Climate Change and Plant-Insect Interactions
Annotated Bibliography
Agata Kamler


An excellent review article for a broad introduction to the topic. Touches on a wide variety of subjects and provides great references.


Another great general review article. Highly cited in the literature.


Good one. They reviewed the literature on interactions between insect herbivores and plants grown under conditions of ambient and elevated CO2 for 43 herbivores, representing 61 plant-herbivore interactions. Deals separately with effects on host plants and herbivores.


Yet another great general review article.


A well written study, typical of the type of research being done in the field. This study was used as an example in the presentation.


A semi-useful article. The spruce budworm is used as a case-study. Describes the possible impacts of climate change on some of the key population-level processes in the spruce budworm’s outbreak system and suggests how this system might respond to these impacts.

Provides a brief but useful section on climate change and insect herbivory with great leads to other research.


A very poorly written study. Very confusing with many holes. Was used in class only as a springboard for discussion.


Good study. Typical of correlation studies that track climate change and changes in insect abundance.


Not very useful in the context of my topic. Does not deal with plant-insect interactions but rather with just direct effects on plants themselves with no mention on possible impacts on insects.


Great study. Illustrates that tree productivity and chemistry, and the performance of associated insects will change under CO$_2$ atmospheres predicted for the next century. Changes in higher level ecological processes, such as community structure and nutrient cycling are also implicated.


Another great study similar to the one above. Used as assigned reading for class. Well written and comprehensible.


A very weak study. Many obvious holes in their design. Not worth reading.

Great study. One of the few in the literature that deals with UV effects on plant-insect interactions.


Not a very useful article. Describes the biology, population dynamics and impacts of three forest defoliators in North America that might respond to climate change, but doesn’t go into much detail as to what those responses might be.


Pretty good article. Discusses current research on the effects of air pollutants, ozone, carbon dioxide and temperature on plant insect-interactions.

Williams DW, Liebhold AM. 1995. Forest defoliators and climatic change: potential changes in spatial distribution of outbreaks of Western Spruce Budworm (Lepidoptera: Tortricidae) and Gypsy Moth (Lepidoptera: Lymantriidae). Environmental Entomology: 1-9.

Uses modeling to predict potential changes in spatial distribution of outbreaks.