

## November EcoQuest – Spotting Spike-moss

Not all members of the flora of Colorado produce flowers and seeds. Some, such as ferns, reproduce by spores. Spike-mosses, or *Selaginella*, are ferns and the sole



(TOP LEFT TO RIGHT) *Selaginella densa*, [Bob Walker](#), some rights reserved, CC BY-NC; *Selaginella mutica*, [Nick Moore](#), some rights reserved, CC BY-NC; (BOTTOM LEFT TO RIGHT) *Selaginella underwoodii*, [Audrey Spencer](#), some rights reserved, CC BY-NC and *Selaginella weatherbiana*, [Jennifer M. Toews](#), some rights reserved, CC BY-NC.

genus in the family Selaginellaceae. Unlike some other ferns, spike-mosses have two different types of spores (megaspores and microspores) that occur in megasporangia and microsporangia located at the base of leafy branches called sporophylls. The sporophylls are only slightly differentiated from the vegetative leaves in four-sided structures. The sporangia type can be differentiated by the color – megasporangia containing megaspores are greenish while microsporangia containing microspores are orangish.

*Selaginella* species are creeping plants with scale-like leaves, and can be found growing on rocky cliffs, ledges, in rocky crevices and on rock outcroppings. The leaves of spike-mosses remain green year-round, making them a good plant to hunt for when plants have stopped blooming. There are four species of *Selaginella* occurring in the Denver-Boulder metro area: *Selaginella densa*, *S. mutica*, *S. underwoodii*, and *S. weatherbiana*.

*Selaginella densa* is easily distinguished by its densely matted growth form with short, compact branches, while the other two species are loosely matted with long, spreading branches. *Selaginella densa* is also our most observed spike-moss in the metro area. The other three species are more subtly distinguished among. *Selaginella weatherbiana* can be determined by the growth habit – at branch forks, *S. weatherbiana* has larger branches that continue to grow as a vegetative shoot and a shorter, smaller one that forms a fertile branch. Lastly, *S. mutica* leaves lack a bristle tip while *S. underwoodii* leaves have a short bristle tip present. This bristle tip is best viewed under a microscope or with a hand lens.

See if you can locate some *Selaginella* and help Denver Botanic Gardens by photographing as many plants as possible in the month of November. Post your findings on [iNaturalist](#) so they will automatically be added to the [Denver EcoFlora Project](#).

## October EcoQuest Results – *Cuscuta*, Vampire Plants

Unfortunately, no *Cuscuta* observations were made in the month of October. However, only 18 observations of *Cuscuta* total have been made in the Denver-Boulder metro area.

### What is an EcoQuest?

EcoQuests are part of the Denver EcoFlora Project. These monthly quests challenge citizens to become citizen scientists and observe, study and conserve the native plants of the Denver – Boulder metro area via iNaturalist, an easy-to-use mobile app.

### How Do I Get Started?

1. Download the iNaturalist app or register online at [iNaturalist.org](#).
2. Take photos of the plants in bloom that you find on your daily neighborhood walk. It is okay if they are weeds! Avoid taking photos of cultivated plants in gardens or in your home.

3. If you are concerned about revealing the location of sensitive plants or observations at your own house, you can hide the exact location from the public by changing the “geoprivacy” of the observation to “obscured.”
4. Post your findings on iNaturalist via the app.
5. Your observations will automatically be added to the Denver EcoFlora Project.
6. Sign up to be a member of the [Denver EcoFlora Project](#) on iNaturalist to receive updates and additional information.

### What is the Goal?

The Denver EcoFlora Project is designed to meaningfully connect citizens with biodiversity and to assemble novel observations and data on the metro area’s flora to better inform policy decisions and conservation strategies.



Photo by Scott Dressel-Martin