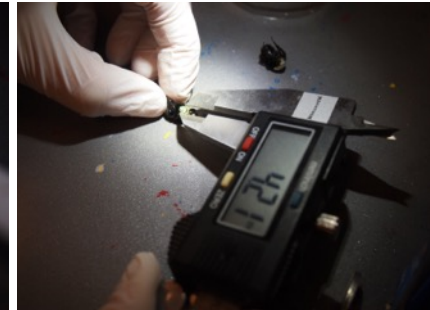
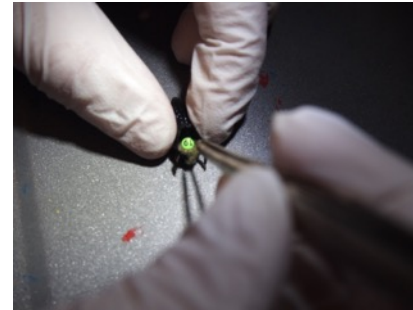
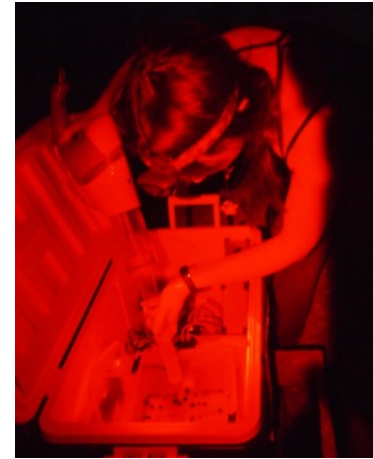


# Our data today!

Bee Biology Rd, Davis CA



Colony ID: 2, 22, 32, 35, 41, 43, 57, 58



# Warmup

- Download “BeeNectar.csv” data from Trunk
- Create new notebook and save in folder where your data is located.
- Read data into R
- Calculate summary stats for Nectar column
  - Mean, medium, IQR, standard deviation, variance
- Plot histogram

# Exercise 1.

- A. Randomly sample values of “nectar”. Compare the means of the following samples with the population,  $n = 525$ .
- Mean and standard deviation when sampling,  $n=10$
  - Mean and standard deviation when sampling,  $n=40$
- B. Instead, find a function (or combination of functions) that will randomly sample rows from the full dataset.

# Exercise 2.

- A. Calculate summary statistics for pollen weight and body size (ITS).
  
- B. Create three separate boxplots of ...
  - Nectar weights for each colony.
  - Pollen weights for each colony
  - Body size (ITS) for each colony.
  
- C. Advanced problem:
  - Install tidyverse package and then load into R using `library(tidyverse)`.
  - Use dplyr cheatsheet (in R help tab) to calculate mean and standard deviation of nectar and pollen weight by colony.