Long-term pollinator monitoring study in the Chihuahuan Desert at the Sevilleta LTER, New Mexico.

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Methods

- **Materials**
  Paint cans, propylene glycol, funnels, spray paint, small platforms, chicken wire

- **Sample Design**
  There are three core sites at Sevilleta Wildlife Refuge each with five trapping webs that are bisected from north to south by a 200 meter long transect. Traps are installed 10 meters past the north and south ends of the 15 plant phenology transects, for a total of 30 traps. They are then set on a 1 ½ ft tall platform and surrounded by a 2ft high chicken wire cage to prevent wildlife disturbance. Placed on the platform is a paint can of propylene glycol and a blue or yellow funnel totalling 15 of each color. Paint can lids are left in the cage to seal the traps when they are inactive.

- Traps are opened and closed every 14 days from March to October. Specimens are collected at the end of each 14 days cycle.
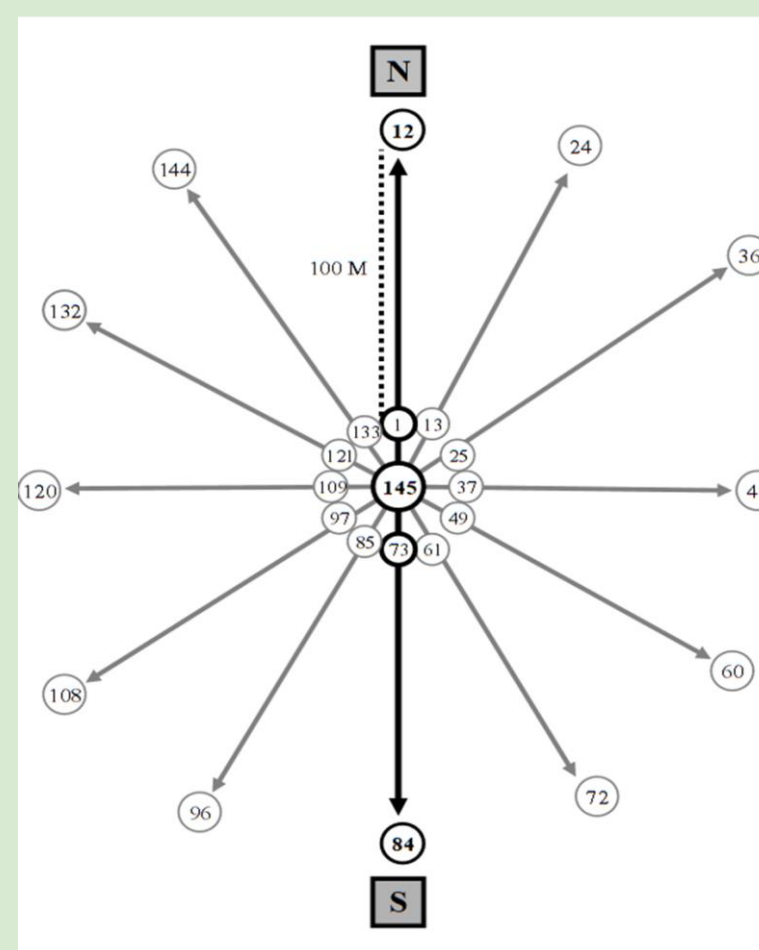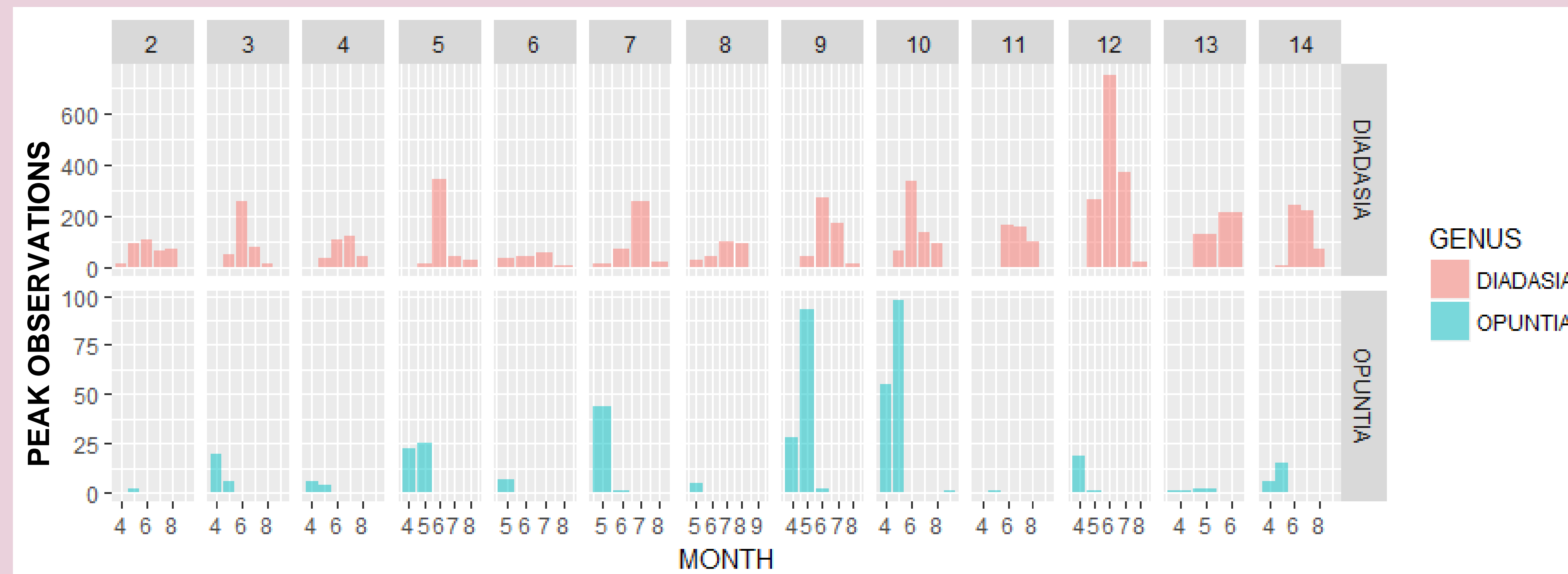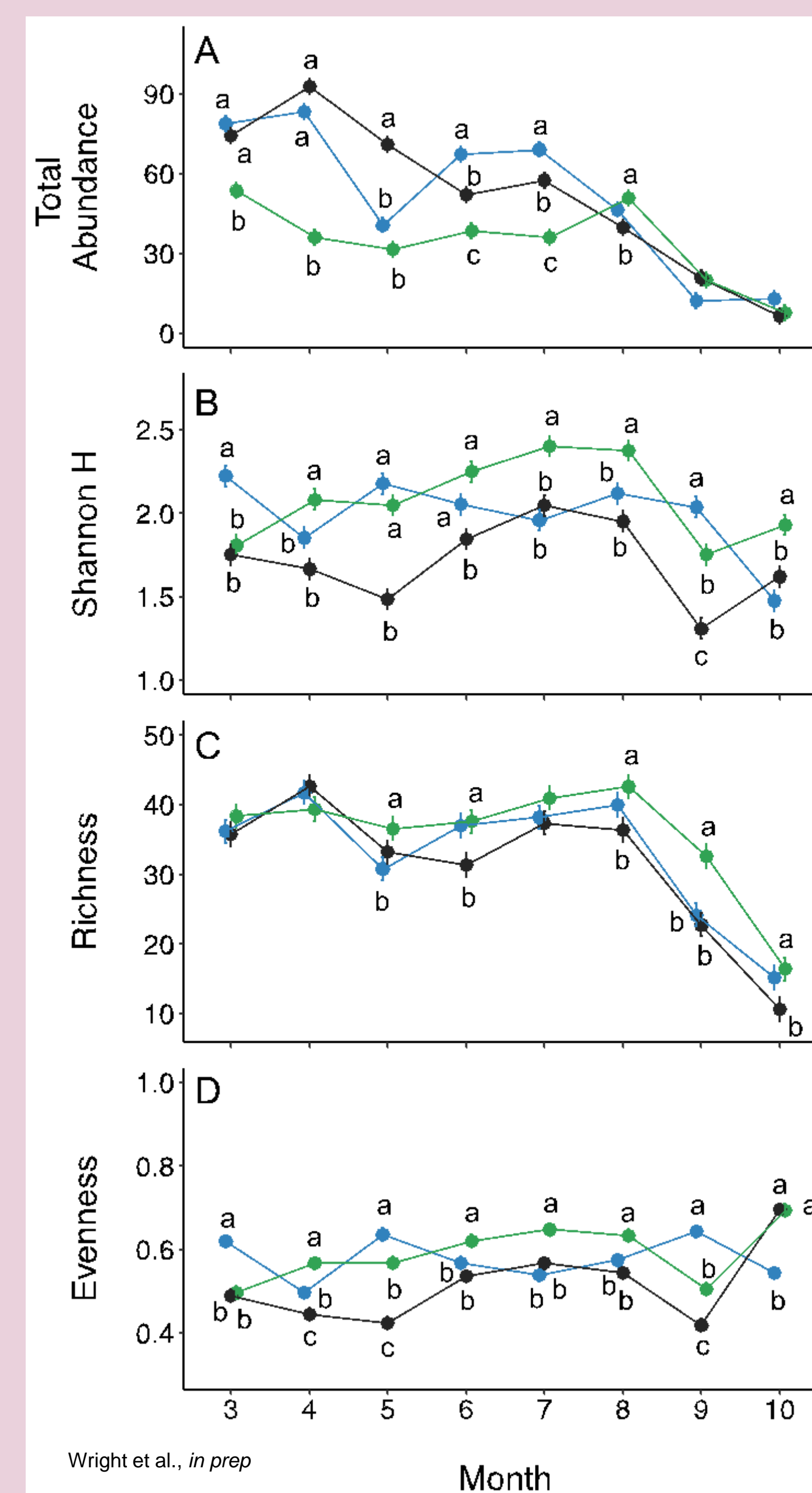
- **Specimen collection**
  Specimens are collected after traps have been opened for the desired period of time by sieving the contents of the paint can and then placing the specimens into a labeled vial with 70% ethyl alcohol. Samples are then stored until processed.

Data Use Examples

- Comparison of prickly pear cactus (*Opuntia*) and a cactus specialist pollinator (*Diadasia*) over time.
- The above graph utilizes both the Pollinator Monitoring data and the Plant Phenology data sets.
- Peak observations of *Opuntia* consistently predate *Diadasia* in almost every year recorded.

Wright et al., *in prep*

Metallic Sweat Bee (Halictidae, *Agapostemon angelicus*)
USA, NM, Socorro Co.: Sevilleta NWR
Blue grama core site, on COEQ
(34.33148 N, -106.63253 W)
20.vi.2018 coll. J. Schlauch JNS479

Public domain image by Jen Schlauch
Produced as part of the "Insects Unlocked" project
The University of Texas at Austin

- Bee community abundance and diversity by month
- **Blue**: Great Plains grassland
  Black: Chihuahuan Desert grassland
  Green: Chihuahuan Desert shrubland
- Biomes labeled with different letters differed significantly from one another in the relevant diversity metric.

Methods cont.

- **Lab processing and identification**
  Specimens are pinned, identified and labelled in the Arthropod Lab at the University of New Mexico. Individuals are identified to species and then labeled for museum curation.
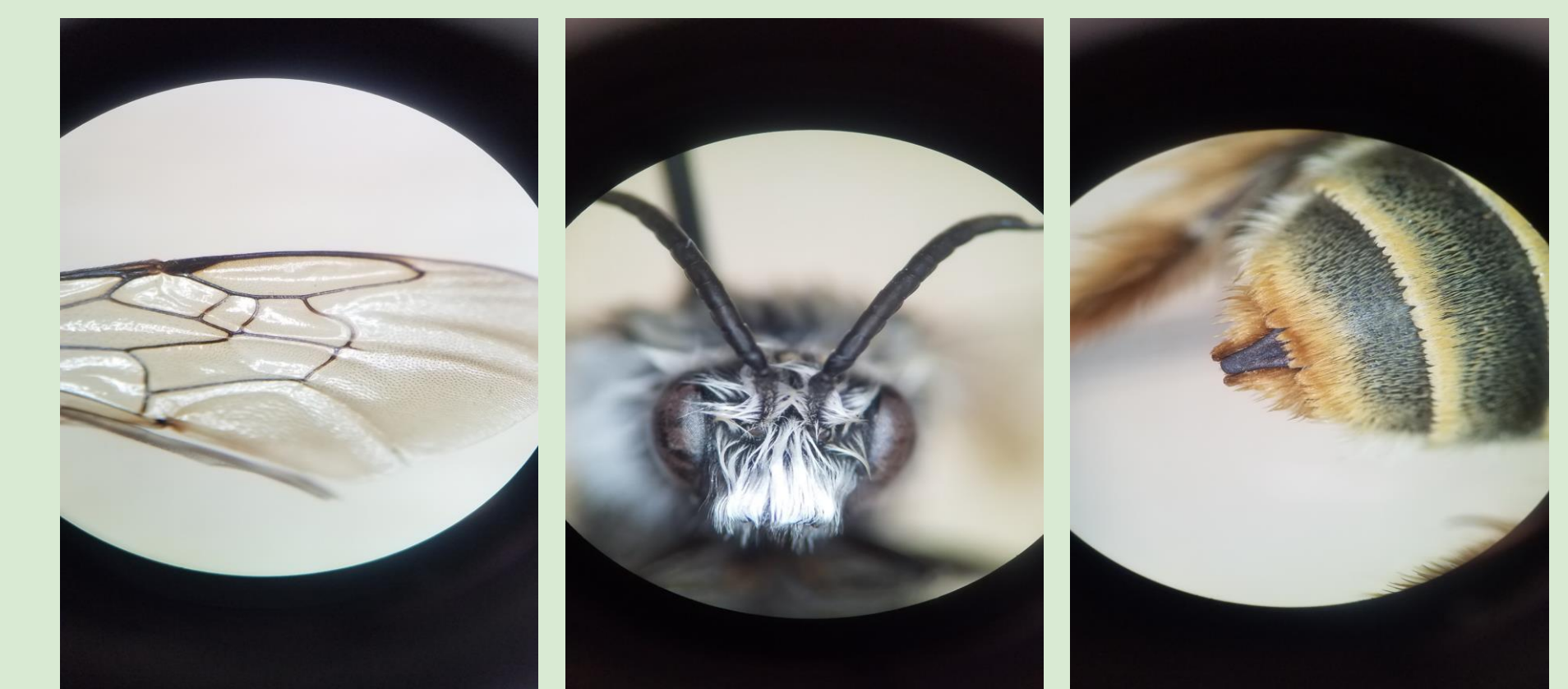
- **Study area information**
  Bees are collected within three different ecosystem types at the Sevilleta National Wildlife Refuge. The Sevilleta is located at the confluence of a number of ecotones within the Chihuahuan Desert. The three ecosystem types are each defined by their dominant plant species: blue grama grass (*Bouteloua gracilis*), black grama grass (*Bouteloua eriopoda*), and creosote bush (*Larrea tridentata*).
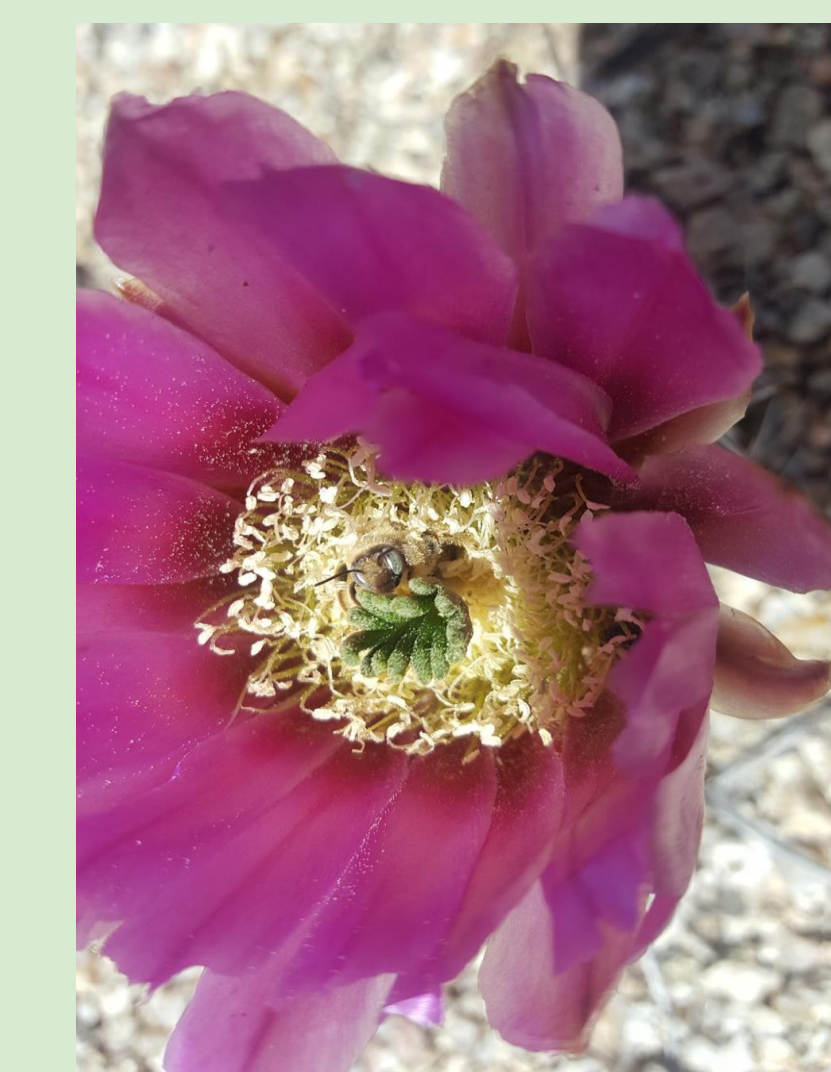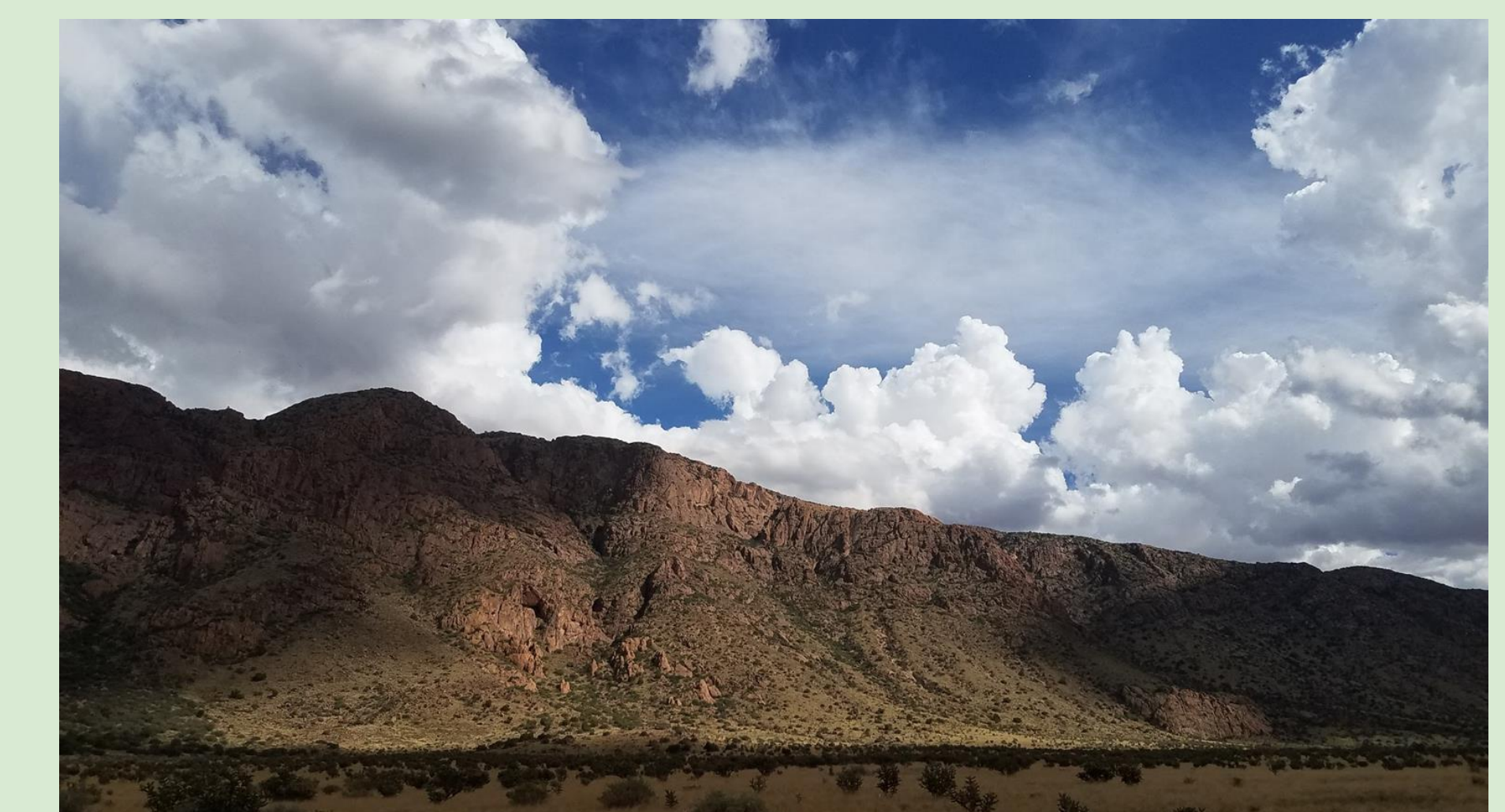
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