



Equipment and Supplies for Plant Collecting

Plant collecting has been successfully carried out through history using only the most basic technology. We're doing our best to make things more complicated, but the truth is that it can still be done the way it has been done for centuries.

We regret that our current level of funding means that for the most part parobotanists will have to supply their own equipment and materials. Fortunately, an adequate setup can be put together from simple materials, or fancier gear can be purchased from businesses like **Herbarium Supply** (www.herbariumsupply.com). We will investigate the possibility of making group purchases of some of the supplies (e.g., straps, cardboard, field notebooks). You may check with us by email plantatlas@sdnhm.org or phone (619.255.0298) to find out if we have any supplies available for sale at cost.

Plant Collecting in the Field

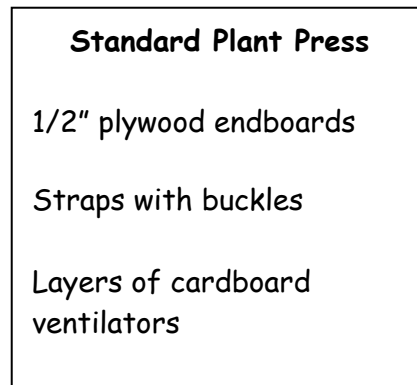
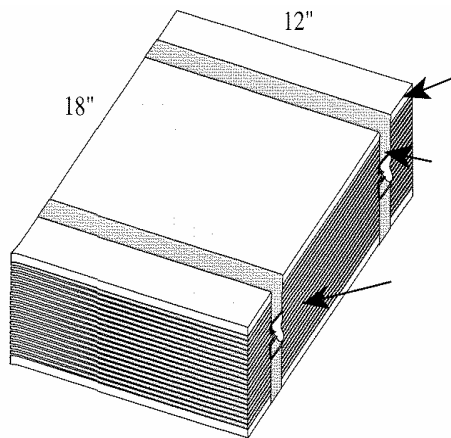
When collecting plants in the field, you need a setup that allows you to separate your plants from one another, record a collection number for each plant, and carry them around easily while you hike. Here are some items you will need:

- **Newspapers** to hold each specimen (and keep the collection number associated with it) until it is mounted. *The Reader* newspaper is the perfect size; other single-fold newspaper sections will work. Remove the staples and separate the pages so you have an ample supply of folded pages.
- Sheets of **corrugated cardboard** of the same size, with corrugations running the short way, to separate the specimens while drying (called ventilators). It is best if the cardboard has no folds or indentations from cat food cans, because air should be able to circulate through the corrugations. We currently have a free supply of cardboard available. Call or email us to arrange to come and pick some up.
- Clippers, trowels, old table knives, and other tools (e.g., BBQ tongs for picking up prickly items) may help with collecting.
- A **hand lens** may be useful to help examine fine structural details.
- Paper bags can be handy for collecting cacti or unpressable items like cones.
- Purchasing a **field press** from Herbarium Supply, while not necessary, is handy. It's a lightweight cloth-bound press which will hold specimens in an orderly arrangement until they can be brought home and rearranged into the wooden press for drying. It has carrying straps, and pockets for pens and books etc.
- A home-made setup can easily be made by tying together a bundle of cardboard ventilators and newspaper sheets with **string, straps, or bungee cords**.
- Do NOT collect your plants in plastic bags! Instead please place your specimens between newspaper to keep them dry and somewhat flattened.
- Always carry sufficient **drinking water** with you, and bring along copies of your **letter** identifying you as a parobotanist as well as any required **permits** when collecting in the field!

Plant Pressing

After you get your plants home from the field, they will be ready for you to transfer from your field setup to a plant press where they can be properly laid out, pressed and dried. Plants should be pressed immediately after collection. If the newspaper is wet, you will need to change the paper, ensuring that you also transfer the collection number to the fresh paper.

- A basic plant press consists of two endboards 12" by 18" each (half-inch plywood or even thinner will do fine), plus two adjustable straps (or even ropes).
- Plant presses may be purchased from Herbarium Supply, or from us (see below)
- The endboards are placed on the outside of the stack, and the straps are tied around the outside as shown in diagram below. The straps need to be strong enough to allow you to tighten the press down very hard (e.g., you may need to stand on top of it to press it sufficiently).



From: Simpson, M.G. 1997 *Plant Collecting and Documentation Field Notebook*. SDSU Herbarium Press.

Data Recording

- A field notebook is recommended to record data as you collect specimens. This will be your permanent record, and should be one with stitched binding so that pages won't rip out. Inexpensive books (about \$7.00 each if ordered online) and other styles are available from Ben Meadows (www.benmeadows.com and search for "field books"). Waterproof ones are available if you prefer. This can also serve as a record of your volunteer hours and mileage. Bring pens and Sharpie markers.
- We will provide specific guidance for you as to what data we would like you to collect in the field. It is up to you whether you wish to record the data in a field notebook, or use some other method; however, you will all be asked to consistently collect the same basic information, regardless of where you record it.
- Maps of your square will be provided to you in your grid square handout packet, but you might want to have others (e.g., USGS quad maps). You will use the maps to record where you collected your plants (e.g., draw dots on the maps).
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- If you have a **GPS** unit, you'll be able to make use of it for this project. However, this will not be a necessary item, as we have developed a customized link to "Topozone" (a website where coordinates for your collecting sites can be easily determined for any grid square). You can find several links to Topozone on our website (www.sdplantatlas.org) with instructions how to use it to correctly determine the latitude and longitude of your collecting locations. If you use a GPS, please set the "coordinate datum" for **WGS84/NAD 83** and set the "coordinate format" to either decimal degrees or **degrees, minutes, seconds** (our data entry system does not support the use of UTM coordinates). For more information about maps, GPS, and coordinate systems please visit our website and look for our Tipsheet that addresses these topics.

Plant Drying

Most plants will dry fairly well in the plant press in our climate, but some (especially aquatic plants or fleshy plants and bulbs) may require a **plant dryer**. The museum has two dryers, and they're available for parobotanists. Please **do not** attempt to use an oven or a microwave to dry plants. Sun or heat is not necessary, but good air circulation is. If you leave your press outside to dry, be sure to bring it inside before the moist evening air arrives. Plants are dry when they don't feel cool to the touch. For those of you interested in drying your own plants, we suggest that you search the internet for information.

Plant Identification

Lists of books and other resources available to you to aid in plant identification are available for download (in pdf format) on our website. A new, searchable version of "*The Checklist of Vascular Plants of San Diego County*" by Michael Simpson and Jon Rebman is available on our website under "Plant Name Finder" and it can be used to look up plant families and correct spelling.