edu/outreach/ticknews.php>



Current status in NJ

- 7 counties
- Livestock, wildlife, pets, environment
- Archived sample from 2013! (Union Co.) ★



<https://www.state.nj.us/agriculture/divisions/ah/>
County drop-off locations, hotline (1-833-NEW-TICK)



Phylogeography

- Using Cytochrome Oxidase I (COI)
- 299 specimens, from 24 counties in 7 US states
- 3 haplotypes in US- means 3 different females were introduced (unknown whether all at once or at different times)
- Haplotypes show interesting spatial patterns
- Manuscript in prep.



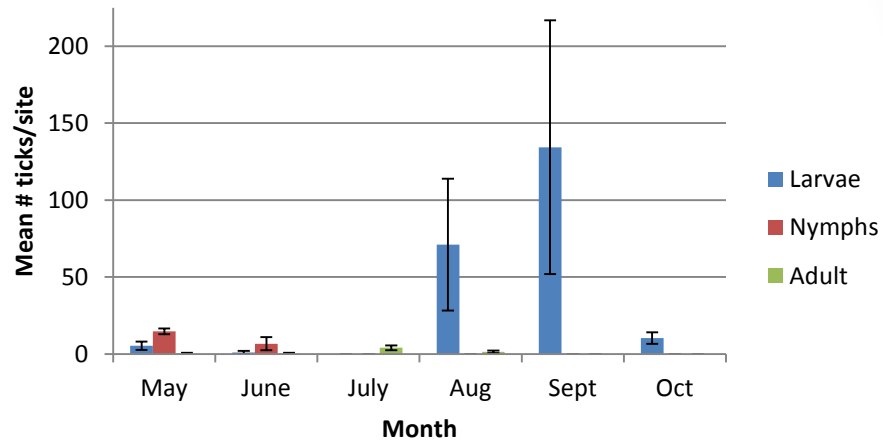
Rutgers Campus Survey

- May 2018 – surveyed Cook campus
- Agricultural campus but adjacent to urban New Brunswick
- 300ft transects at 12 sites
- Found *H. longicornis* at 7/12 sites dispersed around campus
- Subset of 3 (+) and 3 (-) sampled monthly

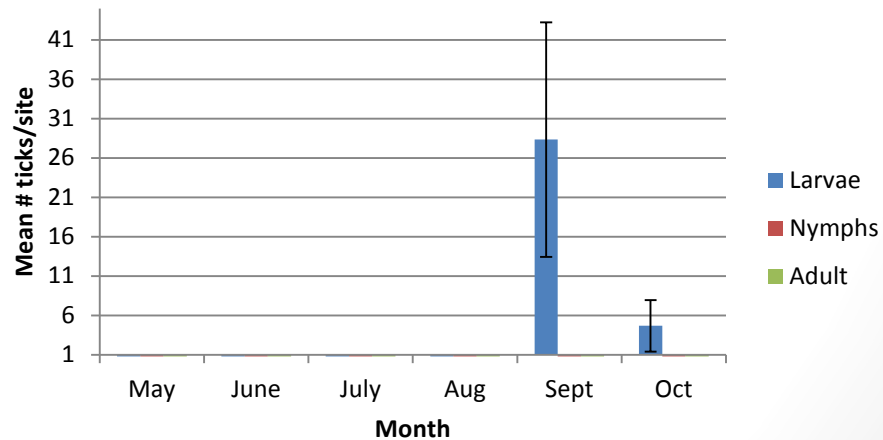


Seasonality

“positive sites”
N=3



“negative sites”
N=3

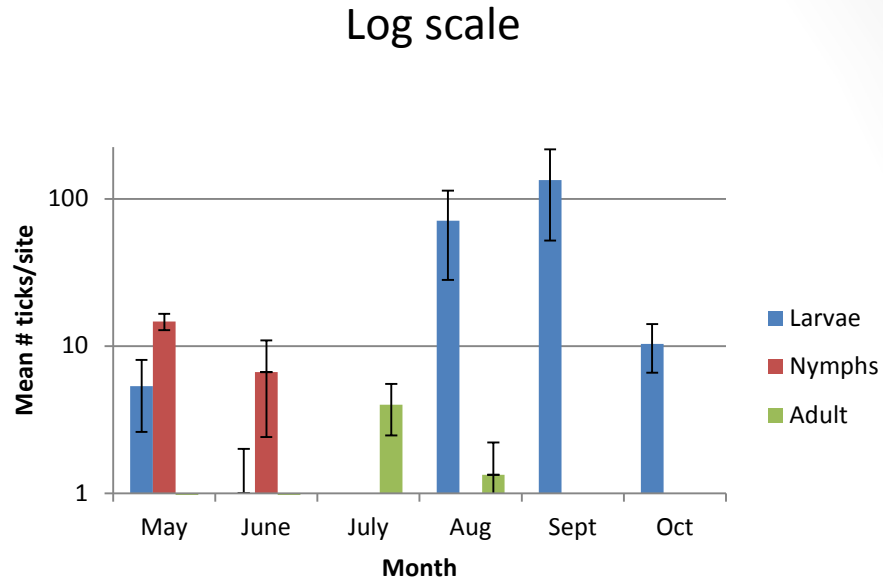


Next survey planned for next week

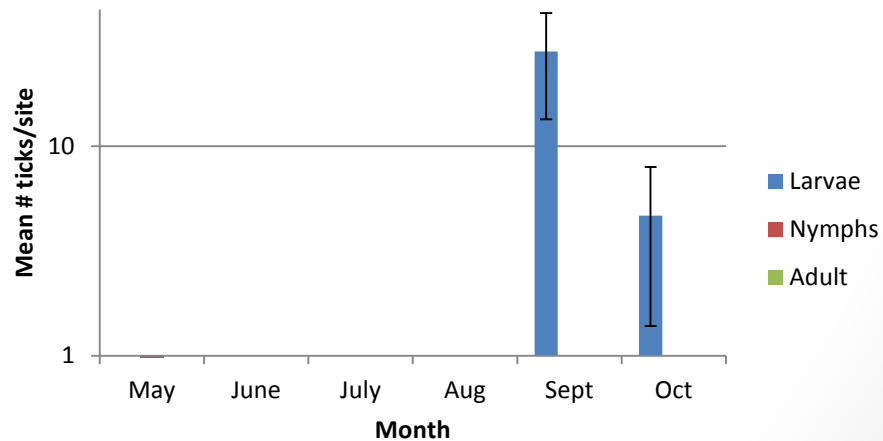


Seasonality

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Vegetation types



Takeaways from field surveys

- Overlapping life stages that vary in abundance
- Found in many different kinds of vegetation
 - Mowed lawns deterrent?
 - Larvae “spillover” Aug-Sept
- Deer association?
- Need for continued surveillance
- Number of HL tick bites on investigators: 0



Control experience: Hunterdon

- Permanone wash on sheep- effective (Rainey et al. 2018)
- Granular formulations: Sevin (2% carbaryl) and Carbaryl 8% DG Pro Granules (Andersons)
- Liquid formulation: Demand CS (9.7% lambda-cyhalothrin)
- Areas mowed, product applied following high-end label rate & checked for ticks by flagging/dragging
- Granular vs. Liquid
 - Both killed HL ticks (99%)
 - Liquid formulation easier to apply evenly
 - BUT granular preferable overall (fewer restrictions: grazing animals, bodies of water, pollinating insects)

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Control experience: Rutgers

- Livestock at Rutgers farm needed control plan to allow transport off campus
- Plan for animals
 - Treat with permethrin on monthly basis following product label
 - Animals being transported off campus will be treated 5-10 days prior to shipping. Residue withdrawal times strictly adhered.
 - Scratch for ticks 2-3x per year and all ticks found on animals will be saved and submitted to NJDA or Rutgers CVB
- Pastures will be maintained (mowed) less than 8 inches in height; 25 ft “buffer zone” in areas adjacent to pastures
- No plans to treat campus with traditional acaricides

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Acknowledgements

- **Tadhg Rainey**, Hunterdon County Health Dept.
- **Robert Jordan & Victoria Thompson**, Monmouth County Mosquito Control Division
- **Richard Robbins**, Walter Reed Biosystematics Unit
- **Denise Bonilla**, USDA/APHIS/VS
- **James Mertins**, National Veterinary Services Laboratories, USDA
- **Leslie Seraphin**, USDA/APHIS/VS District 1 New Jersey Field Office
- **Nicole Lewis**, New Jersey Department of Agriculture
- **Scott Crans**, Office of Mosquito Control Coordination (NJDEP)
- **Matt Bickerton**, Bergen County Health Department
- **NJ Mosquito Control Agencies**- participants in Tick Blitz!
- **Rafael Valentin, Dana Price, Alvaro Toledo**, Rutgers University
- Rutgers undergraduates: **Sydney Gable** and **Melvin Delvillar**
- **Alec Thompson & Michael Yabsley**, University of Georgia
- **Meredith VanAcker & Maria Diuk-Wasser**, Columbia University
- **Richard Falco & Bryon Backenson**, NY State Department of Health
- **Vanessa Harper**, USDA/APHIS/VS District 1 Field Office NC/WV
- **Tom Mather**, URI Center for Vector-Borne Diseases
- **Scott Campbell**, Suffolk County Department of Health Services
- **Neeta Connally**, Western Connecticut State University
- **Waheed Bajwa**, NYC Office of Vector Surveillance and Control



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Monmouth County
Board of Chosen
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