***Exploring how climate will impact plant-insect distributions***

***and interactions using open data and informatics***

**SP-1: Natural History of Butterfly-Host Plant Interaction**

**- Instructions & Assignment -**

**Overview**

Plant-insect interactions do not occur in a vacuum, but rather in complex ecosystems that involve interactions with additional biotic and abiotic components of their communities. Global climate change, and specifically global warming, has been shown to affect the distribution, phenology and persistence of plants and insects. This project asks you to engage in the use of ecoinformatics to harness the power of citizen science data to study the potential changes in plant-insect, specifically a butterfly and host plant, distributions over the next 50 years. The first step is to identify a butterfly-host plant interaction and learn about its natural history to make informed predictions about abiotic changes to its environment.

**Learning Goal & Objectives**:

1. Describe how biodiversity science data initiatives, such as ecoinformatics, can make use of citizen science and museum digitization efforts to ask and inform questions in ecology.
   1. Identify a butterfly-host plant interaction using online resources including citizen science projects.
   2. Report on the natural history of your chosen butterfly-host plant interaction.

**Introduction**

To begin this project, you will need to identify a butterfly-host plant interaction. You may choose any butterfly and host plant, but be sure the larval host plant can be identified to the species level. Many butterflies only have plant genera recorded as hosts. Verify that this is the most common host plant using BAMONA, eButterfly, or another reputable resource (examples listed below).

There are three recommended web resources to help you research and learn about potential butterflies you may want to focus on for this project. Note that all three of these websites have citizen science components!

1. BAMONA: Butterflies and Moths of North America - [www.butterfliesandmoths.org](http://www.butterfliesandmoths.org)
2. iNaturalist - [www.inaturalist.org/taxa](http://www.inaturalist.org/taxa)
3. eButterfly - [www.e-butterfly.org](http://www.e-butterfly.org)

Ultimately, the choice is up to you! Please have your choice approved before you move on with the assignment.

**Instructions**:

Using resources from BAMONA and iNaturalist, collect and record information for the following categories for your butterfly-host plant interaction. Organize your information in a word document using all of the headings below. Please be sure to include an image credit when you turn in your assignment.

* **Butterfly Species**
* **Family**
* **Order or Suborder**
* **Image of butterfly**
* **Physical appearance**
* **Foraging behavior as larvae and adult**
* **Habitat**
* **Range**
* **Larval Host plants**
* **Most Frequent Host Plant Reported on iNaturalist**
* **Unusual Ecological Interactions**