**Introduction**

* Climate change
  + Extreme climates and temperate environments
    - Places at the extremes of seasonal temperatures
      * Shifts in temperature will be more intense
    - Places with more temperate seasonal temperatures
      * Shifts in temperature will be less intense
        + Seasons at high latitudes will look like the seasons of lower adjacent latitudes
  + Seasonal warming and agricultural crops
    - Longer growing seasons
  + Seasonal warming and phytophagous insects
    - Plant eating insects gain more active time in the field
* Response of pests to climate change
  + Possible outcome for increase pest range
    - Increased pest competition
    - Pests at lower latitudes could see an increase in range as higher latitudes become warmer
    - Increased host plant access
  + Results of this Pest range increase
    - Could see generations
    - increased pest pressure
    - Increased cost to growers
* Why use ECB as a model
  + ECB is an important agricultural pest
    - Annual damage to crops
    - Costs to manage pest
  + Discovery of clinal pattern of ECB as a function of climate
    - Latitudinal distribution of ECB
      * Figure 1b: DOI: 10.1111/jeb.12562
    - Seasonal influence on voltinism
    - Bi- and Univoltine strategies
  + Prediction opportunity
    - Pest range expansion
    - Pest pressure
    - New pest range