

Voucher Collection Guide



Collecting Voucher Specimens

Having a physical voucher of a plant, especially a potentially new record for a county or a park, is still the preferred method of proving an observation. Vouchering adds third-party expert certification as well as a physical record that can be later re-examined. The California Invasive Plant Council (Cal-IPC) and the Bay Area Early Detection Network (BAEDN) encourage vouchering high-priority early detection plant species as a means of bolstering the certainty of photographs and reports associated with early detections.

If you do not know what a plant is, and there are fewer than 20 in an area, do not collect it but take good location information and photographs and send them to mapping@cal-ipc.org. Volunteers and inexperienced observers should take only photographic vouchers of any unknown species. More experienced botanists may field-key or choose to voucher.

Collection restrictions and safety considerations should always be weighed prior to collecting voucher specimens. Some land management agencies such as the National Park Service require permits for collecting. Collections along roadsides should be made only when it is safe and legal to do so. It is not safe or legal to stop along highways to collect plant samples.

Vouchers should be collected in the following situations:

- for expert identification of an unknown;
- to record a new species for a site's plant list;
- to record a significant range expansion for a species (e.g., first county record);
- to document species that will be treated;
- to support and verify your study, monitoring, or treatment of the species.

A collection should also be accompanied by photographs of the plant *in situ* to capture characteristics that may be lost during pressing.

An example of a mounted herbarium specimen is provided here (click on the image to see it enlarged) http://ucjeps.berkeley.edu/cgi-bin/new_detail.pl?JEPS104252.

Collecting Tips

Plants are best keyed fresh, so field-key when possible. Tiny-flowered plants are especially difficult to key when wilted or pressed. If field-keying is unsuccessful, press some and bag some in a plastic baggie. Blow it up with air and keep it moist (a small piece of wet paper in the bag helps); refrigeration will help keep your specimen fresh. Remember to label both the bagged and the pressed plants! A plastic sandwich container will also work well for delicate structures. Key or submit fresh samples immediately!

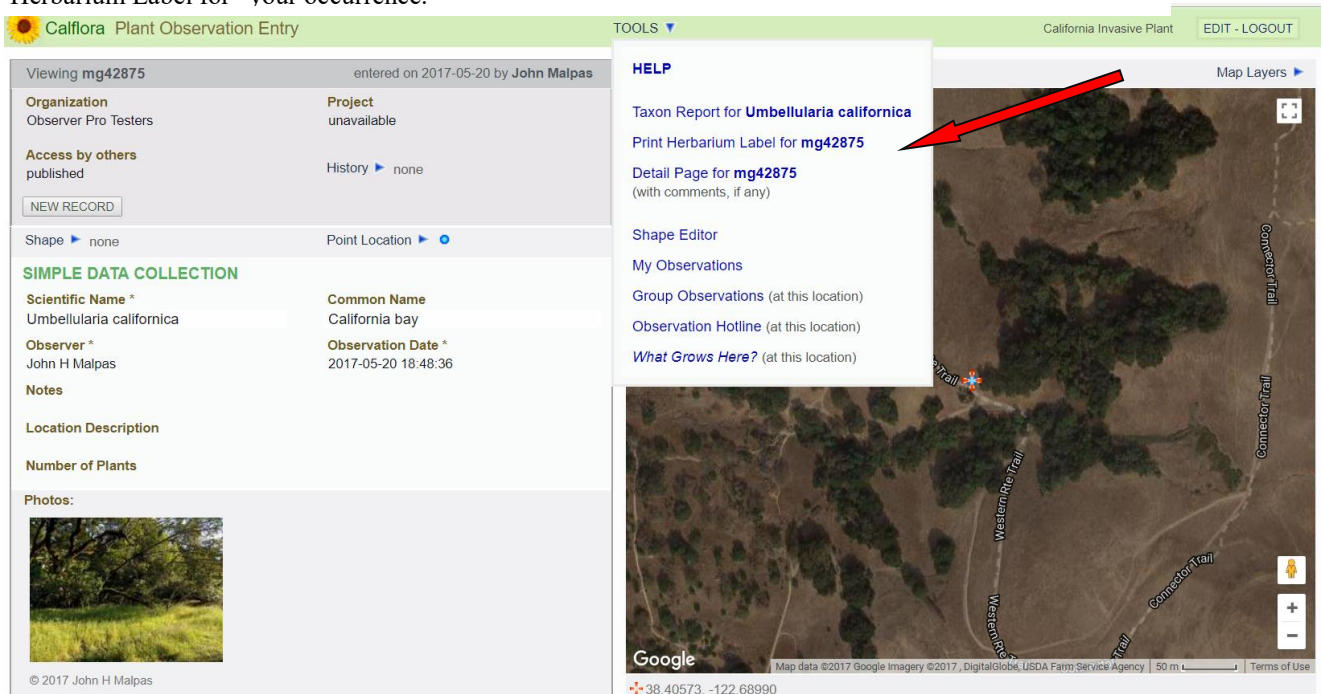
If you are collecting with the intent of creating a pressed and mounted specimen:

- Collect a representative example of the species, not the largest or smallest. Try to include many phenological stages (flowering and fruiting), since many keys use characteristics of fruit and flower. If possible, collect at least two specimens allowing for accessioning by both the CDFG and Jepson herbaria. Additional material collected for ID/keying should be labeled as such. Collect as much of the individual plant as possible, *including roots* (or a portion if rhizomatous), bulbs, vegetative and flowering/fruiting matter. If the plants are tiny, collect enough to fill about half an herbarium sheet.
- Wash as much dirt as possible from the roots and pat dry before pressing.
- If flowers are large enough, cut one or two open and press flat so the interior/cross-section can be seen. Do the same for fruits. Turn over at least one leaf so the underside will be visible in the final mounting.
- Press carefully. Typically specimens are pressed in folds of newspaper, with the label slipped in with the plant material. The standard plant press is the same size as a standard

herbarium sheet (11”x17”). You can make your own plant press or purchase one, see <http://sdplantatlas.org/pdf/files/equipment.pdf> for ideas. How you place the plant in the press will generally be how it will look mounted. If a plant is large, fold it or cut it to fit, keeping branching and general form intact. Note original dimensions and photograph if possible. Plants requiring more than one sheet for proper representation should be noted by labeling the sheets “[1] of [total number of sheets],” “[2] of [total number of sheets],” etc. The herbarium will typically mount the specimen on herbarium sheets

- All records should be entered into the Calflora database to ensure digital preservation of the data. A best guess genus and species label should be assigned for uncertain identifications, along with a note regarding the uncertainty. If you are only confident of the genus, enter this preceded by an asterisk (ex: **Petasites*), and if even the genus is not known, report it as “*Unknown*.” In all cases, the record should be edited once the species name is determined by experts.

Figure 1. Calflora interface. Use [Plant Observation entry](#) to enter in and under Tools, select “Print Herbarium Label for” your occurrence.



- Take copious **notes**, including the following information: **date**; **observer** and **collection number** (the collector’s name and the number of specimens the collector has collected to date—*e.g.*, Andrea Williams’ 1000th specimen would be coded as “A. Williams 1000.”); exact **location** in Lat/Long or UTM (from GPS—if GPS is used, specify datum such as NAD83); elevation; descriptive location (*e.g.* about 1 mile up Coastal Trail from Rodeo Lagoon parking lot, Wolf Ridge, Marin Headlands; do not use “local” nicknames not on any map!); county; **habitat** description (dominant species); **associated species**; characteristics that may be lost in pressing (smells, flower color, habit, stature, bark, branching patterns, etc.); study name and number/plot number if applicable. Some information (elevation, sensitivity, county) may be filled in at the office. **Many specimens are eventually discarded due to a lack of collection information—don’t let this happen to yours!**
- Herbarium labels can be created directly from Calflora. After completing and saving the online occurrence record, expand the Tools arrow and click the “Print Herbarium Label for” your occurrence to generate the label. Print enough copies for each specimen. All duplicates (parts of the same plant) and individual specimens with multiple sheets should

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Figure 2. Sample collection label printed from Calflora

Date: 2010-10-01	Collector: Michael Perlmutter	Calflora ID#: we300	Determination:
<i>Phytolacca heterotepala</i>	H. Walter		
Phytolaccaceae	pokeweed		
Coordinates: 37.870685, -122.295493 NAD83			
Location Description: My backyard, garden setting. Location determined by zooming in on the map interface and until I could see my yard in the aerial image.			Det. by:
Comments: Not sure the species of this Phytolacca because of vagaries in the taxonomic keys. I've pulled most of these out, but more are constantly coming up.			Det. date:

Remember to specify units and give any useful details!

- Notes and labels should be printed on acid free cotton bond paper and also provided electronically (a spreadsheet can be used to document multiple labels).

Early detection vouchers, as well as unknown non-native plant species, should be mailed or brought to:

Dr. Genevieve Walden
Plant Pest Diagnostics Center
California Department of Food & Agriculture
3294 Meadowview Road
Sacramento, CA 95832, USA
Telephone: (916) 262-1100
Fax: (916) 262-1190
Her email is: Genevieve.Walden@cdfa.ca.gov

Please include your name, email address, and phone number so that Dean can contact you with the identification determination. Please also request that duplicate specimens be sent to the EDN collection at Jepson Herbarium.

Alternatively, samples can be brought to the local County Agriculture Commissioner's Office (see <http://www.cdfa.ca.gov/exec/county/countymap/> for locations and hours), where the biologist will assist in identification and/or filling out a Pest Damage Record. Regionally important specimens, or those that cannot be identified by county biologists, will be sent to the California Department of Food and Agriculture's (CDFA) taxonomists for identification and accessioning to the herbaria.