Gradient of 3 by 3 sites

Panoche - north, south, plateau ie PAN1,2,3

Cuyama - sites 1, 3, 6

Site one: Pistachio farm.

Site 3: On highway 166, not far off road

Mojave region – Barstow (Ft. Irwin), heart of mojave, sheephole

30 shrub open pairs per shrub species per site (most dominant: Ephedra, atriplex, larrea, matchweed)

Drive up to panoche until you reach the "rec area" which is that parking lot with one picnic bench, outhouse, and information sign.

If you walk south away from the parking lot and into the valley the first slope is the south side. Continue walking until you get to the bottom and start walking up on the other side of the valley. That's the North side. The plateau you gotta drive down past the rex area for a minute or two and it will be one either side, the flat area with metal exclosures everywhere.

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| x | x1 - was measured as the longest diameter of the shrub plant |
| x | x2 - was the diameter directly perpendicular to diameter x1 |
| h | h - was measured as the tallest branch with leaves |
| methods | Quadrat sampling was conducted with a 50 cm X 50 cm quadrat construction from white PVC pipe |
| methods | Shrubs for each site were chosen within ten meters of one another in a generally linear pattern |
| methods | Open plots were placed approximately two meters from the shrub exterior |
| methods | Quadrats were placed close to the base of the shrub plant such that it was underneath as much of shrub cover as possible. |
| methods | Two soil cores 5 cm in depth were taken at all shrub/open pairs and place into separate coin envelopes. |
| methods | Shrub cores were taken close to shrub base and open cores were taken in center. |
| # sp | Plant species were delineated during the first sampling event by visually obvious differences |
| total seed mass | mass of seeds/mass of sand |
| 2013 census | 1 = Jan 20, 2 = Feb 20 |
| 2014 census | 3 = Mar 25, 28 |
| 2015 census | March |
| 2016 census | March |
| 2017 census | April |

Chose shrubs using transects. Open areas 2+ m away. North side of shrubs.

In each microsite record: Plant height, (more variables).

**Burrows:** presence/absence, #, entrance diameter x, y.

Shrub x, y, z. Species.

Clip RDM near ground within transect. Place over beat sheet and shake out arthropods for 30 seconds. Collect arthropods and place in vials. -> 540 vials

Put RDM in paper bags, label.

**Pitfalls**

For 20 shrub/open pairs per species per site (360 vials total if one species per site?). Dig into ground, parallel to surface. Fill halfway with a 50% propylene gycol/water mix with a few drops of soap. Leave out for approximately 72 hours. Check traps daily if possible to ensure no verts are trapped and to top up liquid levels. Pick up and collect remaining RDM etc.

Ship back to Canada

Timeline

Saturday

Buy supplies & drive to panoche

Sunday June 23rd: Put in pitfall traps

Monday – RDM, shrub measurements, all measurements

Tuesday - ?

Wednesday: Pick up pitfalls, drive to cuyama, camp somewhere (Pinnacles?)

Thursday – stay at pinnacles?

Thursday – Put out traps,

Friday – RDM, shrub measurements, check traps

Sat?

Sunday June 30- Pick up traps – maybe camp and drive to Mojave in morning

Monday – Drive to Mojave.

Tuesday – Traps out

Wed, Thursday Measurements

Friday: Pick up traps, finalized RDM

Saturday: Weight everything, pack up for mailing

Sunday July 7th – drive somewhere?

Monday – Thursday – Something fun and/or work at NCEAS

Friday – drop equipment with Chris, drive to LA, fly home.

Emme’s protocol:

Good afternoon!

There is a gate code... let me confirm but I believe its **1220** (the Sesame brand lock).

For RDM of open areas: I simply close my eyes, throw the quadrat at random, and sample wherever it lands. To sample, you don't need clippers or anything. I recommend using a glove and just collecting the vegetation with your hand into a bag. Aiming for bare soil left over. Nothing is deeply rooted. Technically, you should only measure grass that is actually rooted in the perimeter of the quadrat (if grass is long, it can bend into the quadrat yet not be rooted there– pull this out so it doesn't give you a falsely high RDM measure). Remember to take lat/long for RDM spots!

For RDM under shrubs: Last year, I made sure to always take RDM from the North aspect of the shrub for consistency. However, not sure what Chris wants this year. If he wants random, remember to record what aspect. Same general procedure as for the open spots (want to randomly pick the specific spot under shrub canopy– mini "toss").  HOWEVER, you don't necessarily want bare soil. You want to collect all grass, but leave dead ephedra debris underlayer.

Let me know if you have any questions!!

Emme

P.S. There are a lot of little rocks mixed in with the grass/soil. These will add a lot of weight when weighing grass so try your best not to get them! Its better to have to leave a little grass on the ground than it is to try to scrape up every last little bit and accidentally pick up rocks.

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|  |  |  |  |  | June 21   Fly into LAX | 22  Get supplies, drive to panoche |
| 23  Panoche  Put out traps | 24  panoche | 25  panoche | 26  Pick up traps, remaining RDM. Drive to grocery store and pinnacles | 27  Hike, stay overnight pinnacles | 28  Drive to Cuyama | 29  Traps out |
| 30 | 1 | 2  Pick up traps | 3  Drive to Mojave | 4  Traps out | 5 | 6 |
| 7  Pick up traps | 8  Weigh RDM | 9  Drive somewhere | 10? | 11? | 12  Drop equipment,  Fly out after midnight | 13 |