



Introduction to Plant Identification

15 Common Plant Families of Eastern & Southern California

Dates: July 28-30, 2020 (Tuesday - Thursday)

Location: Mammoth Lakes, CA

Instructors: Nick Jensen & Sandy Namoff

Registration: \$395 CNPS Members / \$415 Non-Members



Target Audience: This workshop will be taught at a beginner level and is open to anyone interested in learning about or improving their knowledge of plant terminology and the characteristics of common plant families, and becoming competent at plant keying using the Jepson Manual and online resources. Those just entering the world of plant identification will benefit from learning the diagnostic characteristics of the most important plant families in CA. Those with prior plant identification experience will be able to refresh their skills and increase their proficiency with more difficult groups such as the Poaceae (grasses) and Asteraceae (sunflowers). Emphasis will be placed on common groups of plants in Eastern and Southern CA; however, information learned in this class will be readily applicable throughout CA and the world.

Description: This is a 3-day introductory workshop. We will begin by teaching basic plant morphology with a focus on the characters necessary for plant ID. Participants will learn the specialized terminology necessary to ID plants in 15 common CA plant families. These families contain more than 5,000 taxa, which account for more than 70% of the plant diversity in CA. Learning the characteristics of these plant families will reduce the amount of time required to key many plants to genus and species. We will utilize live material and taxonomic keys to better understand morphology in each family. Scientific names, along with common names, will be used throughout the workshop. The class will include 2 days of classroom presentations/exercises and one full day in the field in the Eastern Sierra Nevada. Common native families, genera, and species will be covered, including plants characteristic of conifer forest, riparian, montane chaparral, and meadow habitats.

To earn a certificate of completion, participants must pass an optional quiz at the end of the workshop focusing on identifying common plant structures, sight ID of families covered, and effective use of taxonomic keys for plant ID.

Participants will learn:

- Basic plant morphology terminology
- How to recognize 15 families of vascular plants encompassing 70% of the plant diversity in CA
- How to identify some common tree, shrub, and herbaceous species by sight
- Tips for remembering the differences between similar plant families and species
- How to use dichotomous keys for plant identification including *The Jepson Manual*, 2nd Edition
- Additional resources available to help identify plants



The following plant families will be covered: Apiaceae (parsley), Asteraceae (sunflower), Brassicaceae (mustard), Caryophyllaceae (pink), Cyperaceae (sedge), Ericaceae (heather), Fabaceae (pea), Lamiaceae (mint), Onagraceae (evening primrose), Orobanchaceae (broomrape), Poaceae (grass), Plantaginaceae (plantain), Polemoniaceae (phlox), Polygonaceae (buckwheat), Rosaceae (rose).

Schedule (subject to change):

Day 1 - Tuesday, July 28 Introduction to Plant Identification & "Easy" Plant Groups

Meet in the SNARL Page Center. Indoor lab/lecture all day.

8:00 am Meet and greet; welcome and orientation

8:30 am Classroom introduction to plant morphology and taxonomy

9:30 am Brassicaceae, Onagraceae, Apiaceae, Fabaceae, Boraginaceae, Polygonaceae

Noon Lunch break (please bring your own lunch and water)

1:00 pm CA plant diversity lecture

1:30 pm Polemoniaceae, Rosaceae, Lamiaceae, Plantaginaceae, Orobanchaceae, Ericaceae, Caryophyllaceae

3:45 pm Plant keying practice / demonstration

5:00 pm Break for the day



Day 2 - Wednesday, July 29 Plant Identification & Keying in the Eastern Sierra

Meet at designated location, carpool to field site. All day in the field practicing sight ID/keying selected plant families/genera.

8:00 am Meet at designated location, carpool to field site in the Mammoth Lakes Area

Noon Lunch in the field (please bring your own lunch and water)

1:00 pm Continued field study
5:00 pm Return to cars & break for the day

Day 3 - Thursday, July 30 Advanced Plant Identification & Keying, Quiz.

Meet in the SNARL Page Center. Indoor lab/lecture all day.

8:00 am Asteraceae, Poaceae, Cyperaceae, Juncaceae
9:45 am Plant identification and keying practice
Noon Lunch break (please bring your own lunch and water)
1:00 pm Continued plant identification and keying practice
3:30 pm Quiz (70% or better for certificate of completion), course evaluations
5:00 pm Workshop concludes



Venue: Classroom portions of this workshop will be held in the Page Center at UC Santa Barbara's Sierra Nevada Aquatic Research Laboratory (SNARL), located at 1016 Mt. Morrison Road, Mammoth Lakes, CA 93546. Field exercises will take place nearby in the Mammoth Lakes area. Additional details will be provided to registered participants about a week before the workshop.

About the Eastern Sierra Nevada: The Eastern Sierra Nevada is one of the most scenic locations in California and provides habitat for an exceptional amount of plant diversity. Focusing on the Mammoth Lakes Area we will visit a variety of habitats including conifer forest, meadows, and riparian areas. A highlight of our time in the field will be visiting locations of the local endemics, *Lupinus duranii* (Mono Lake lupine) and *Astragalus monoensis* (Mono milk-vetch), which are restricted to pumice flats in the Mono Lake Region. The Eastern Sierra is an excellent place for beginners to learn common families and genera, and for more advanced students of the CA flora to hone their skills.

Materials: Please bring...

- Hand lens, metric ruler
- Clipboard, field notebook, pencils, scotch tape, bags for collecting plant material
- Sturdy shoes/boots, hat, weather-appropriate field clothing (e.g. protection from rain, sun, heat/cold, insects, etc.)
- *The Jepson Manual*, 2nd Edition (optional, but highly recommended)
- Packable lunch for Wednesday, plenty of water and snacks for all 3 days

CNPS will provide handouts, dissecting microscopes, technical references, and online resources. We will send some advance materials on plant structure terminology.

Physical Requirements: Participants should be physically able to walk up to 3 miles at a time on narrow and uneven paths, along roads, and trails, and remain outside for a total of 9 hours. We will likely spend most of our time between 7,000 and 10,000 feet in elevation. This workshop will be held rain or shine and we will spend approx. 33% of the time in the field.

About the Instructors: Sandy Namoff, PhD, completed her graduate research in botany at Rancho Santa Ana Botanic Garden (RSABG)/Claremont Graduate University investigating evolutionary processes that have shaped the CA bindweeds, *Calystegia*. She is also interested in conservation genetics and is evaluating the population dynamics of *Calystegia stebbinsii*, a rare edaphic endemic of the Sierra Nevada Foothills. Sandy obtained her B.S. in Biology from Florida International University and was a research assistant for the Palm Biology Program at Fairchild Tropical Botanic Garden. Since moving to CA in 2010 she has become interested in the CA Floristic Province and its plant communities. As an instructor, Sandy has taught at CA State University Fullerton and the W.M. Keck Science Department at the Claremont Colleges. She has also been an instructor for numerous plant related courses and workshops at RSABG and Theodore Payne Foundation. Sandy currently teaches biology at Chaffey College in Rancho Cucamonga.

Nick Jensen completed his PhD in botany at Rancho Santa Ana Botanic Garden (RSABG)/Claremont Graduate University. His research interests include biogeography, rare plant conservation, and biodiversity. His research projects include the flora of Tejon Ranch, threats to CA's rare plants, and evolutionary relationships in *Streptanthus* (jewelflowers). Nick has a B.S. in Environmental Horticulture from UC Davis and previously served as the Rare Plant Program Director for CNPS. He is currently a member of the CNPS Rare Plant Program Committee, served as Southern California Botanists president in 2015-2016, and is a fellow of the Switzer Foundation. Over the past decade Nick has led dozens of field trips, and has taught numerous workshops on plant taxonomy and basic botany for organizations including CNPS, Theodore Payne Foundation, Friends of the Jepson Herbarium, and RSABG. He has also worked as a botanist for the US Forest Service, Chicago Botanic Garden, and the private consulting industry. Nick is currently the CNPS Southern CA Conservation Analyst.

Registration Information: Visit www.cnps.org/workshops to sign up for this class. Registration fees are discounted for CNPS members; please visit www.cnps.org/join if you would like to become a member. Class size is limited to 20 participants. The last day to sign up for this workshop is **Sunday, July 12, 2020**.

Before registering, please review the CNPS workshop cancellation policy, registration and payment policy, and participant expectations at www.cnps.org/workshops. The last day to cancel your registration and receive any refund for this workshop (less the cancellation fee) is **Monday, June 29, 2020**. Contact Becky Reilly, breilly@cnps.org with any questions.