

Understanding *Aedes*
presence, abundance,
and phenology
Results from the 2016
North Carolina
Mosquito Survey.

Emily Reed

North Carolina State University



Container-Breeding Mosquitoes

- *Aedes* spp.
- Vectors of disease
- Artificial containers
- Thrive in urban areas



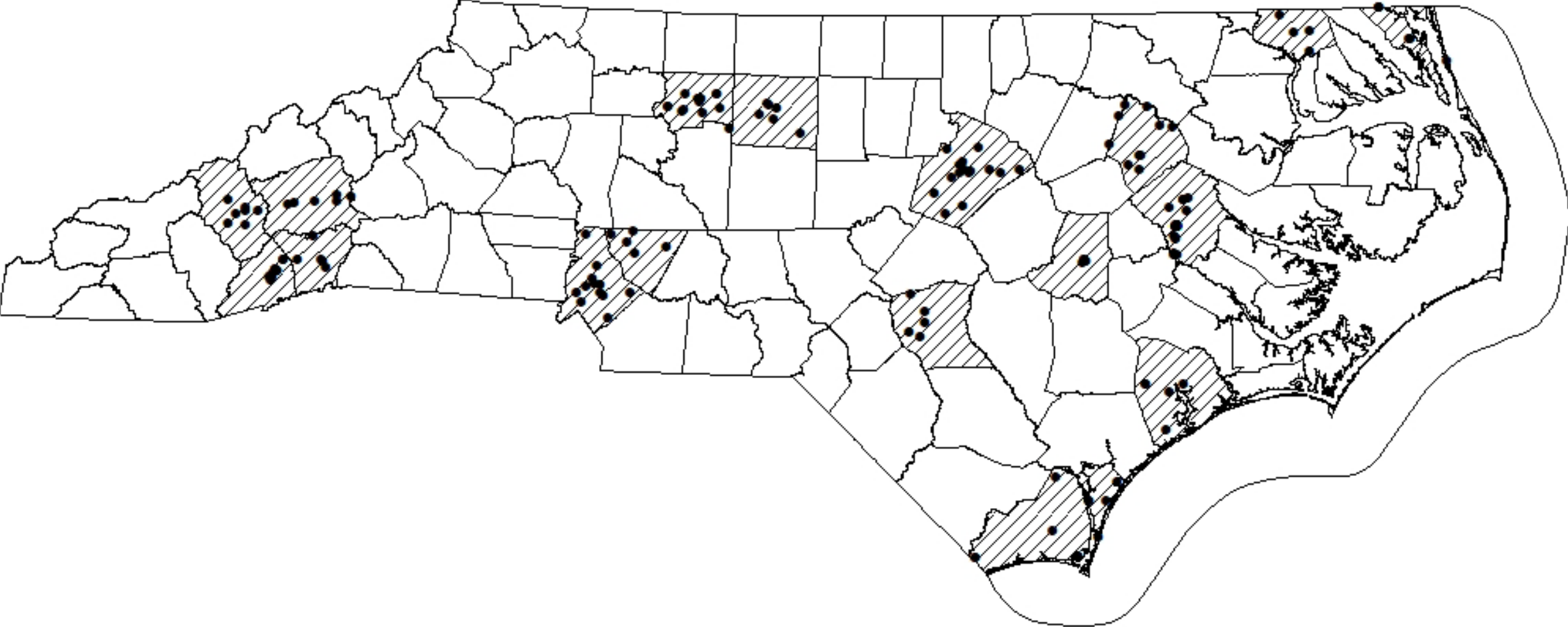
1. Photograph by Paul Howell and Frank Hadley Collins, Center for Disease Control Public Health Image Library

2. Photograph by J.L. Castner, University of Florida.

3. Photograph by Susan Ellis, Bugwood.org

4. Photograph by Sean McCann, lbycter.com

Site Selection



Site Selection



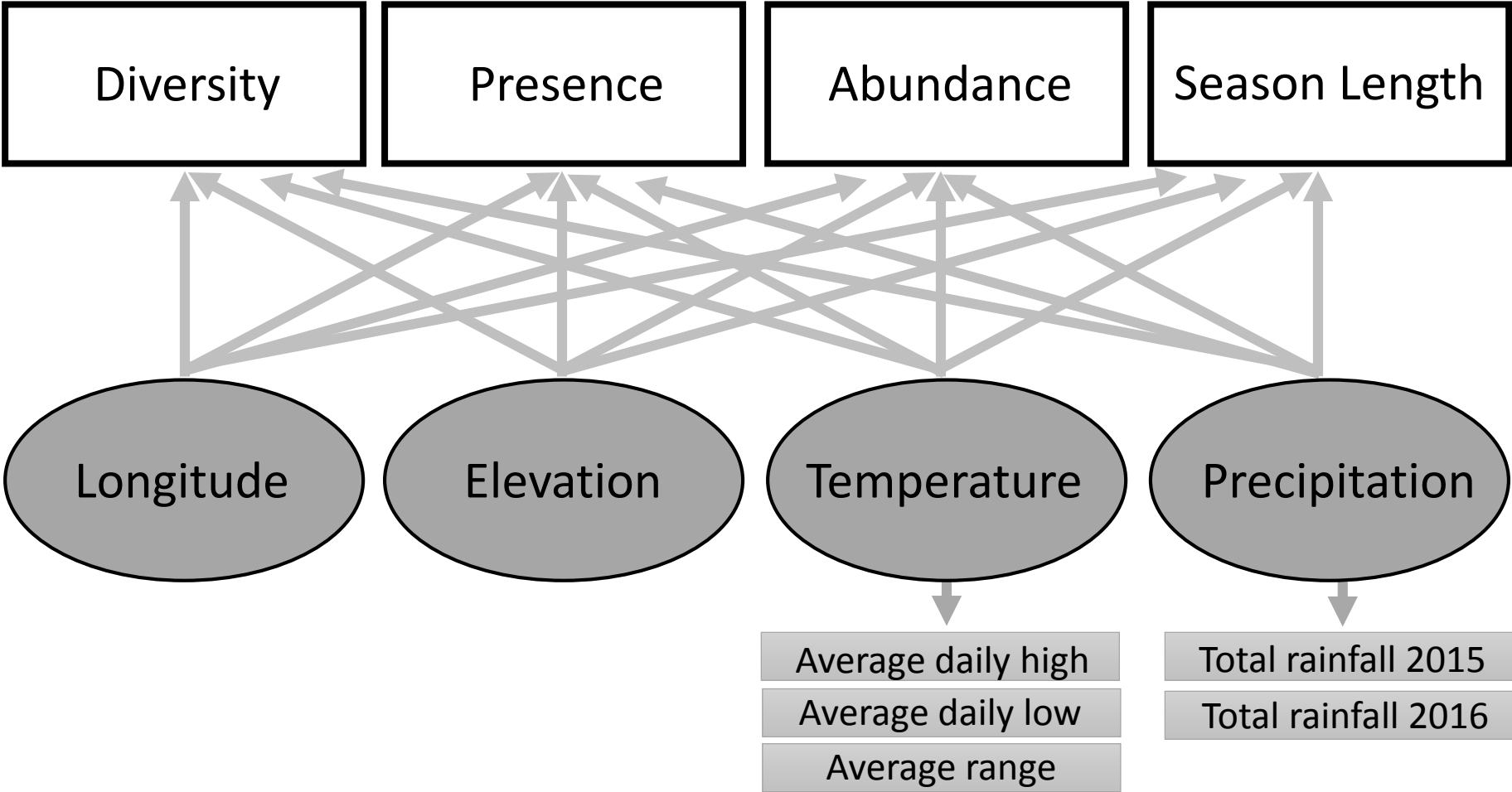
Hatching and Identification

- Ovitrap
- April-November
- Eggs counted
- Larvae or Adults identified



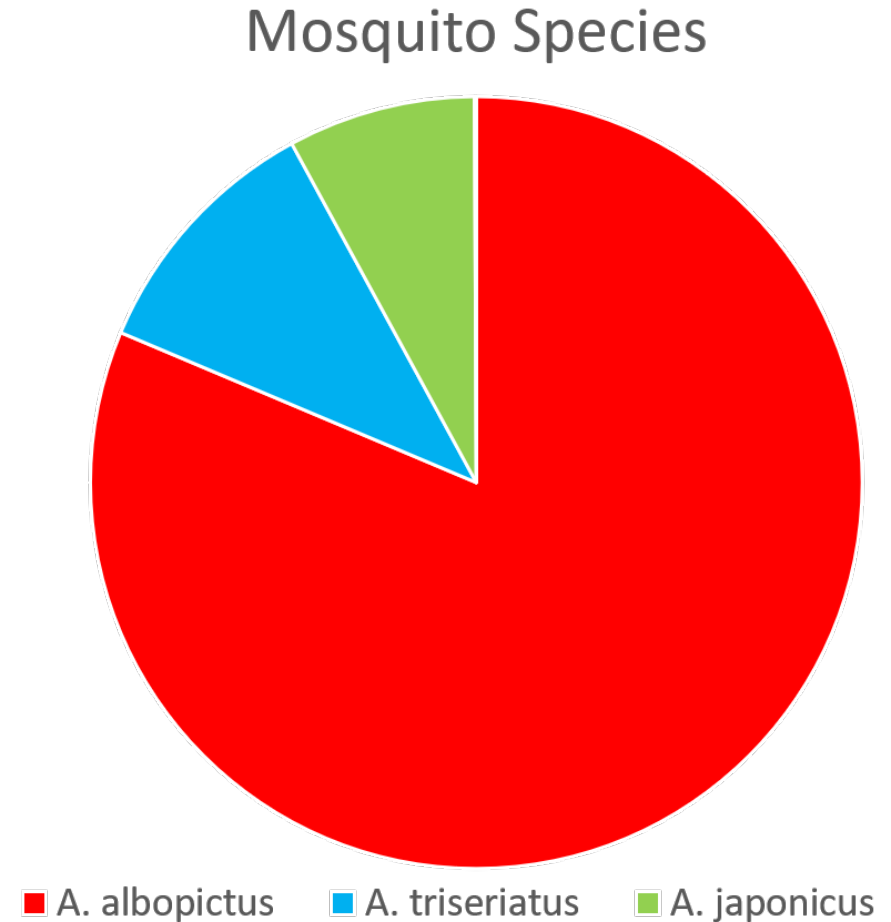
Purdue Agricultural Communication photo/Tom Campbell

Analysis

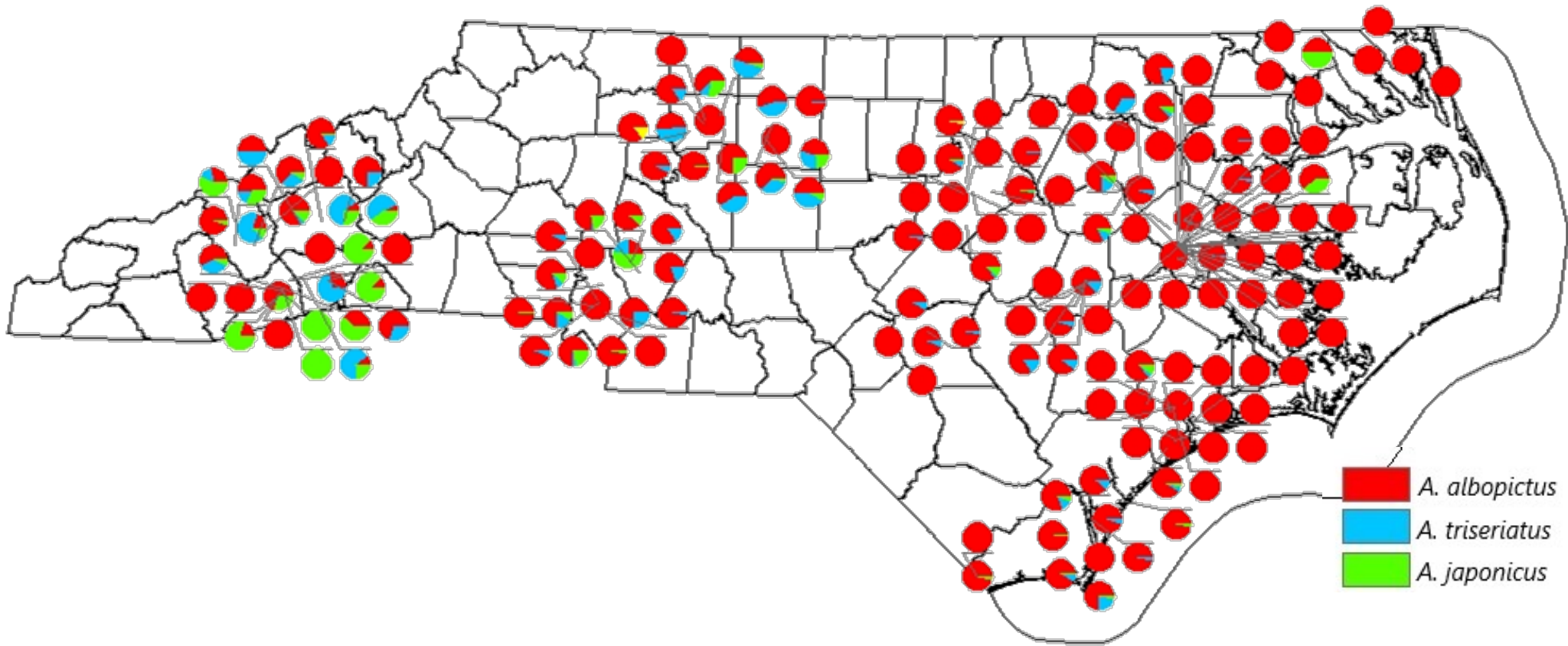


Results

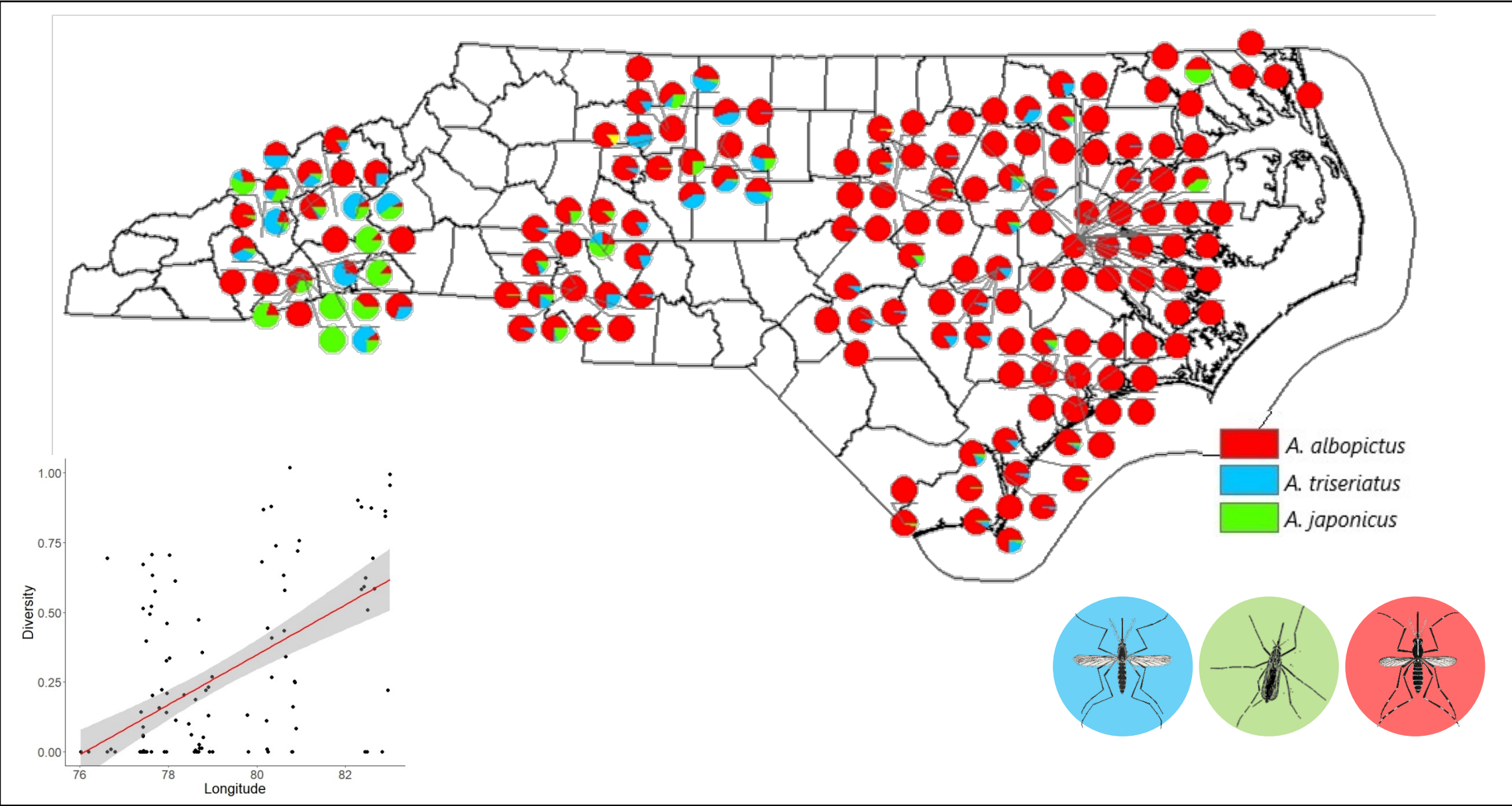
- Total eggs: 203360 counted
- *A. albopictus*: 54458, 81%
- *A. triseriatus*: 7169, 11%
- *A. japonicus*: 5262, 8%
- *A. hendersoni*: 52, 0.01%



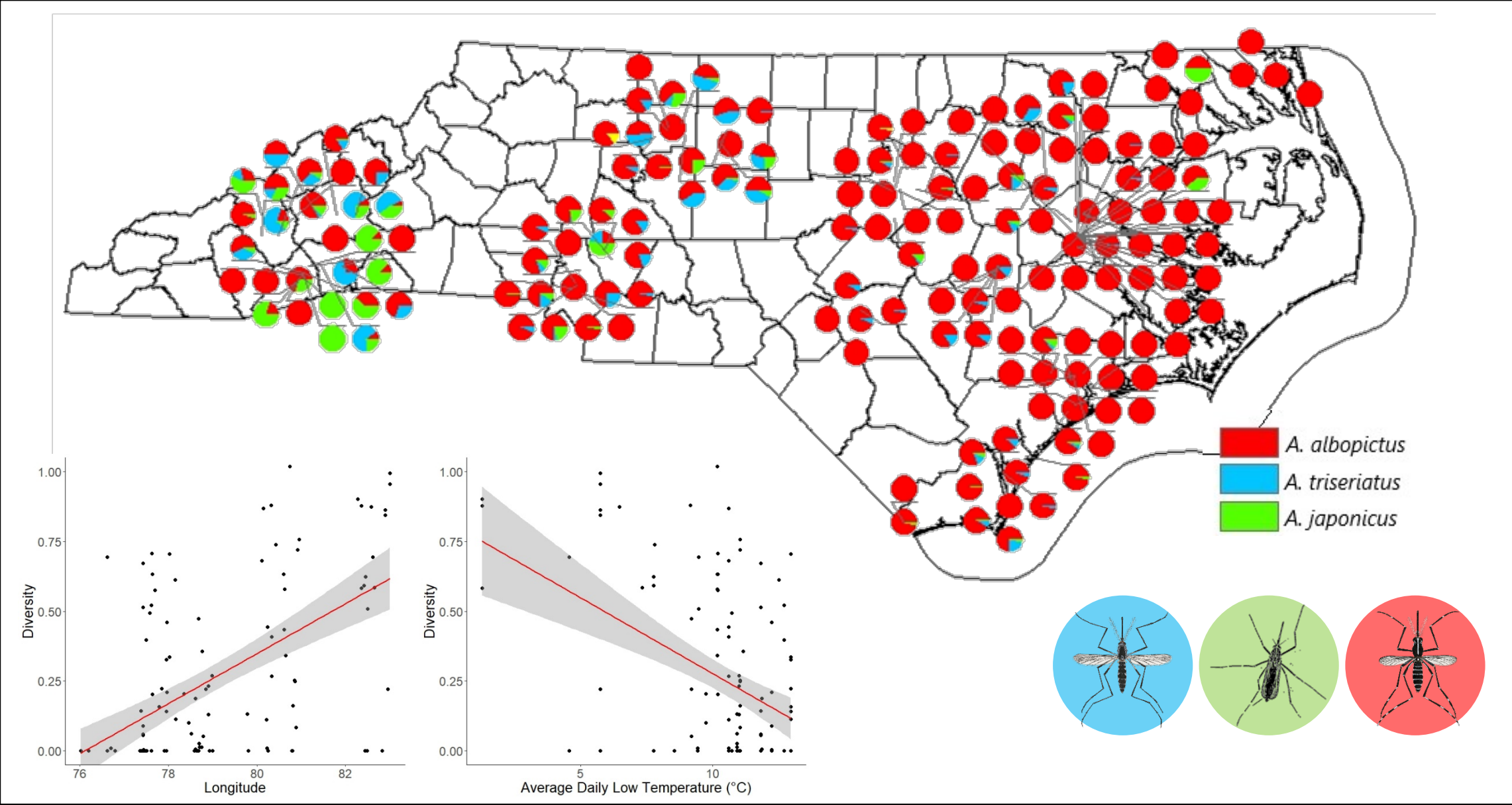
Diversity



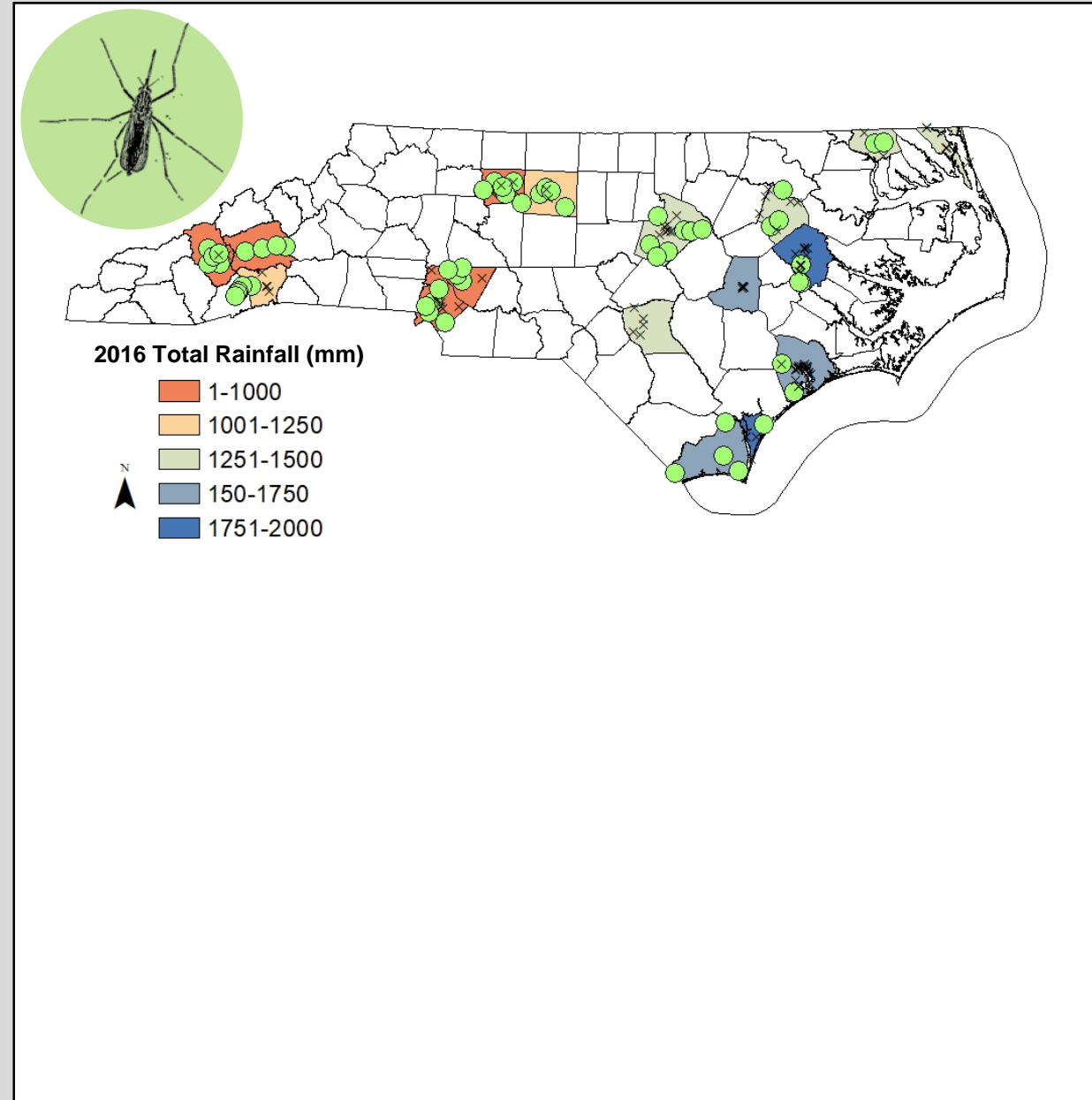
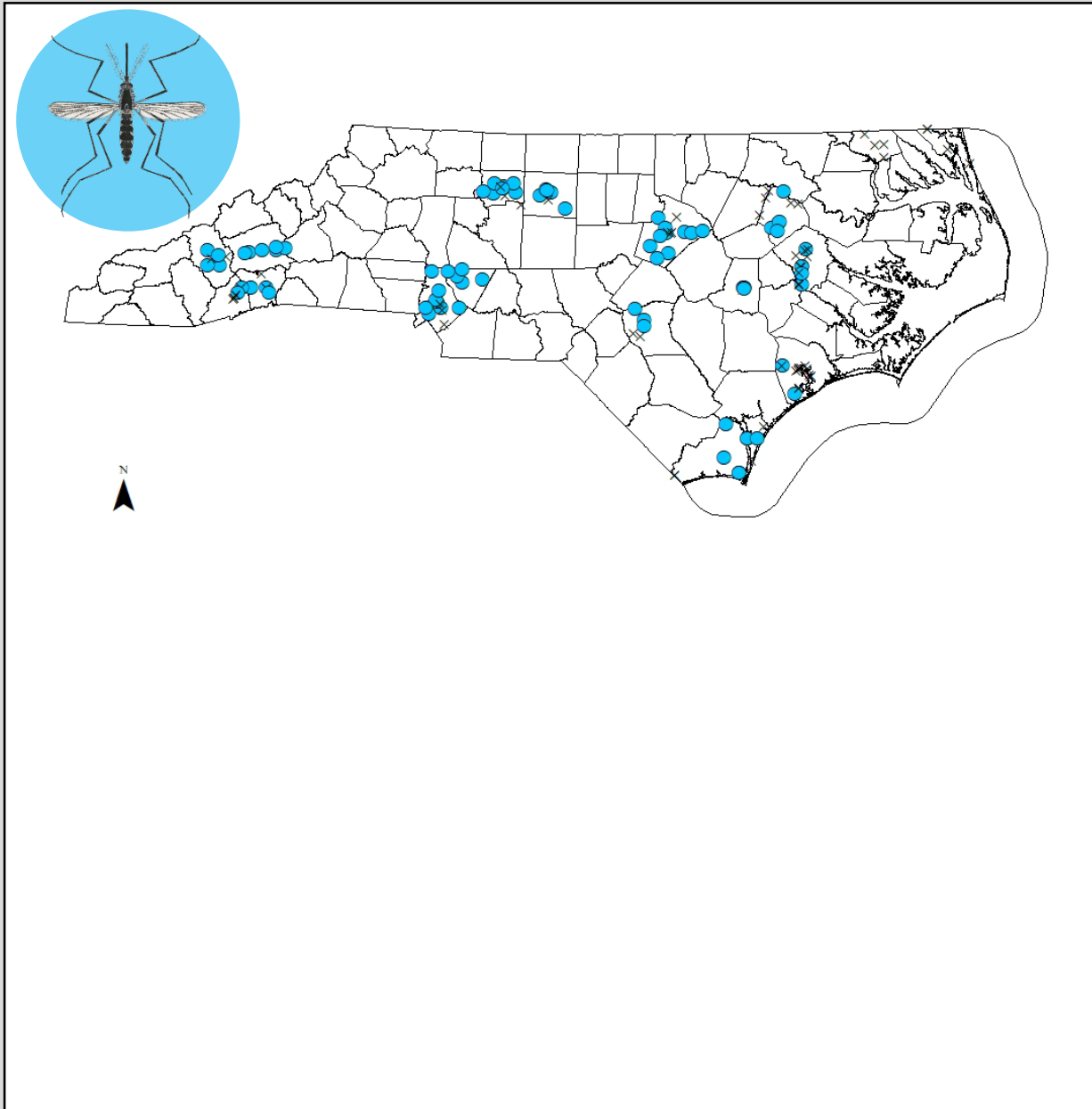
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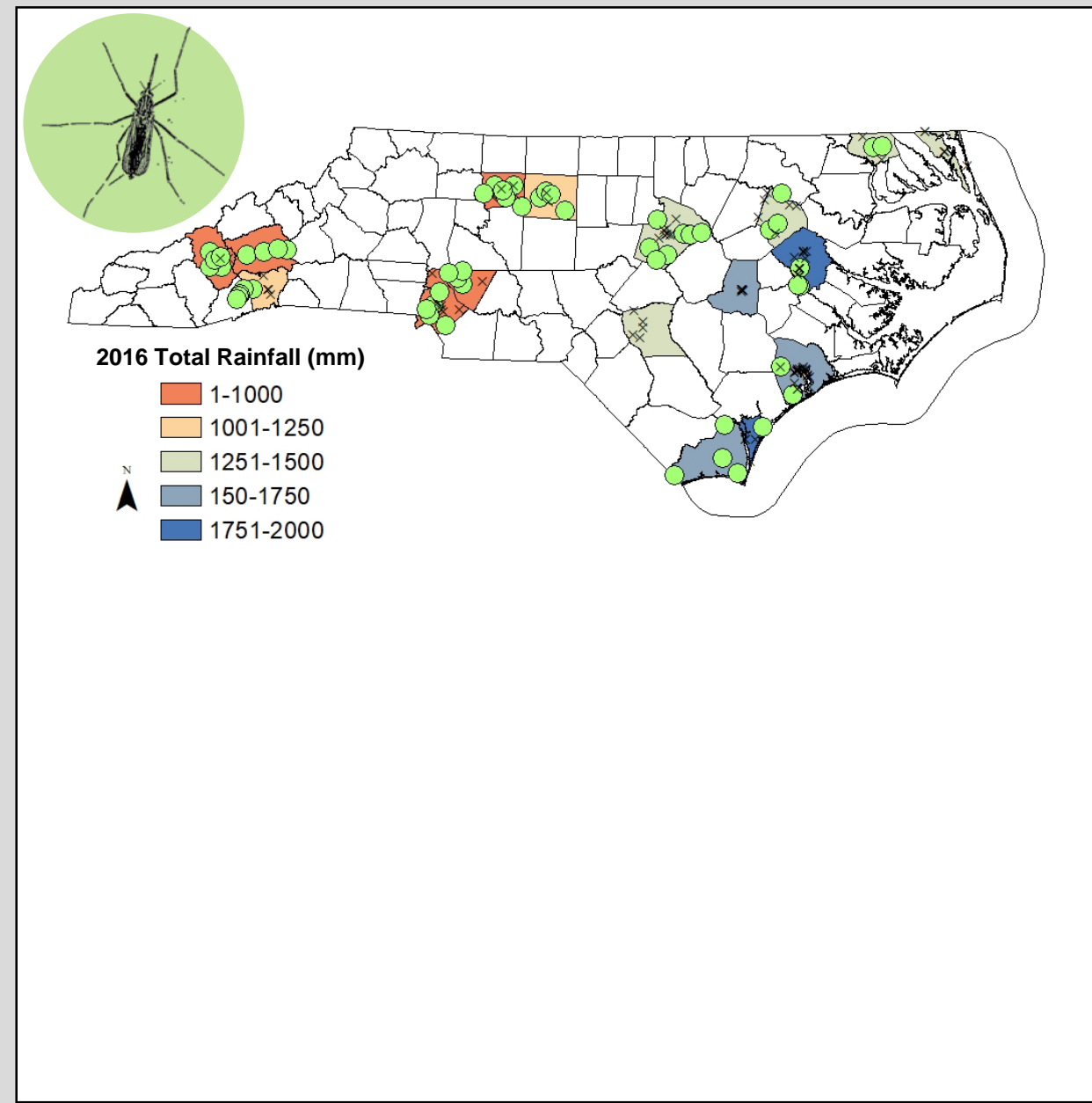
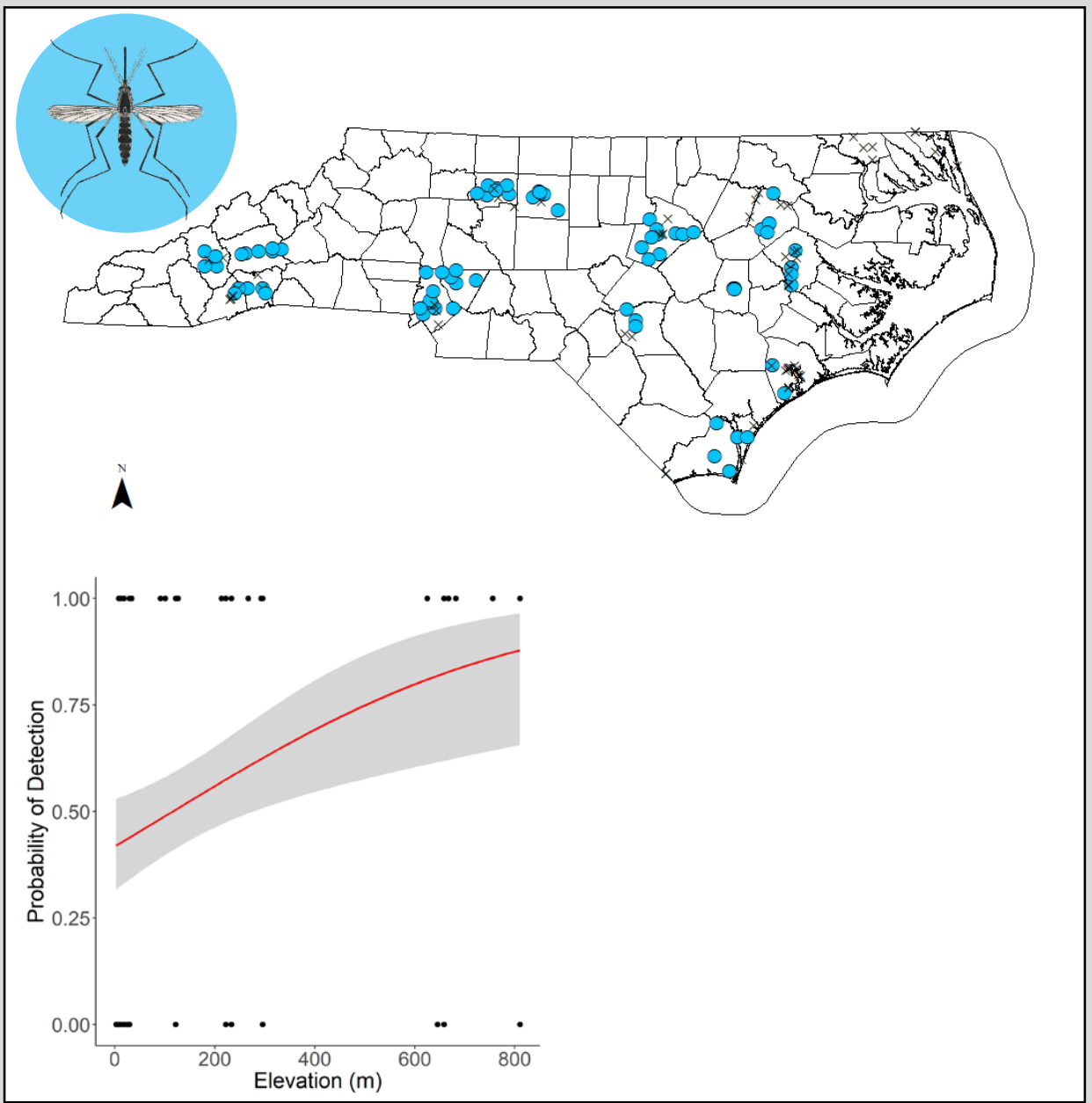
Diversity



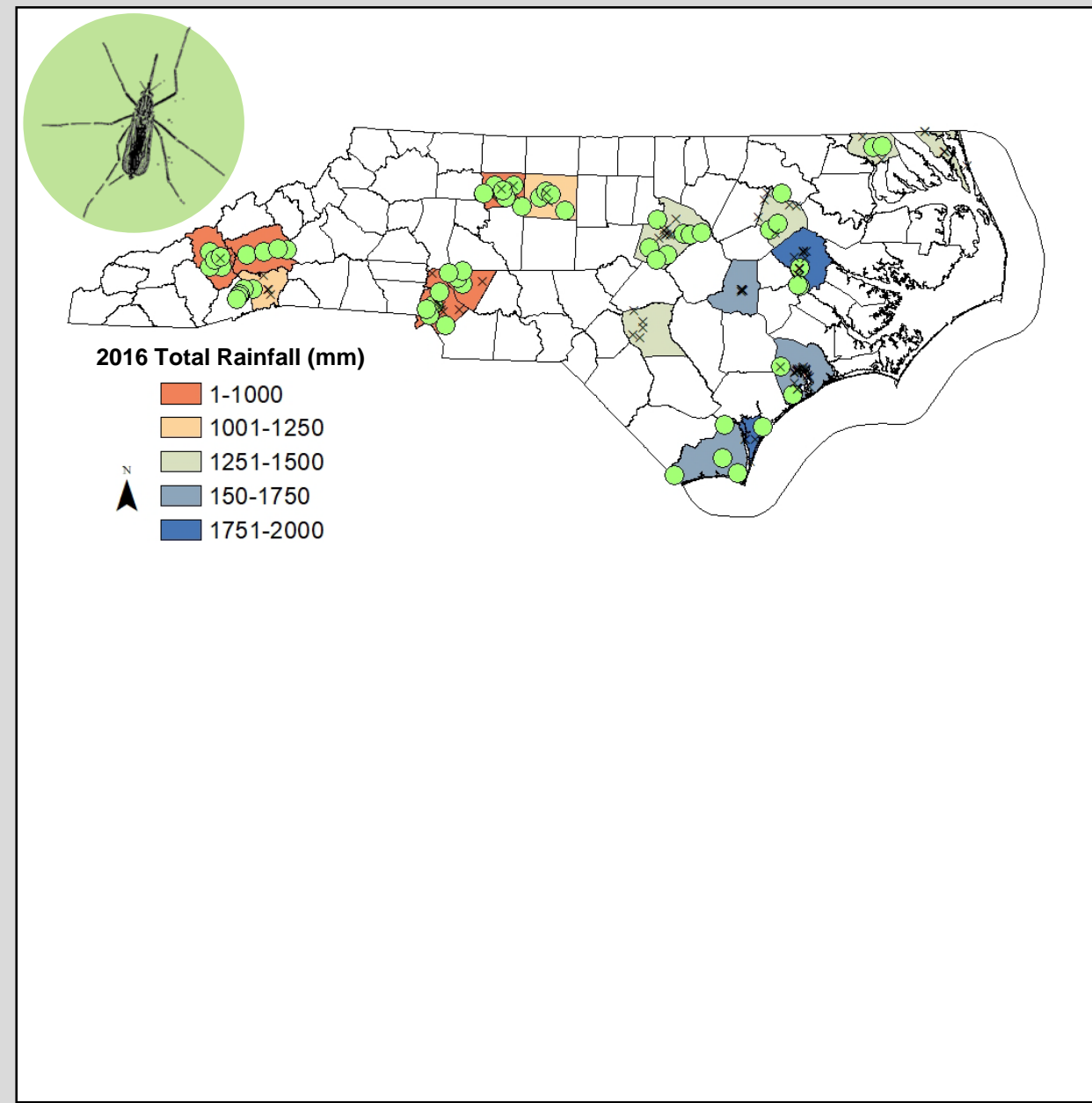
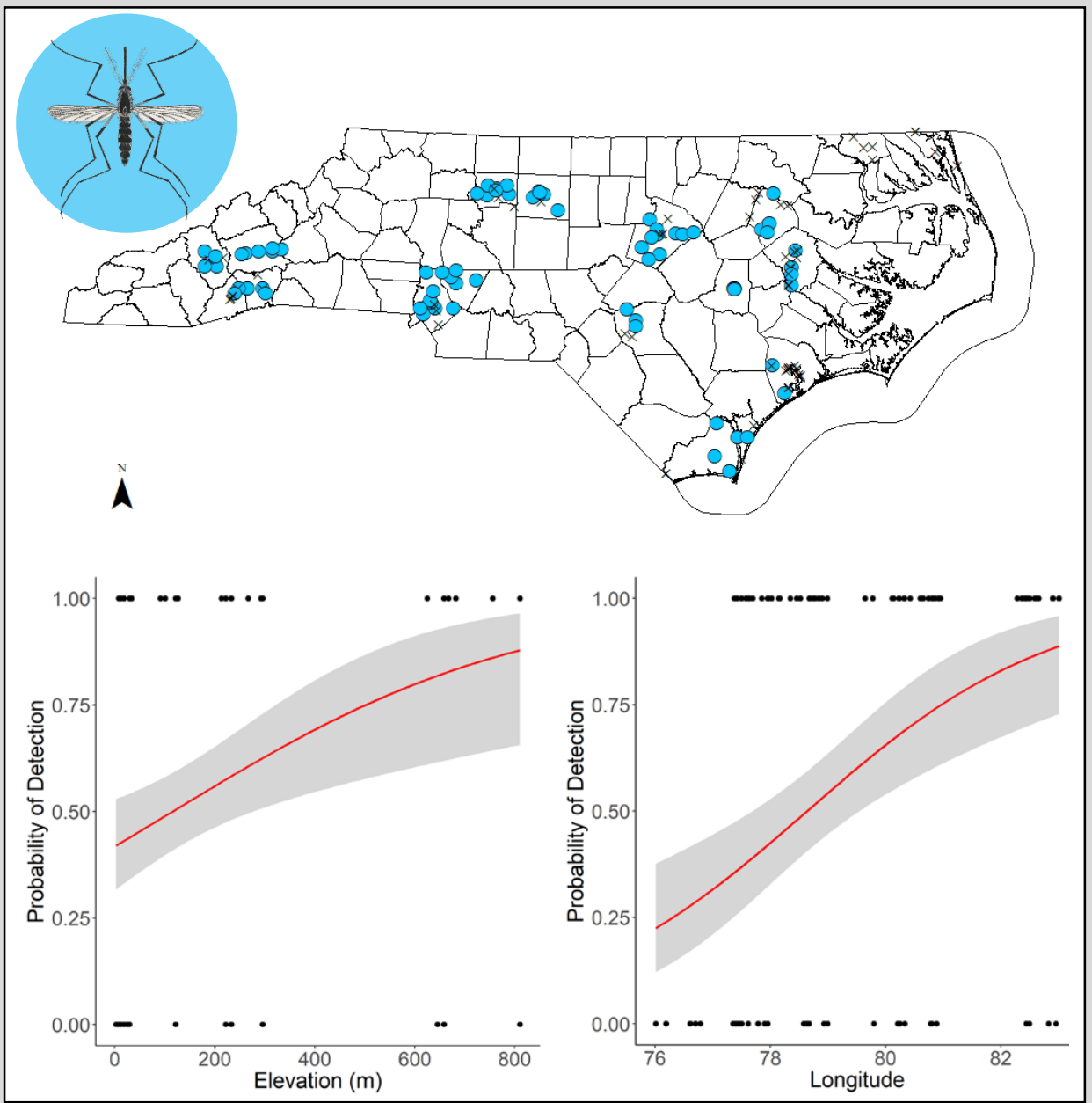
Presence/Absence



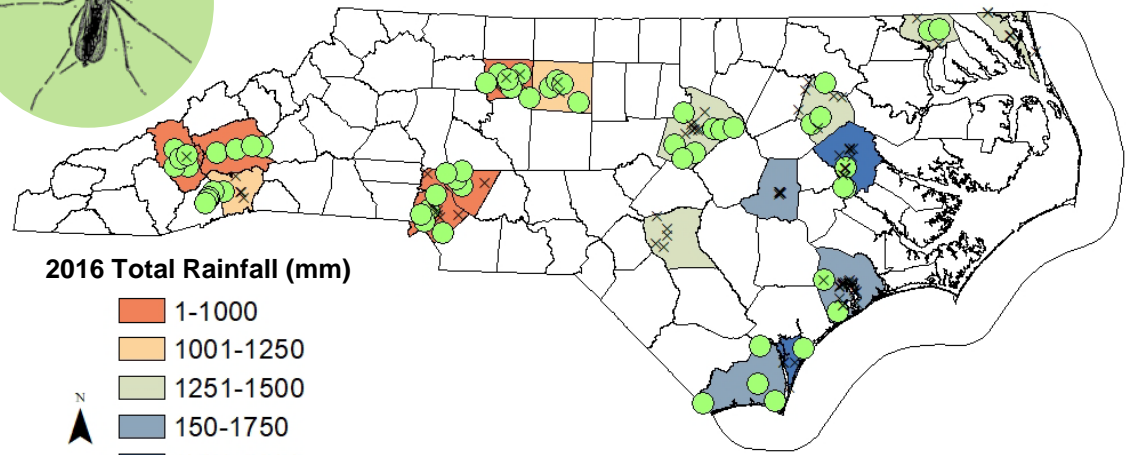
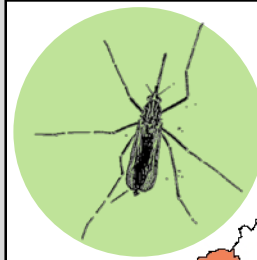
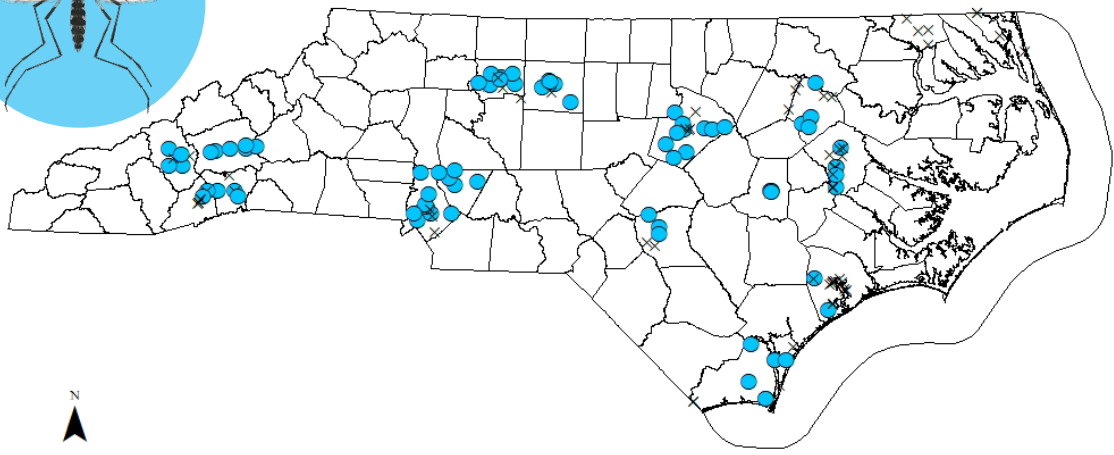
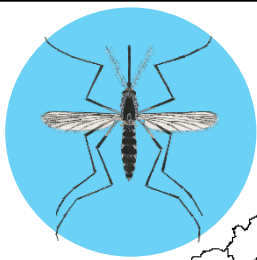
Presence/Absence



Presence/Absence

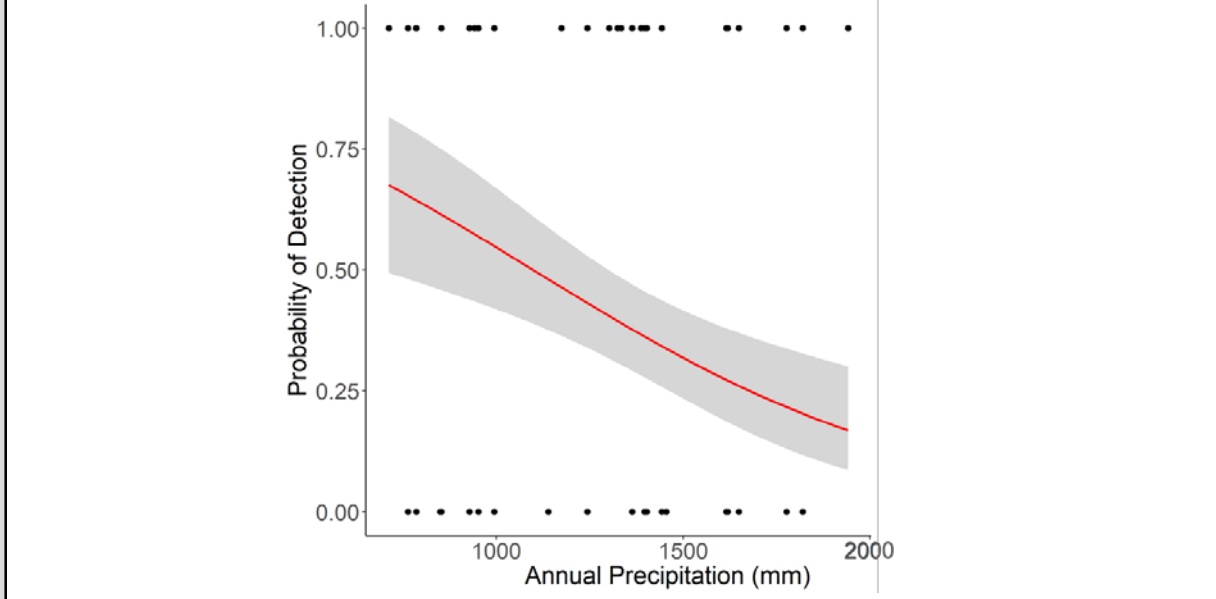
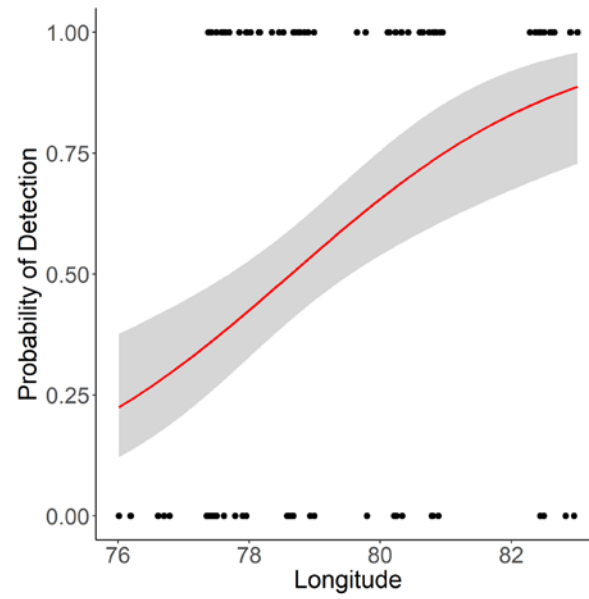
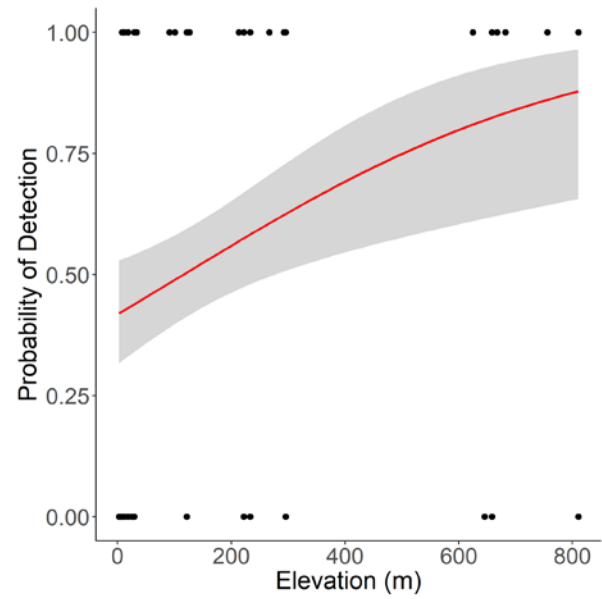


Presence/Absence

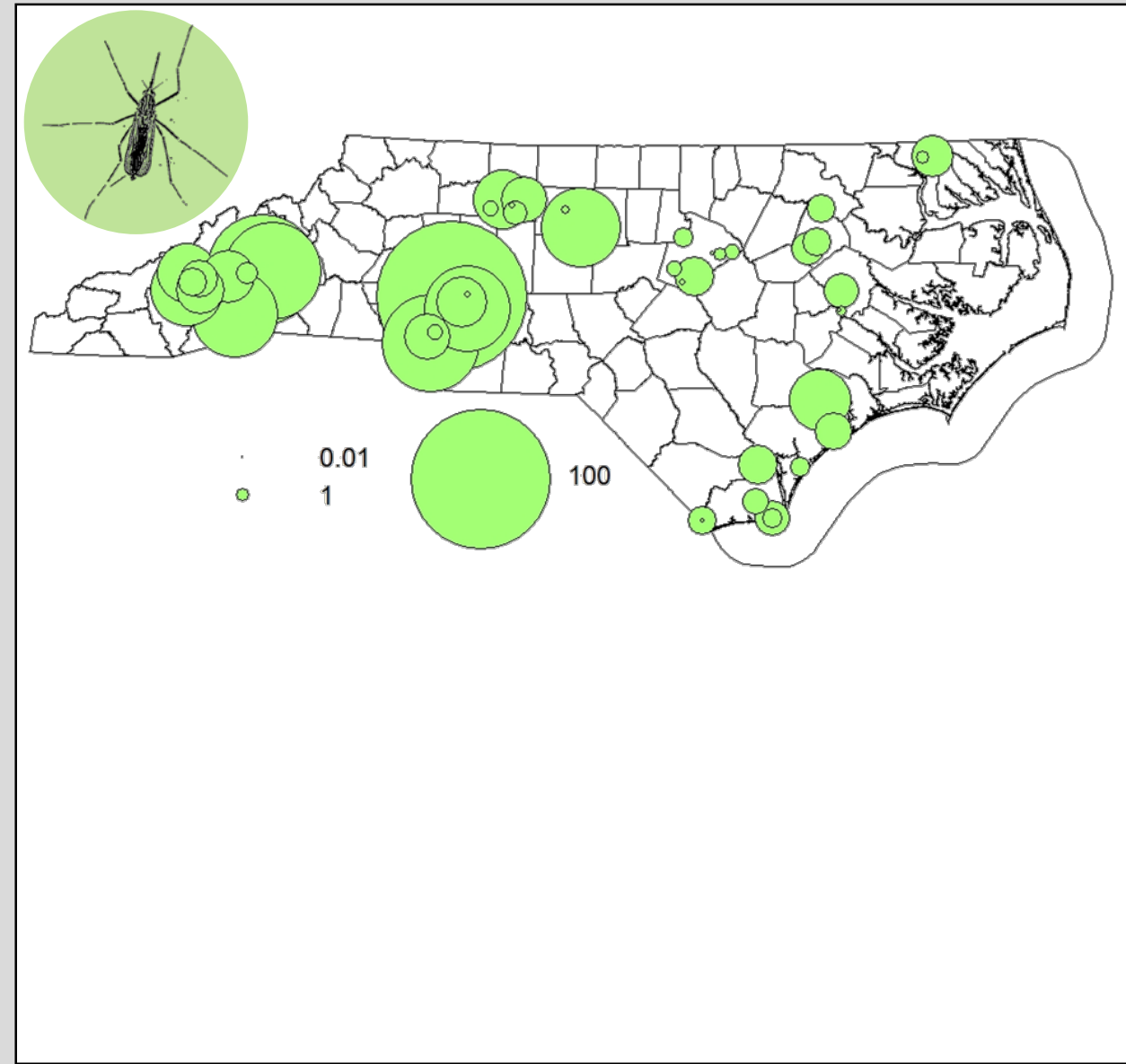
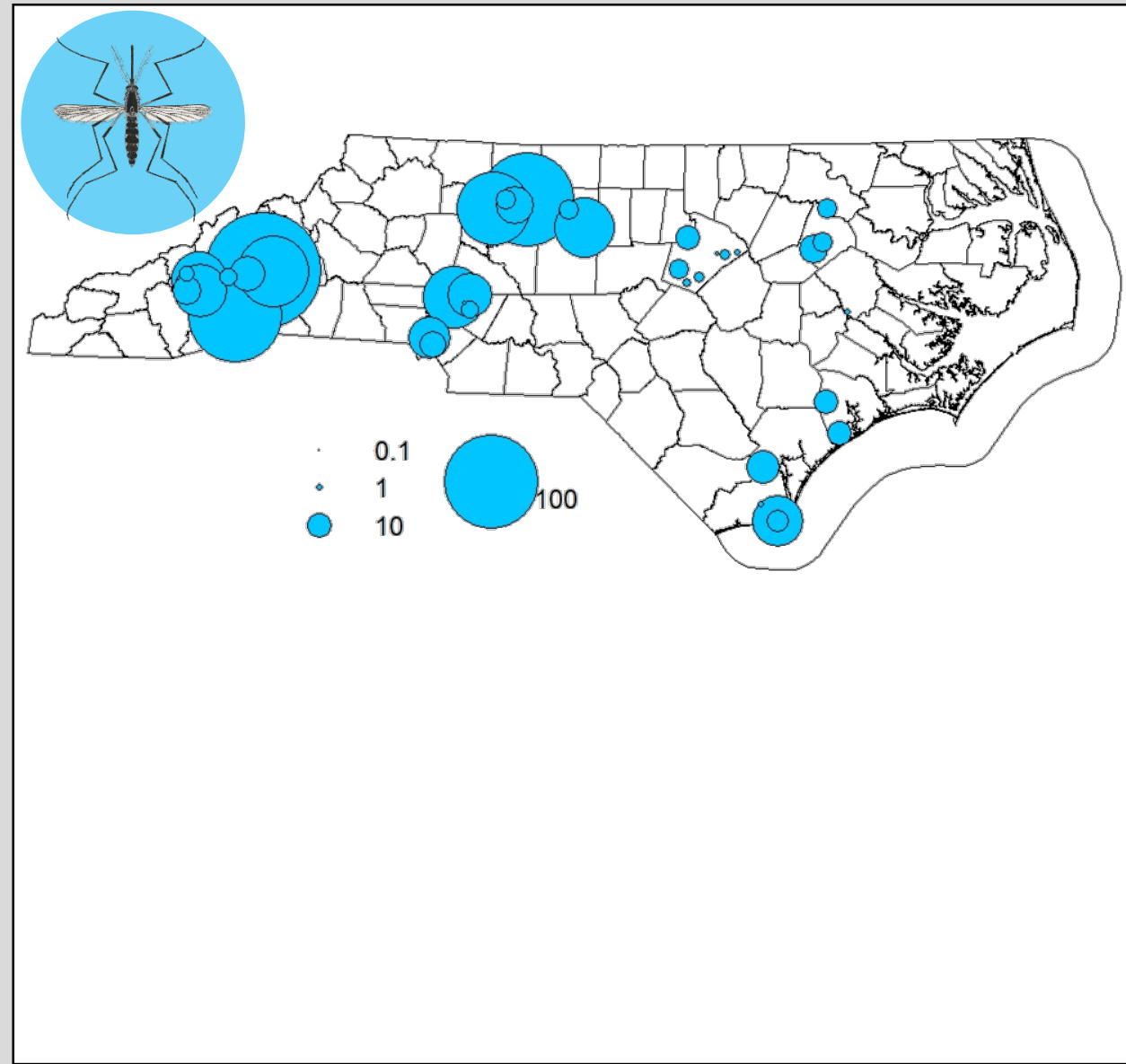


2016 Total Rainfall (mm)

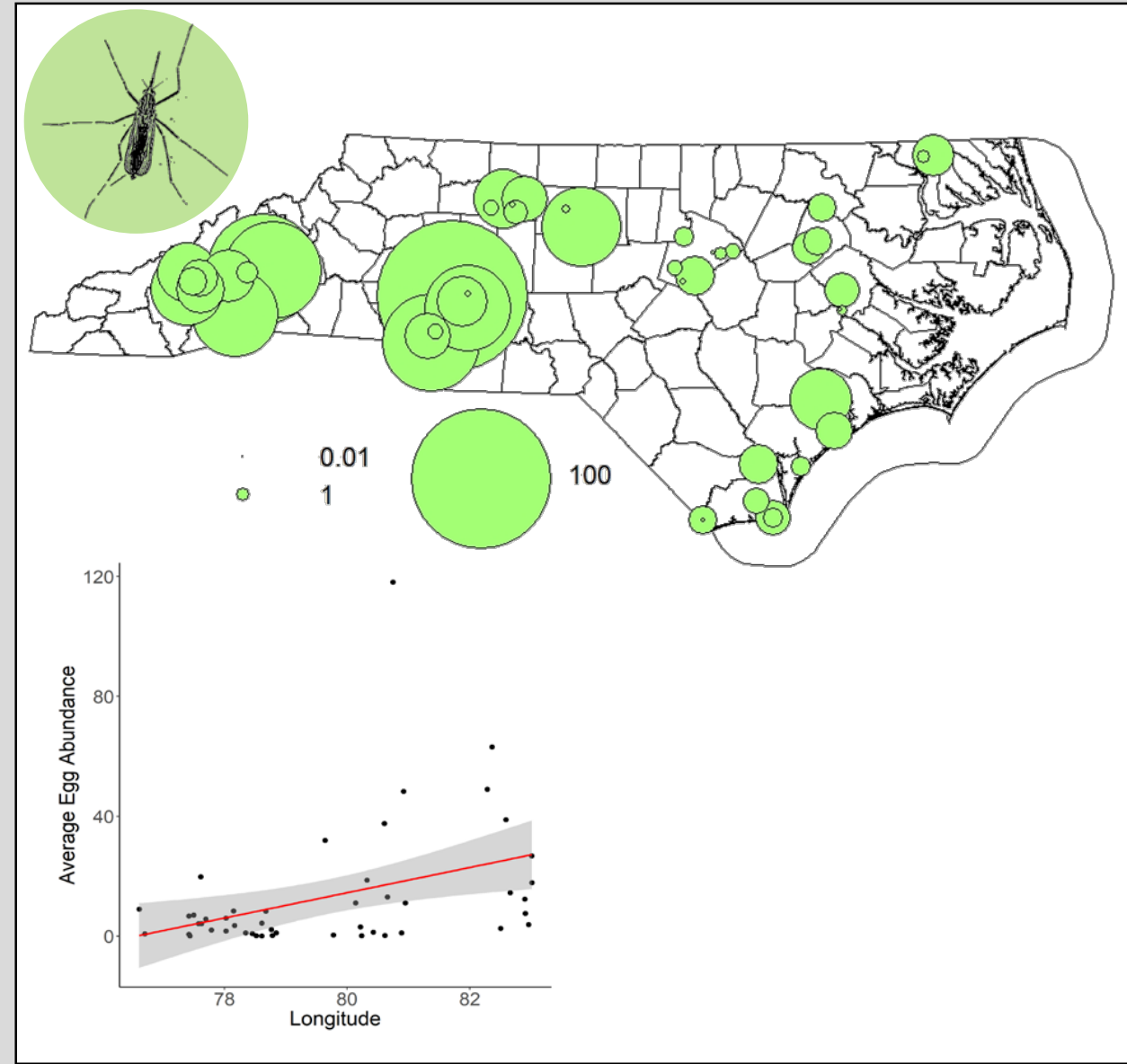
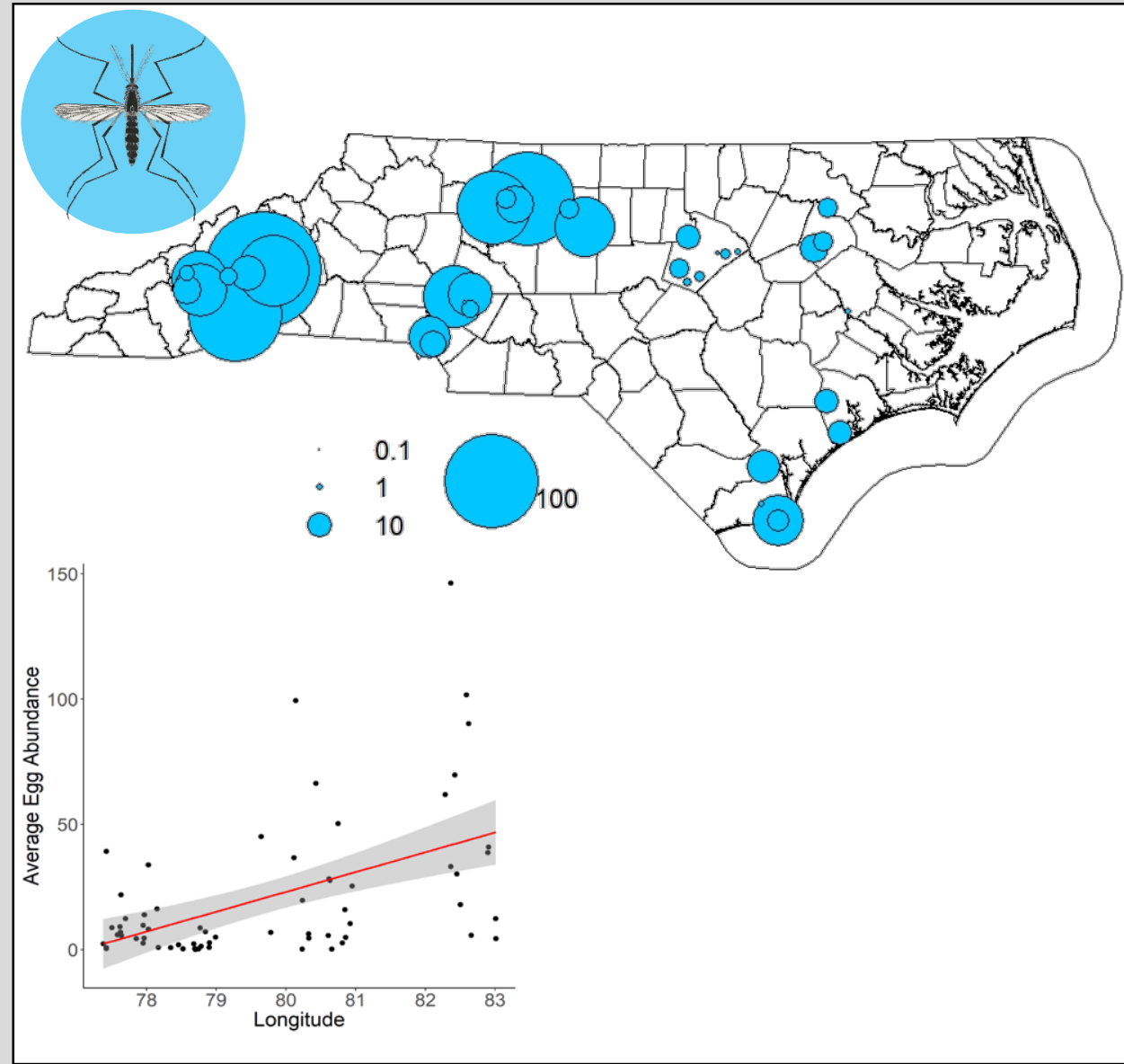
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- 1001-1250
- 1251-1500
- 150-1750
- 1751-2000



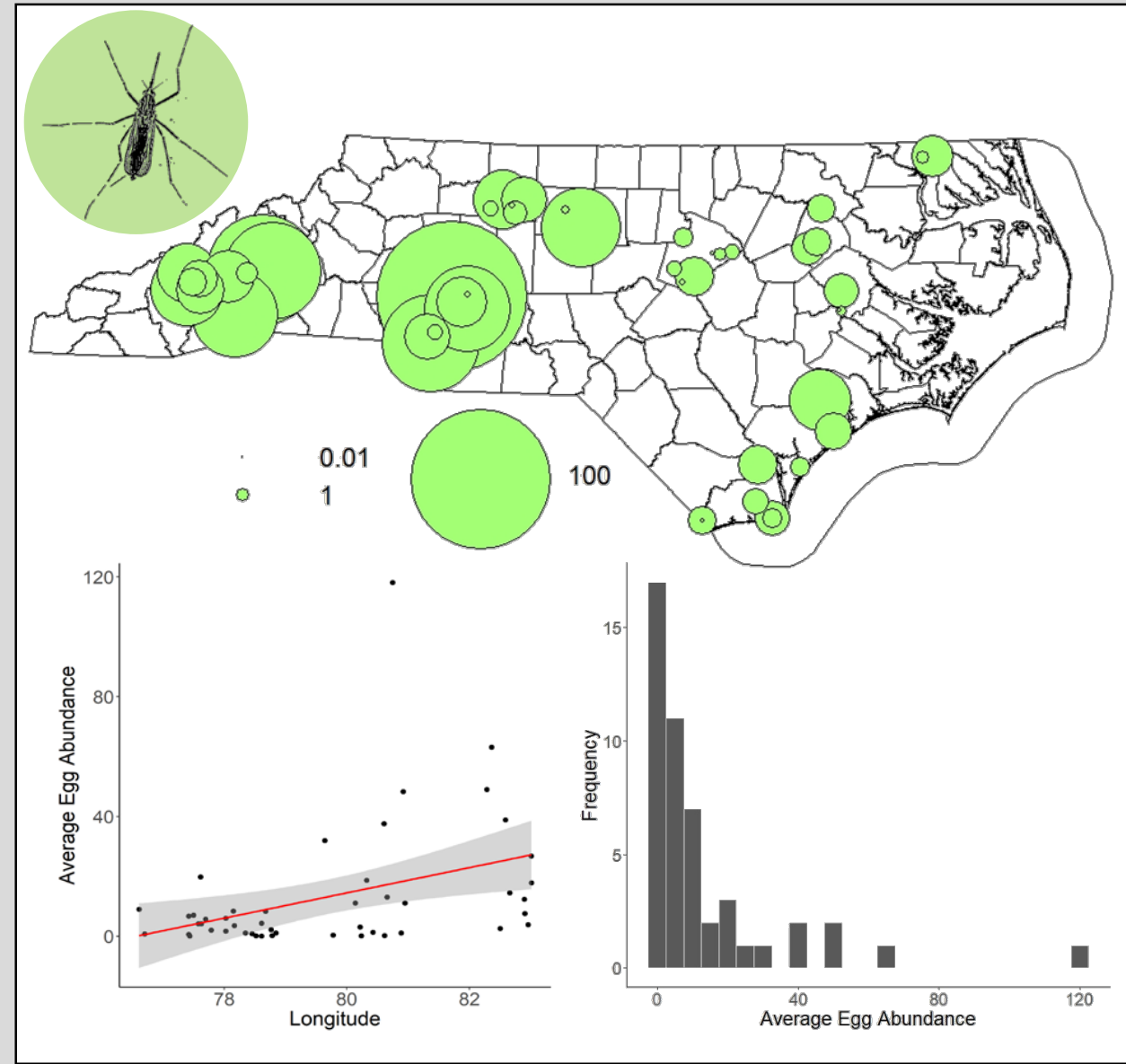
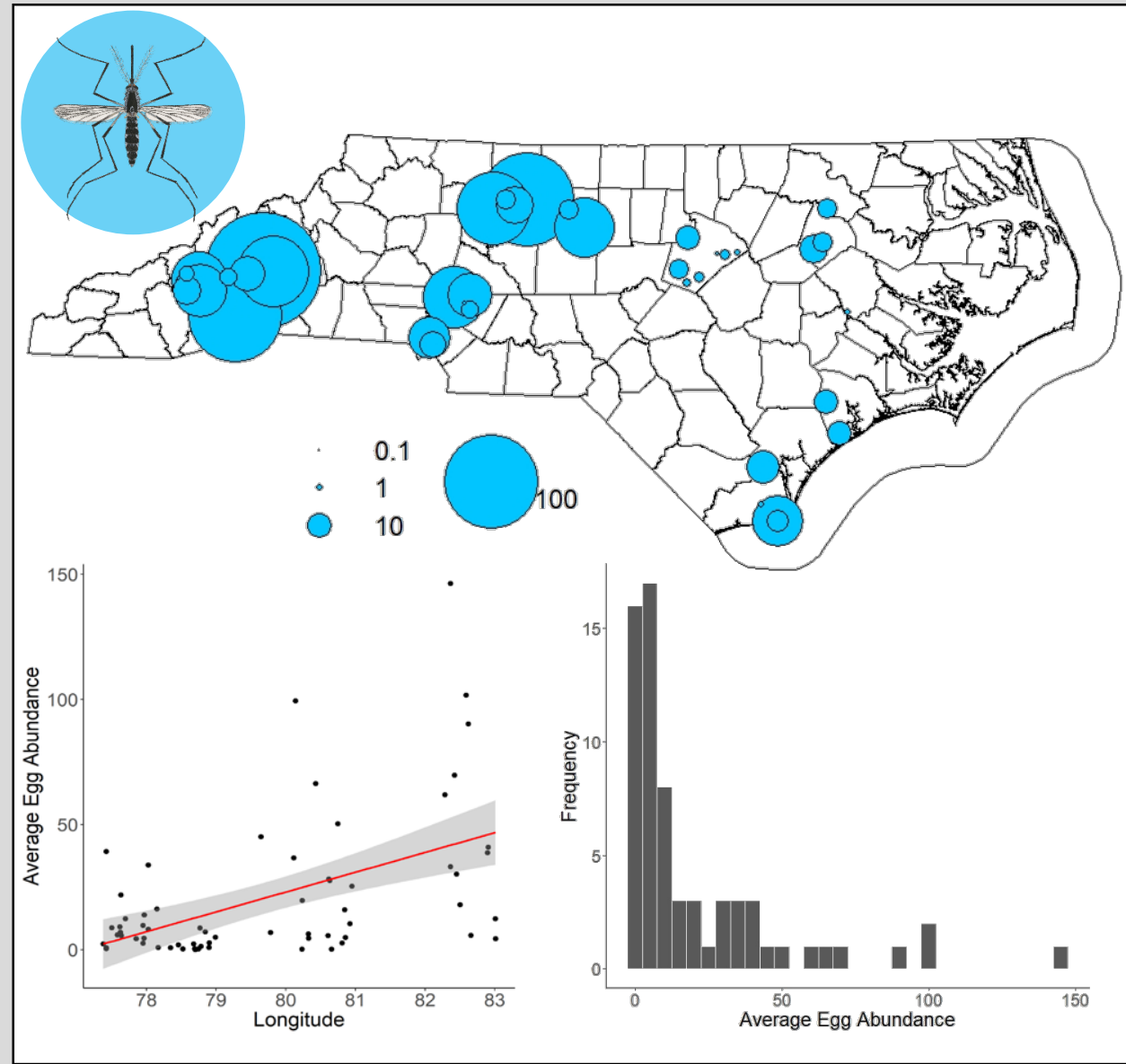
Abundance



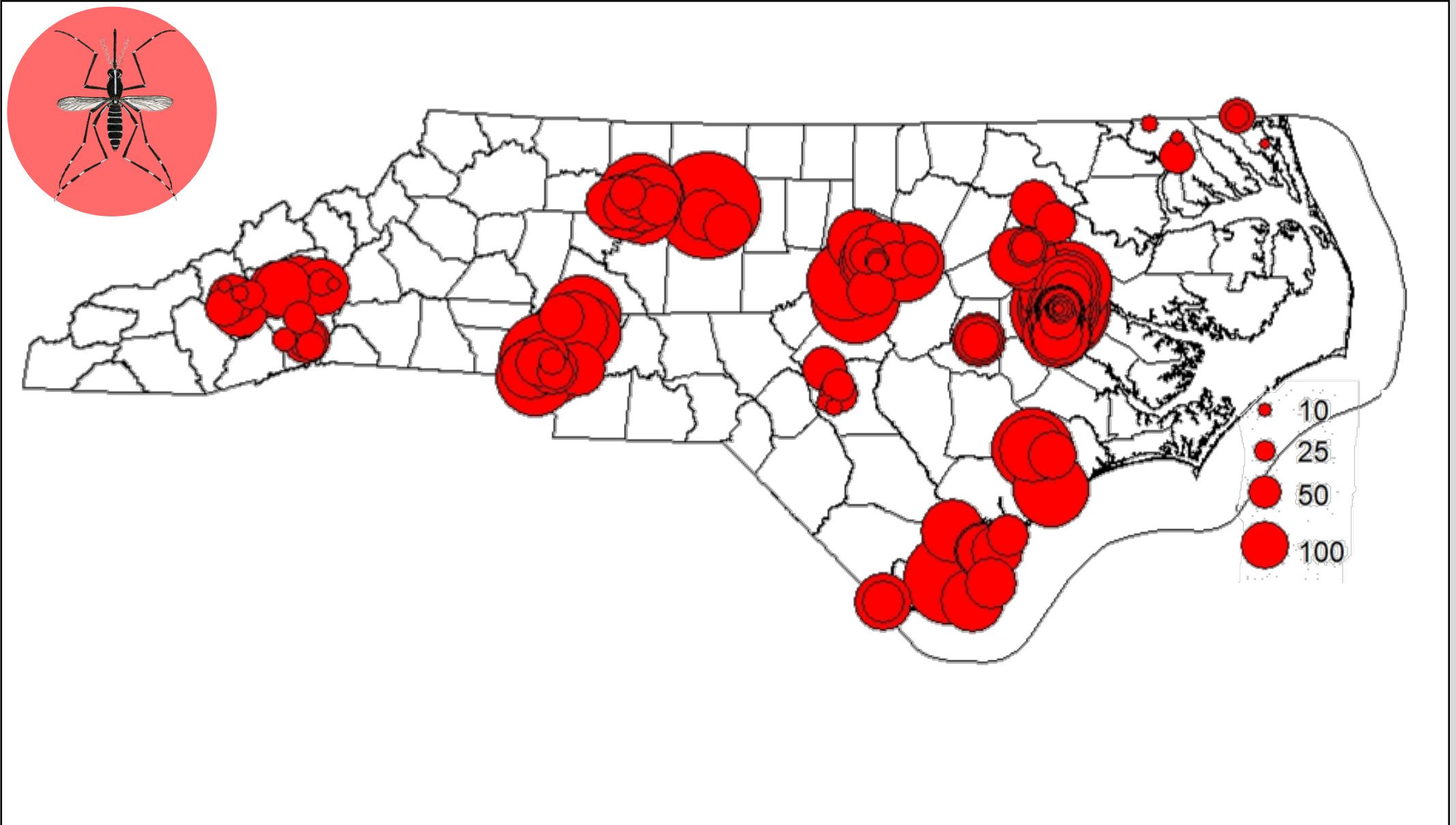
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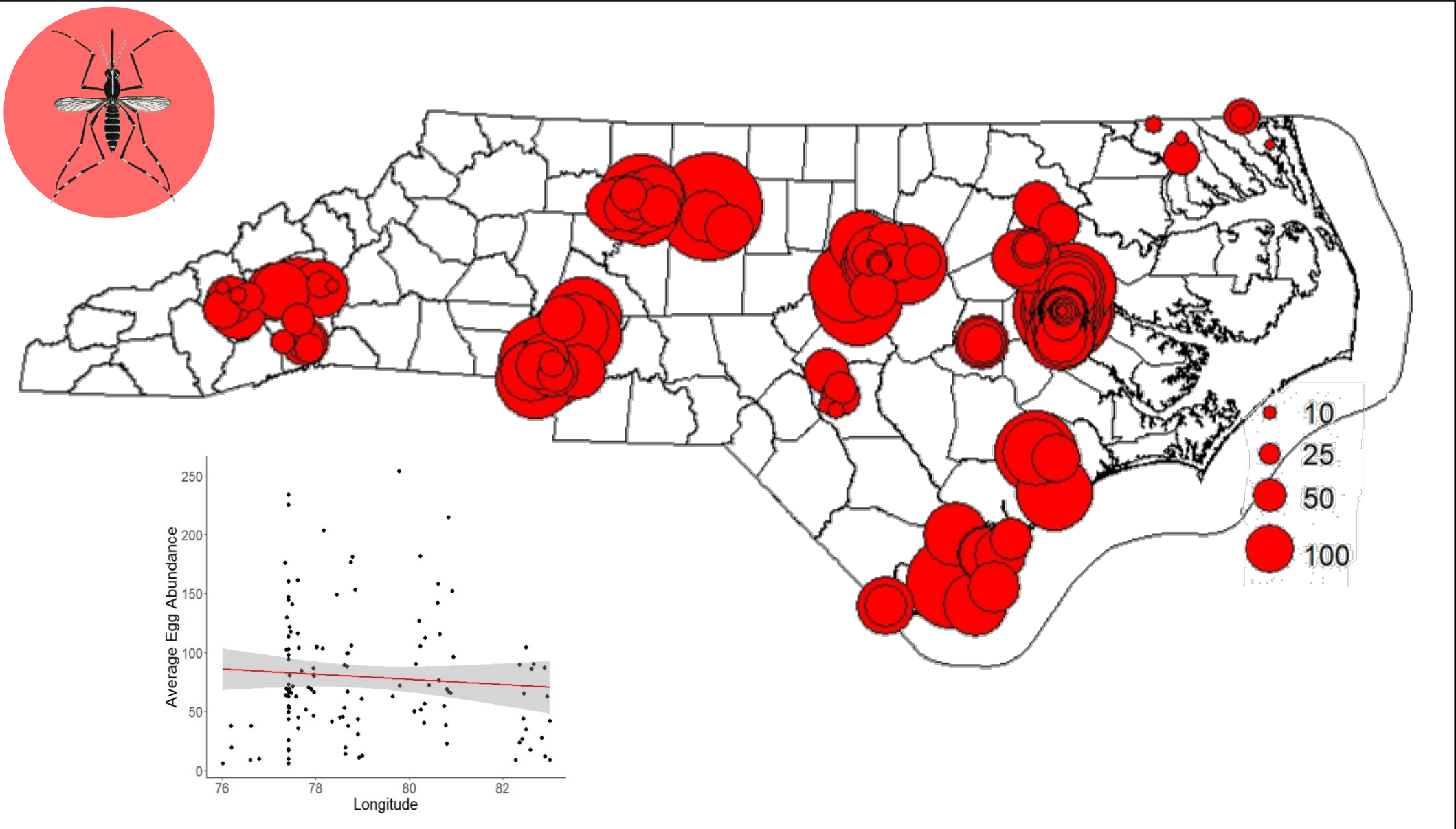
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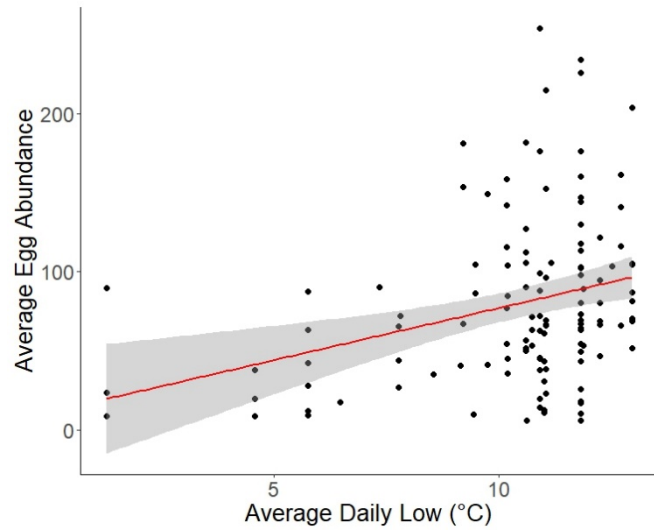
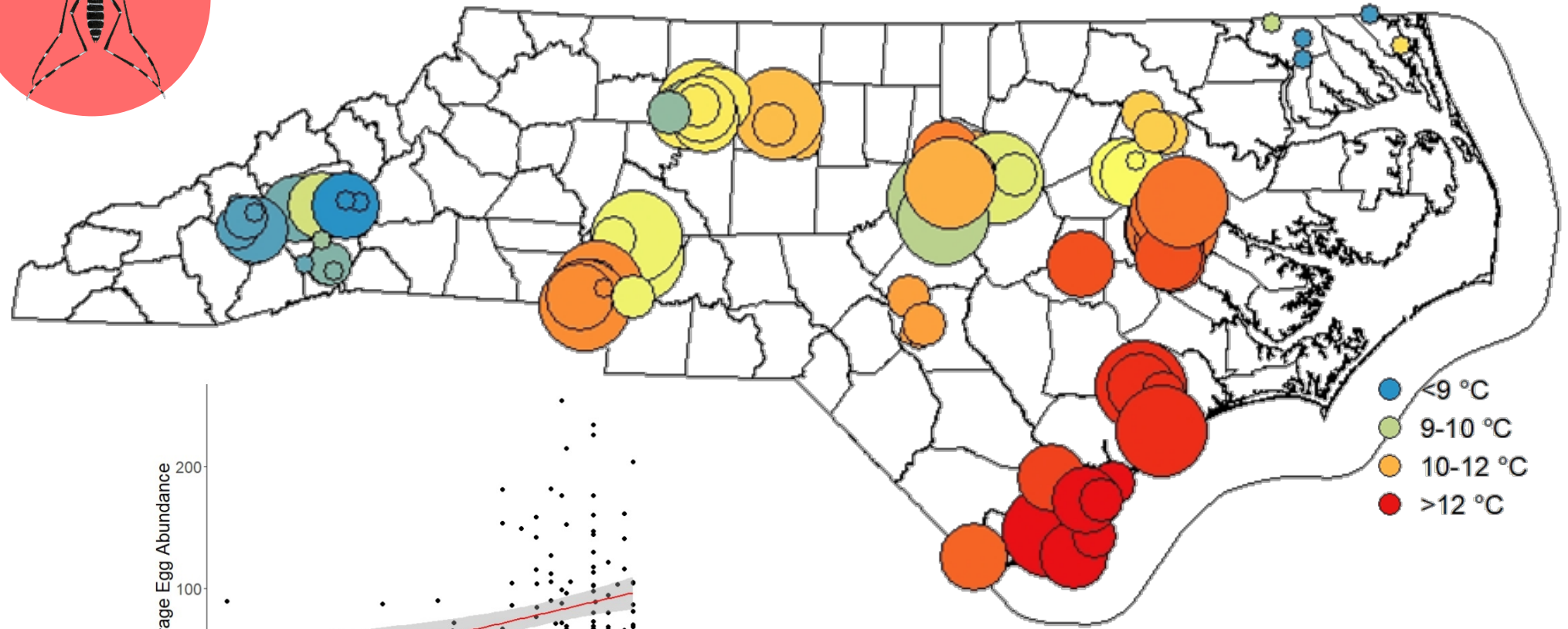
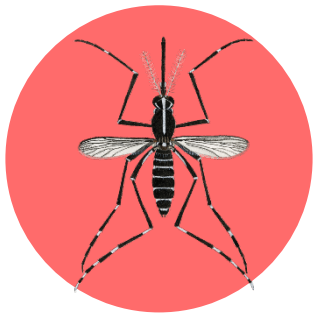
Abundance



Abundance

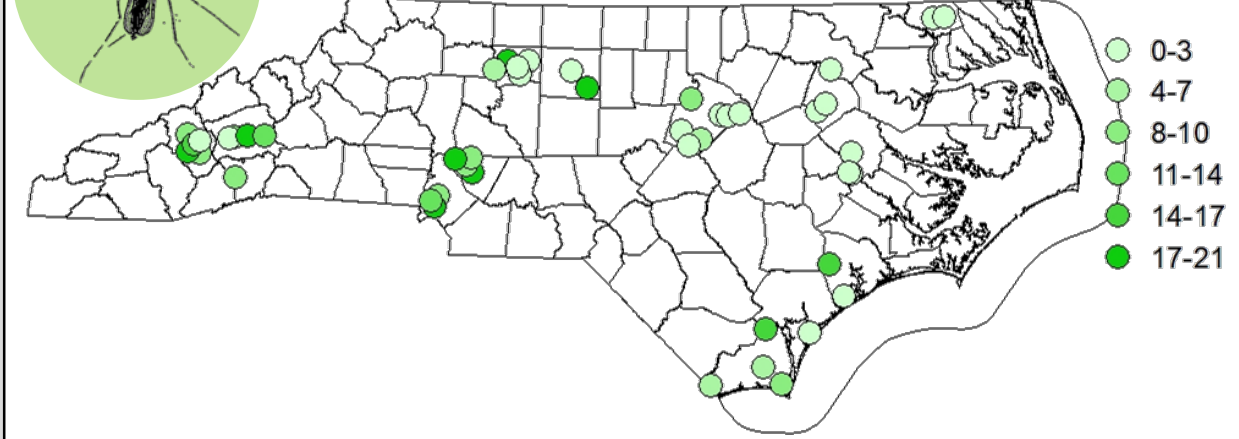
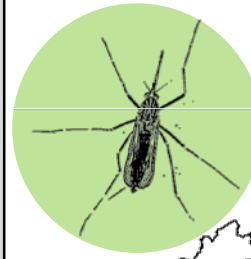
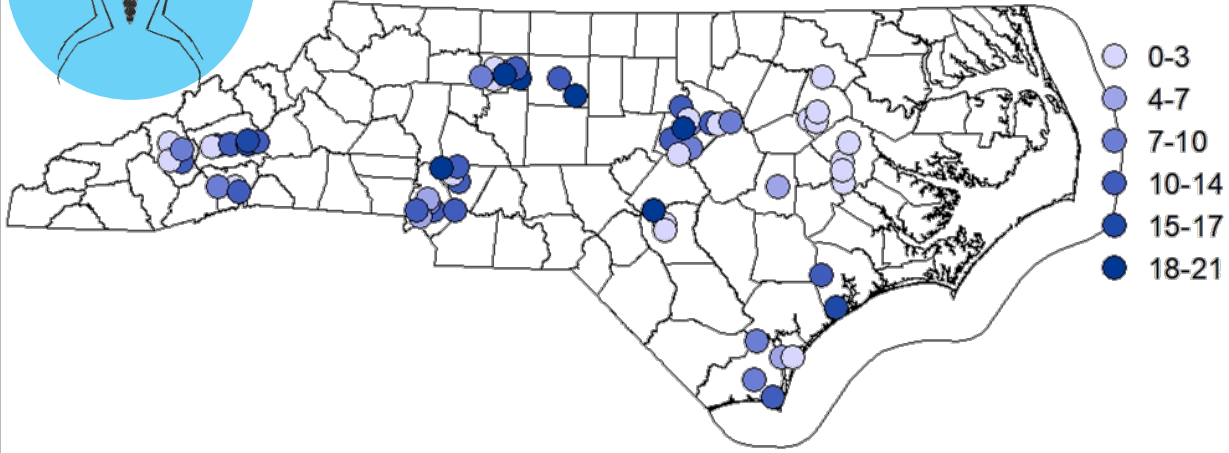
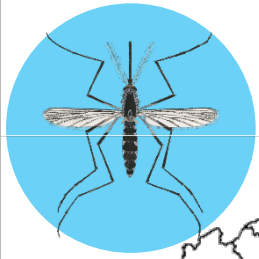


Abundance

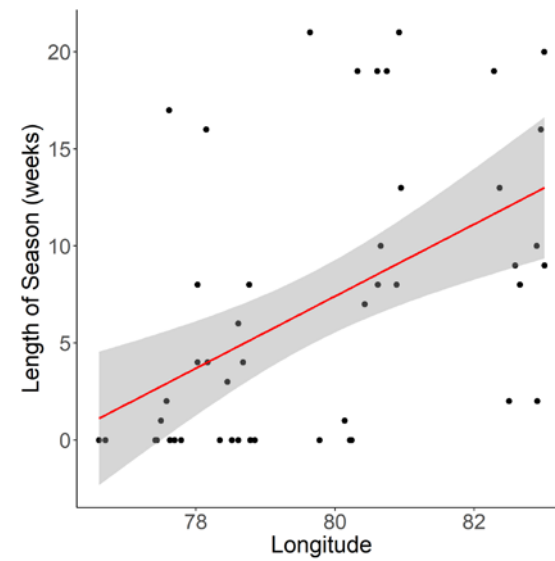
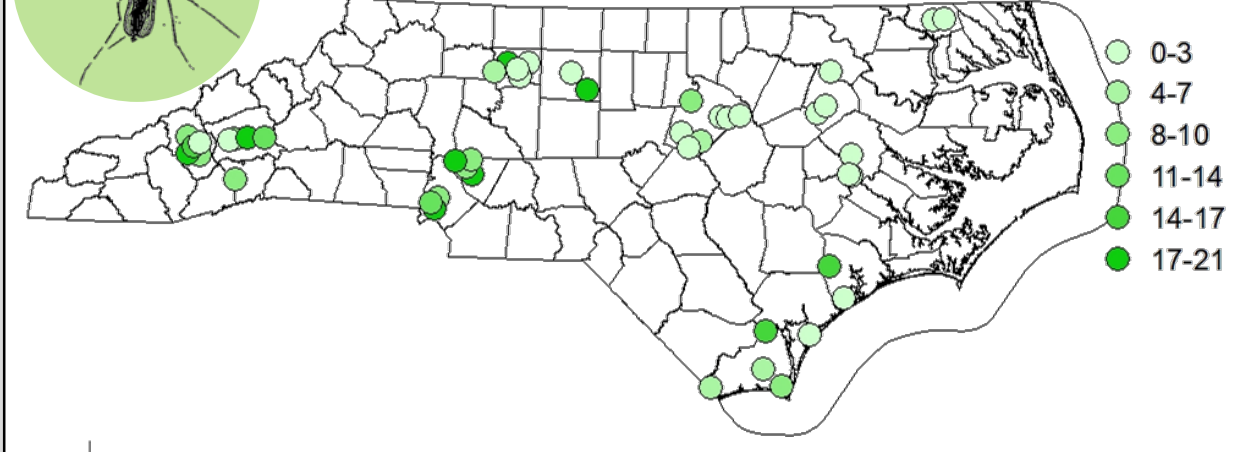
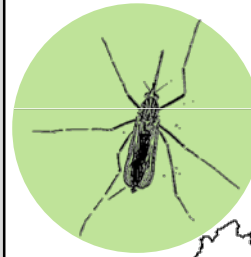
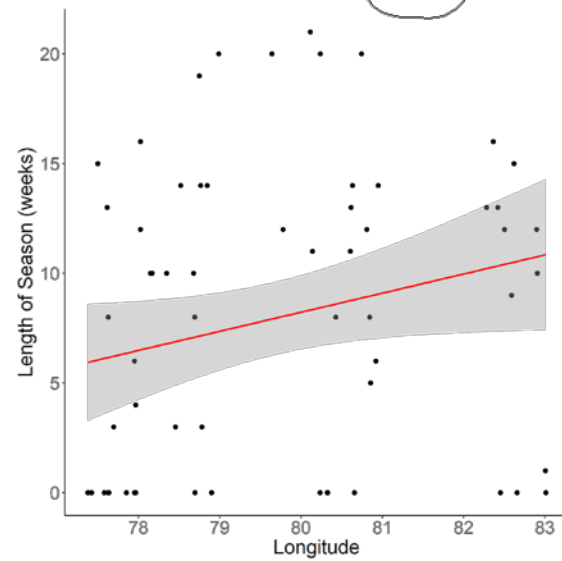
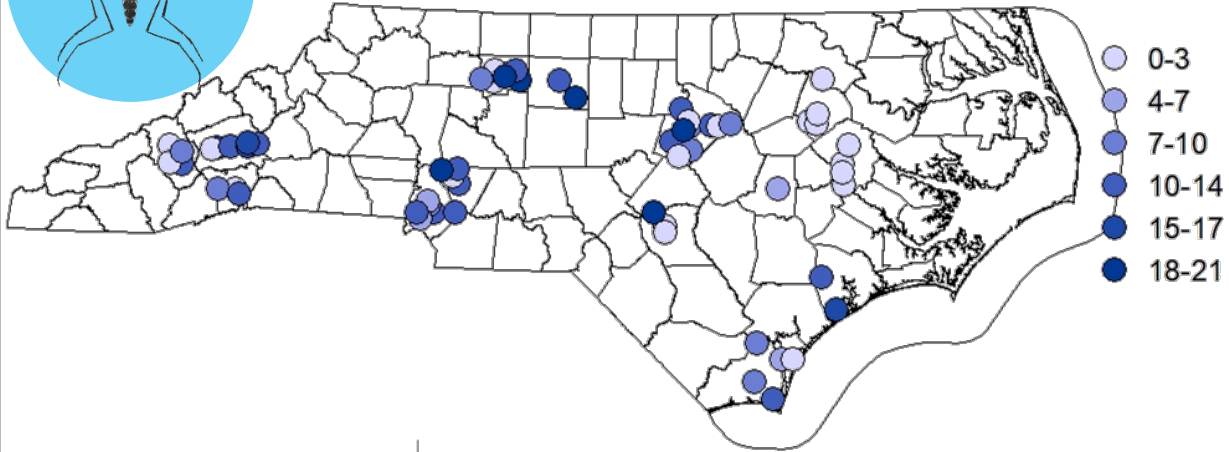
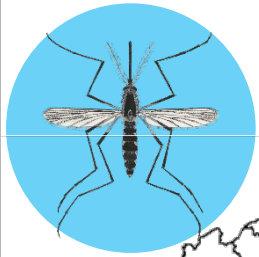


- \bullet $< 9^\circ\text{C}$
- \bullet $9-10^\circ\text{C}$
- \bullet $10-12^\circ\text{C}$
- \bullet $> 12^\circ\text{C}$

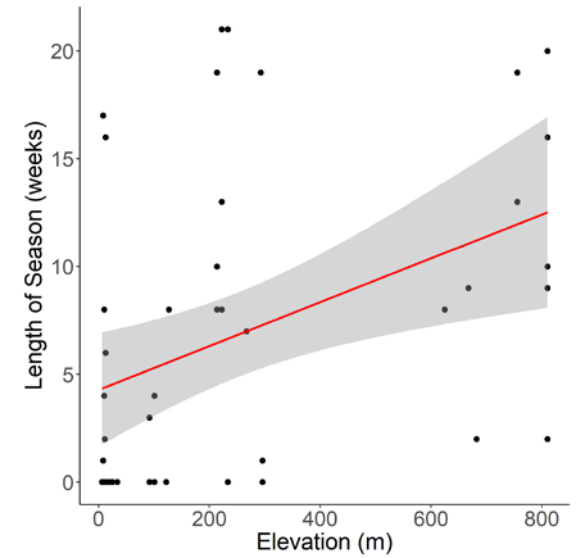
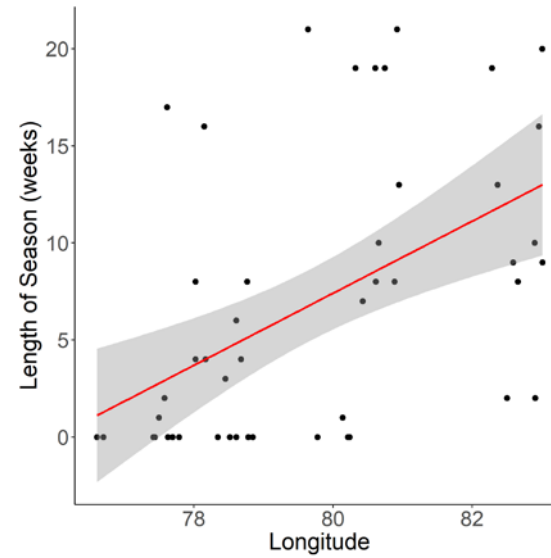
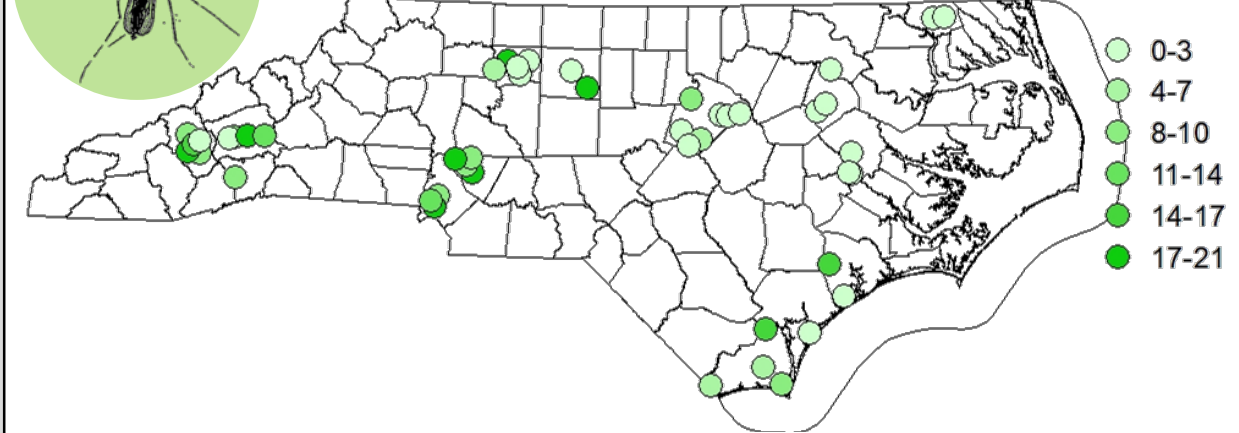
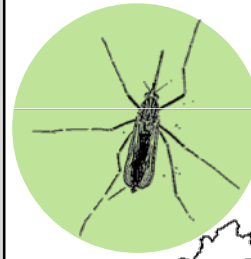
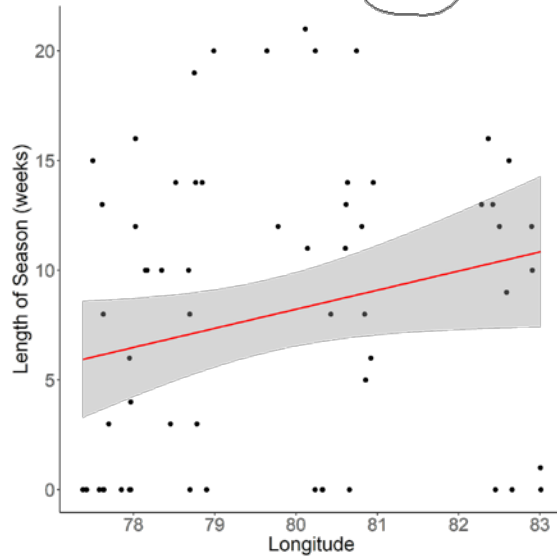
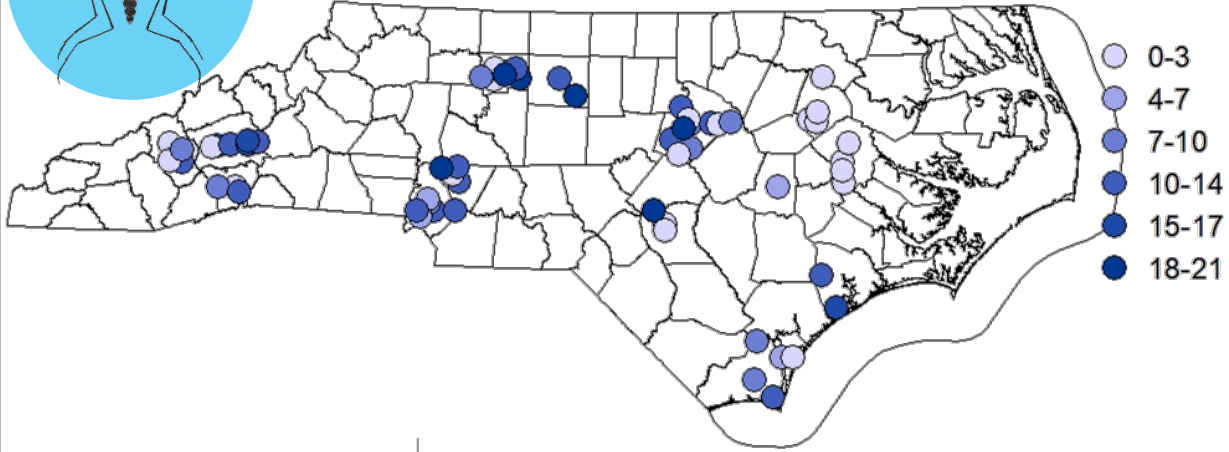
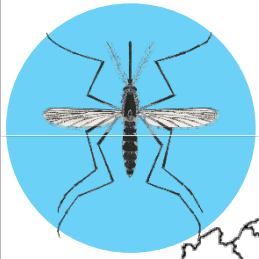
Length of Season



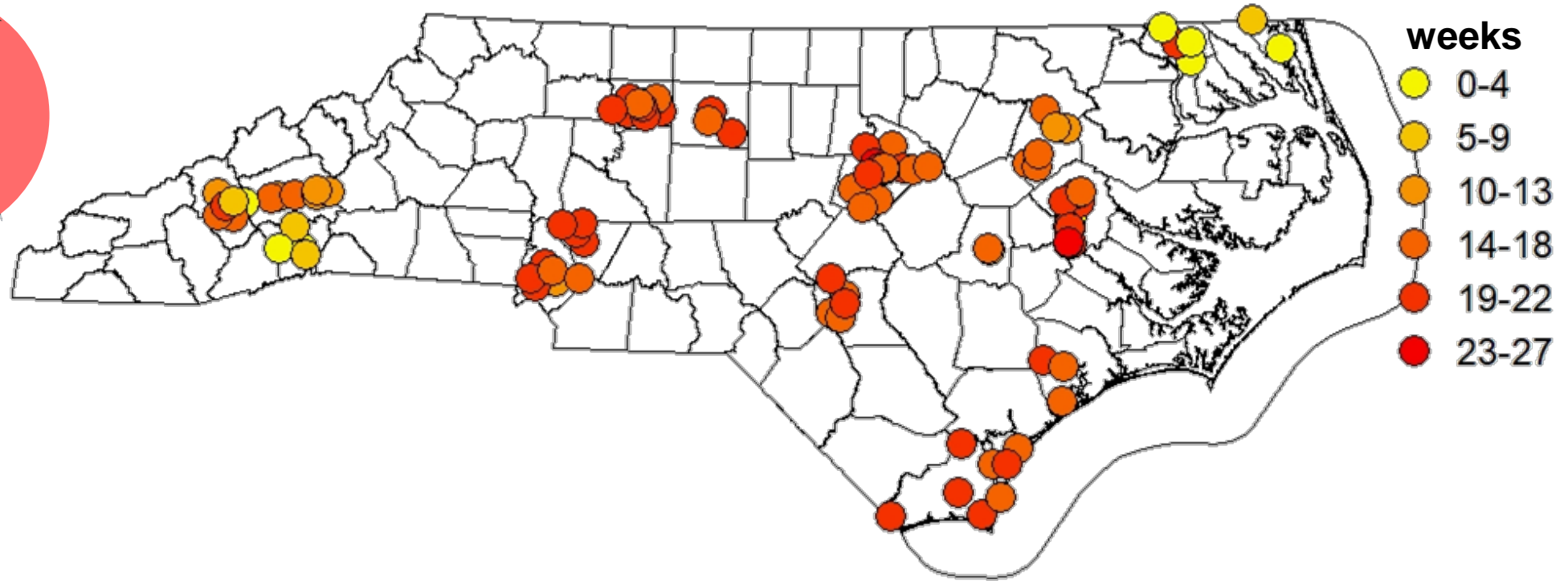
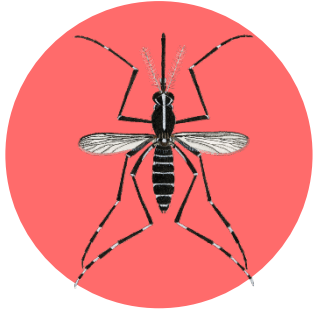
Length of Season



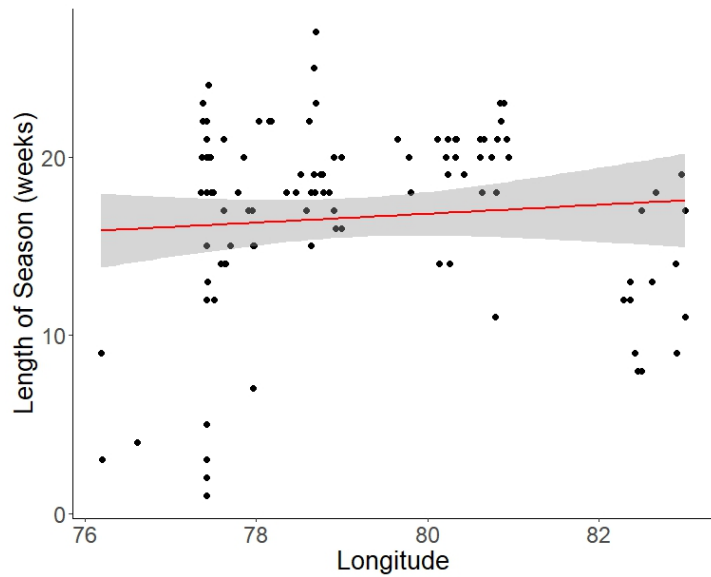
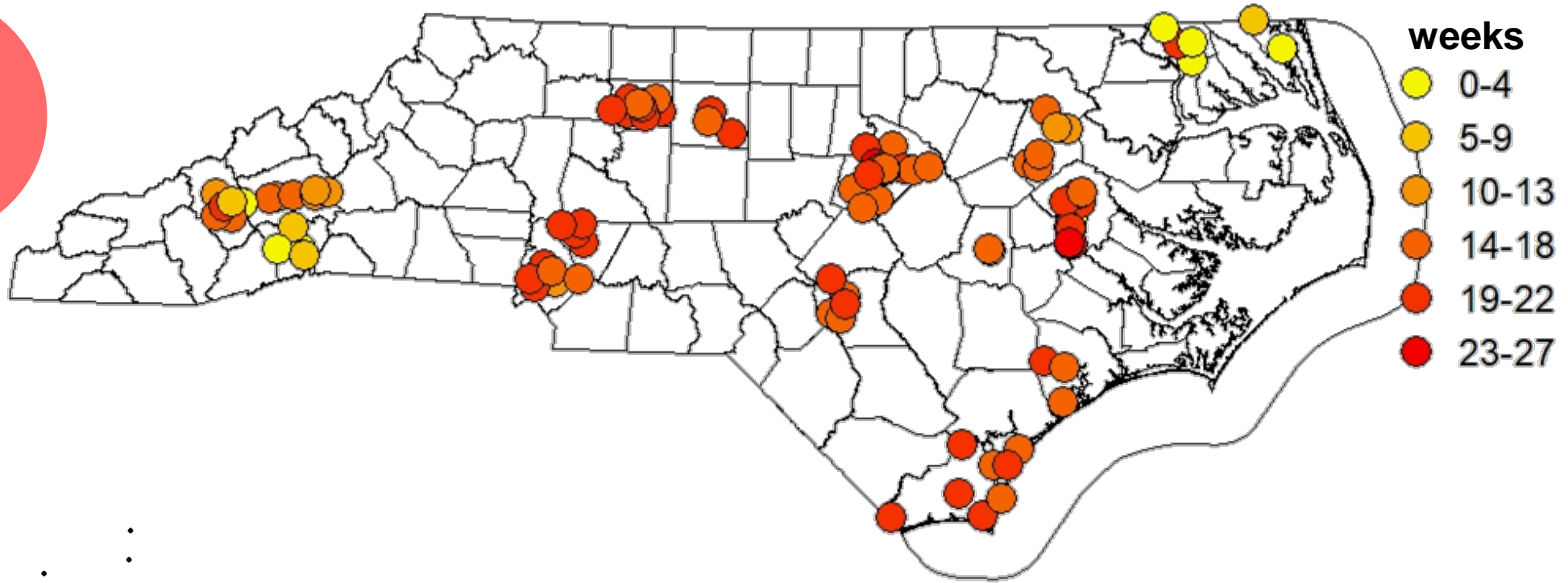
Length of Season



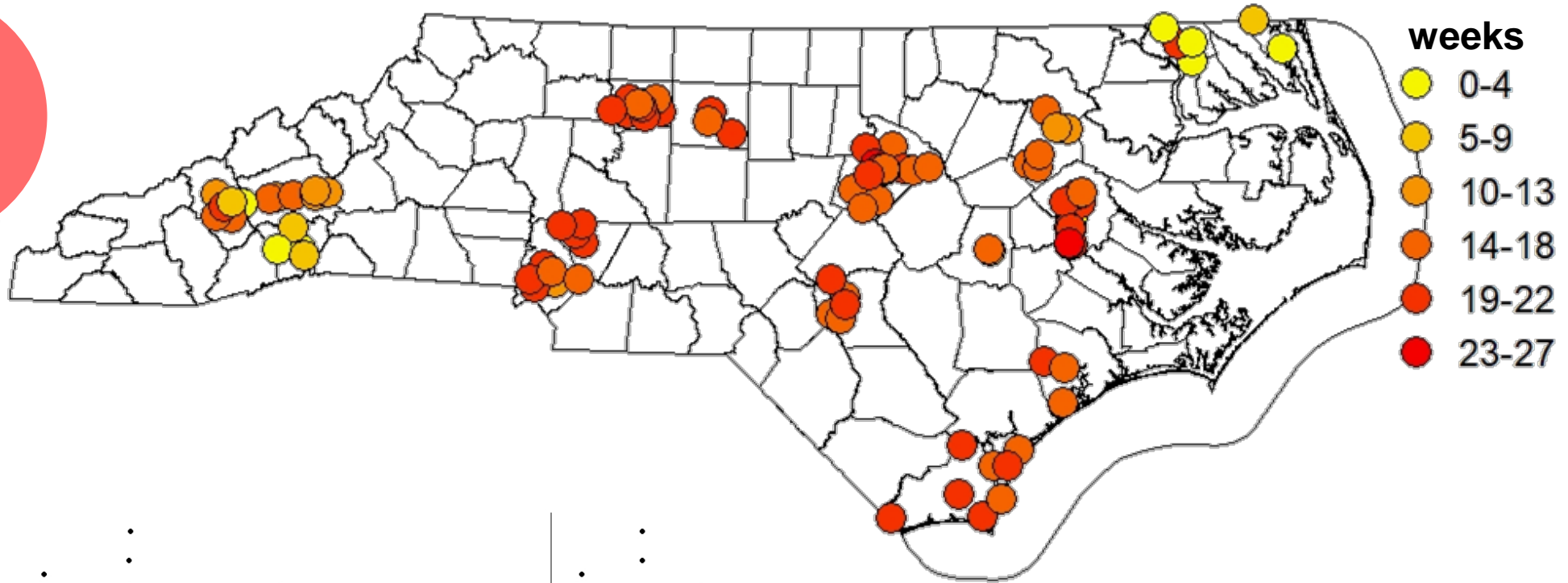
Length of Season



Length of Season



Length of Season



weeks

0-4

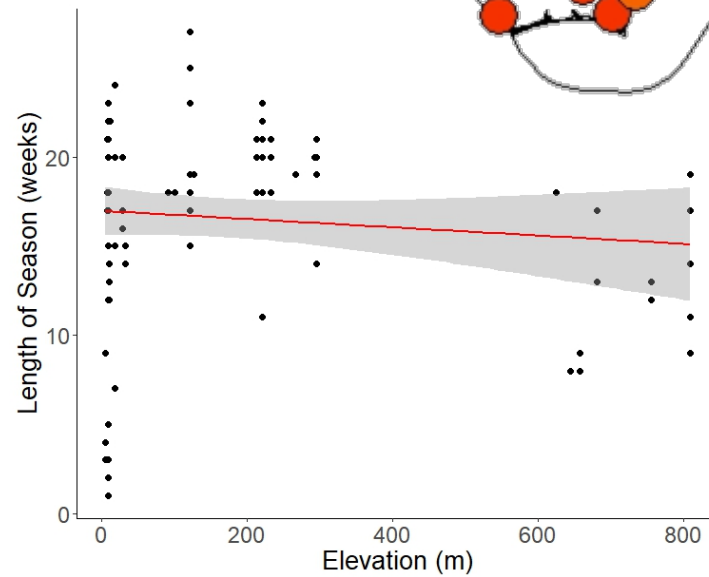
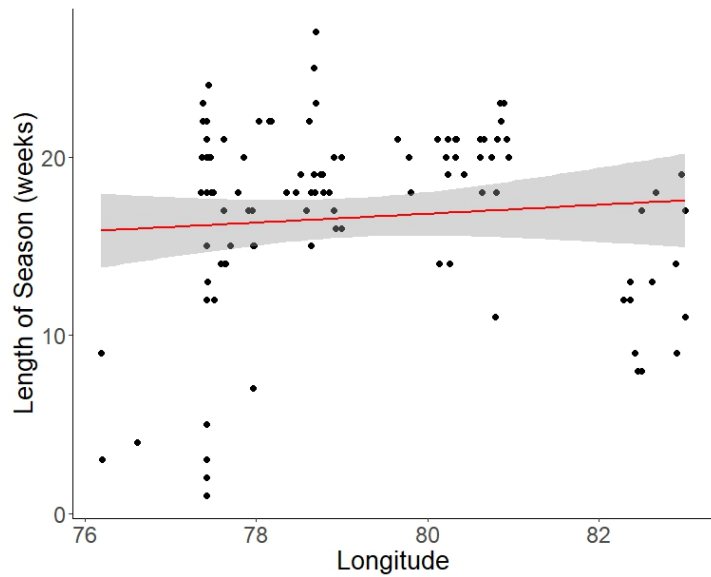
5-9

10-13

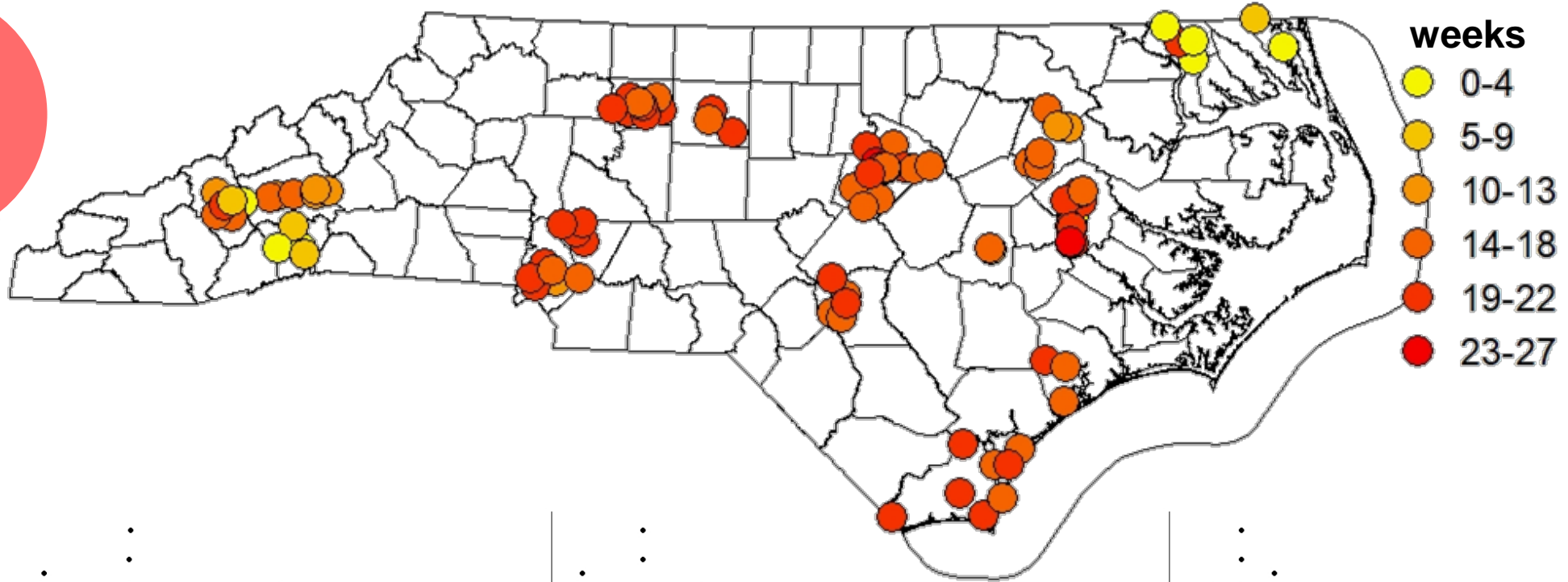
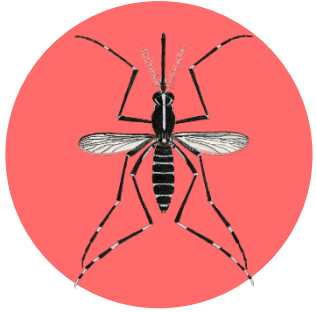
14-18

19-22

23-27

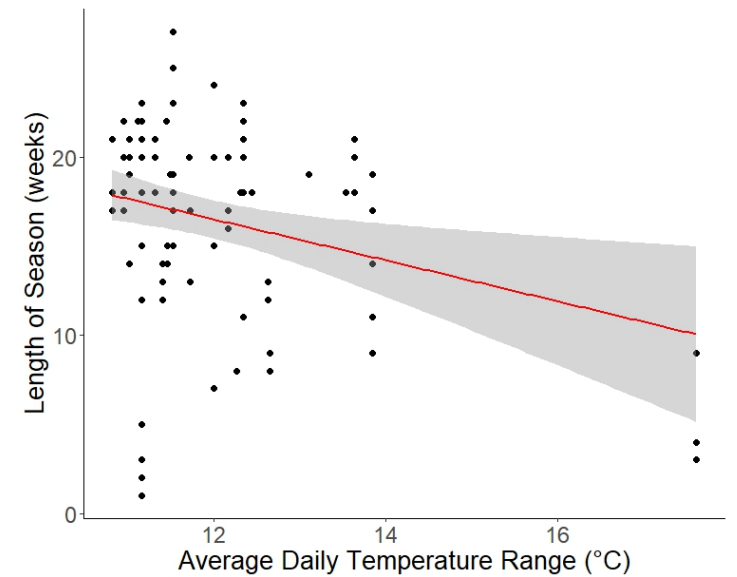
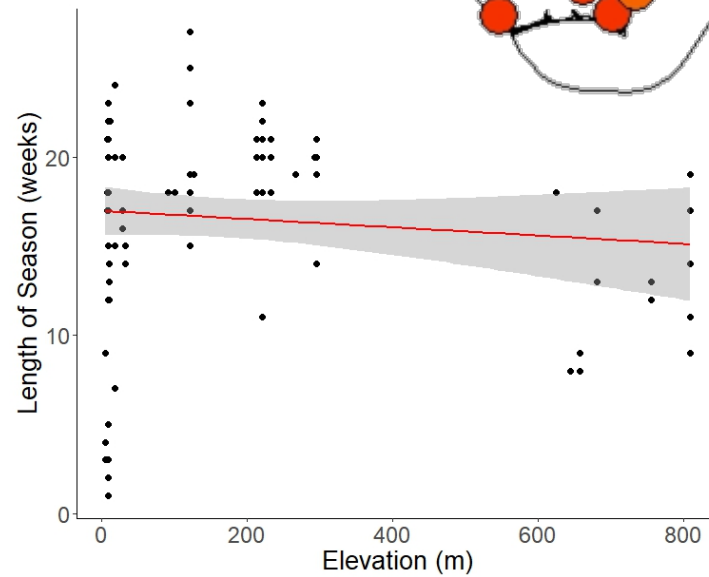
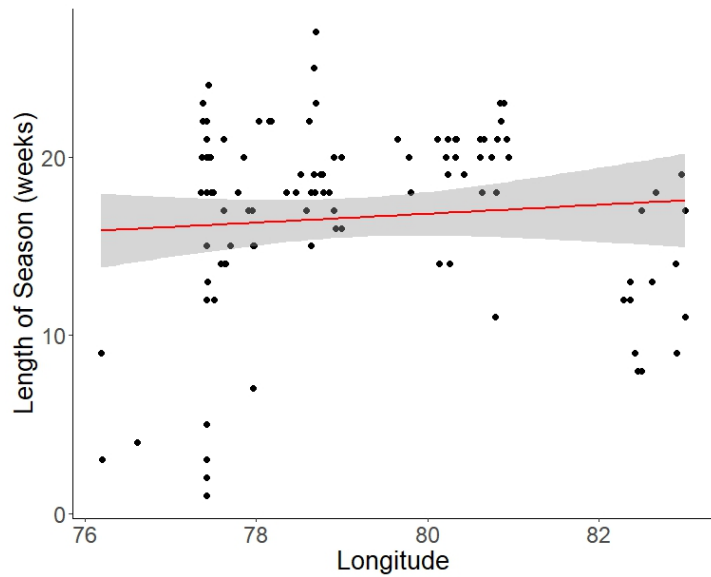


Length of Season



weeks

- 0-4
- 5-9
- 10-13
- 14-18
- 19-22
- 23-27

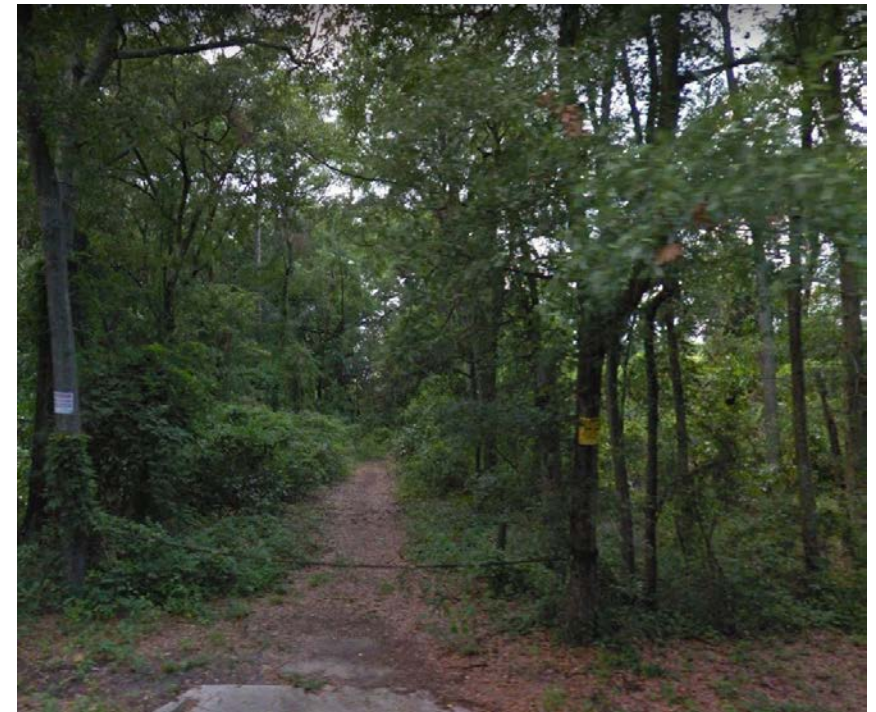


Discussion

- Little variation explained
- Contradictory patterns?

Next Steps

- Drought data
- Influence of landscape
- Comparison with 2017 data and beyond



Acknowledgements

- Michael H Reiskind
- Brian D Byrd
- Stephanie Richards
- Carl Williams
- Michael Doyle
- Diane Styers
- Mosquito Control Units
- Environmental Health Groups
- Municipal Health Agencies
- Student collectors/counters/identifiers



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