**Available Data:**

* 1. 140 plants monitored across 5-8 years for:
     + number of leaves
     + inflorescence initiation (1/0)
     + herbivory (1/0)
  2. 100 plants (***subset of the 140 above***) monitored across 5 years for:
     + number of leaves
     + leaf length
     + leaf width
     + inflorescence initiation (1/0)
     + inflorescence length
     + inflorescence width
     + herbivory (1/0)

**Overarching hypothesis**

Vegetative and reproductive dormancies**\*** are adaptive strategies employed by orchids whereby plants forgo sprouting or reproduction under conditions that limit the supply of carbon by reducing photosynthetic tissue.

**Research Questions and Associated Hypotheses**

1. Is vegetative fitness of a plant in a given year correlated to its reproductive effort in that year? (It is possible that we might get different answers based on 100 vs. 140 plants, so data from 140 and 100 plants can be tested).

**Hypothesis -** Higher vegetative fitness (an index generated by using number of leaves + leaf length + leaf width) will increase the probability of reproductive effort (an index with inflorescence initiation + inf length + inf width) in any given year.

1. Does vegetative fitness of an individual in a given year explain its vegetative and / or reproductive success in the following year? (data from 140 or 100 plants can be used).

(Note: can we test for beyond only the following 1 year, i.e., subsequent years?)

**Hypothesis -** Vegetative fitness in the absence of reproduction will increase the probability of a plant’s vegetative and reproductive success in the subsequent year.

1. Does the reproductive effort made by a plant in a given year explain its vegetative or reproductive success in the following year? (Note: can we test for beyond only the subsequent 1 year, i.e., subsequent years?)

**Hypothesis –** Depending on the plant size, reproductive success in a given year will either induce vegetative dormancy or reduce vegetative fitness that will lead to reproductive dormancy in subsequent years.

1. Does herbivory experienced by an individual plant explain patterns of vegetative and reproductive dormancies in the subsequent year? (Note: can we test for beyond only the following 1 year, i.e., subsequent years?)

**Hypothesis** – Herbivory will induce vegetative and reproductive dormancies in the subsequent year. Small plants with lower vegetative fitness will remain vegetatively dormant in the following year whereas larger plants will emerge aboveground, however they will exhibit reproductive dormancy.

**\***Vegetative dormancy - lack of plant emergence aboveground; Reproductive dormancy - lack of inflorescence on plants emerged aboveground