

This data package was produced by researchers working on the Shortgrass Steppe Long Term Ecological Research Project. This project was supported by National Science Foundation from 1982-2014. This data package includes one or more tab-delimited data tables, tab-delimited files (named _var) that denote header definitions and data types for each column, and detailed metadata within an Ecological Metadata Language document (i.e. XML). Example image files of plots, digital datasheets, or schematics of the experimental design may also be included when applicable.

Background information on the SGS-LTER project is contained in related series of objects within the Digital Collections of Colorado and the Colorado State University archives. Together data packages and other background information, including items such as images, proposals, and reports contribute to a comprehensive SGS-LTER collection.

The data tables and associated EML documents represent components of a PASTA (Provenance Aware Synthesis and Tracking Architecture) congruent LTER data package, which may be discovered and accessed through secondary repositories serving specific ecosystem science domains (e.g. LTER Network Information System, DataONE, or The Knowledge Network for BioComplexity).

The following information was obtained from the SGS-LTER Field Crew Manual:

SGS-LTER Long-Term Monitoring Project / Stapp Protocol - Arthropod Abundance on Catena

Objectives: Track changes in relative abundance and species diversity of arthropods on catena

Timetable: One trapping session each month during the field season : May, June, July, August, September (run concurrently with arthropod trapping on small mammal webs)

General Methods: Live pitfall trapping of terrestrial arthropods

Equipment required:

To open:

A bucket of repair materials for the pitfall traps including : Keg cups with small holes in the bottom, funnel cups with the bottom cut out, ramekins with small holes in the bottom, various lengths of metal flashing (approx. 8 inches high and about ft.long), cardboard covers (about 6 inch diameter), ring shank pins to hold flashing down, hammers, sharpie markers to label cups

To close:

Clipboard and pencils	Long forceps	Data sheets
Film canisters (for unknowns)	Insect reference collection	

Datasheet(s): Arthropods on Catena – datasht

SPECIFIC METHODS:

1. **Open and repair traps as necessary at the beginning of sampling period.** A long transect of pitfall traps is laid out on the catena in CPER section 15. There are 90 traps sites and each trap site has two cups, labeled A& B. Trap sites are numbered by 10s from 0A & 0B to 900A & 900B. Each pitfall trap consists of a “keg cup” with a ramekin cup and a funnel cup inside. The

“keg” cup should be buried in the ground so that the lip is flush. Having the cup flush with the ground is crucial. Inside each “keg” cup, there should be a ramekin and then a funnel cup. The “keg” cup and the ramekin should have small holes punctured in the bottom so that water from rain events can drain. The funnel cup should have the bottom cut out so that arthropods can fall through it and into the ramekin where they will be trapped. Each cup in the trap should be labeled with the trap number and letter (ex. 200A). At each of the 90 traps sites, a strip of metal flashing should run from cup A to cup B as a barrier for the arthropods that will guide them toward the trap. Each trap is covered with a thick cardboard lid when the samples are not being taken. Remove the lid at the start of sampling and set it off to the side. You don’t need to bring it back to the field station.

2. Leave the traps open for four consecutive days.

3. Record the numbers of each group captured, using the most specific taxonomic grouping possible (Family or Genus-species). **Release** all captured individuals that you have identified and recorded. Put the unknown individuals in collecting jars or film canisters. Don’t forget to write the trap number and letter on the canister and put a note on the data sheet. **Close the trap** by putting the cardboard cover back on top of the trap. **Identify unknown specimens** using field guides and the reference collection. **Check data sheets** for completeness and accuracy.