

Ian Sokolowski, Fordham University. Landscape Ecology of the Asian Longhorned Tick in Westchester County. Mentors: Mr. Richard Rizzitello, Dr. Thomas Daniels and Dr. Richard Falco.

Abstract: The well-studied deer tick, *Ixodes scapularis*, is a major disease vector in the United States, responsible for tens of thousands of cases of Lyme disease each year. *Ixodes scapularis* therefore provides a precedent for concern over a new species of invasive tick, *Haemaphysalis longicornis*, which was discovered in the United States in 2017, and Westchester County in 2018. This species, commonly referred to as the Asian longhorned tick, has since spread to ten states and continues reproducing rapidly. We set out to try and understand *H. longicornis*' habitat preferences by comparing tick numbers and vegetation diversity between the Calder Center property in Armonk, New York and an *H. longicornis* hotspot in Yonkers, New York. We sampled three habitats at Calder (forests, fields, and edges) for *H. longicornis* using the drag method, performed a one-time quadrat-based vegetation analysis at each of them, and compared these data with data from the Yonkers site. Ultimately, we found that *H. longicornis* numbers at Calder were simply too low to analyze with any significance, though the invasive tick was present in all three habitat types. The habitats at Calder were also found to be potentially suitable for more substantial *H. longicornis* populations, though the reason for the currently observed large *H. longicornis* populations at Yonkers remains a mystery. These findings therefore suggest that host habitats might be the real reason for the *H. longicornis* distribution in Westchester County, but further investigation is required for more concrete conclusions to be reached.