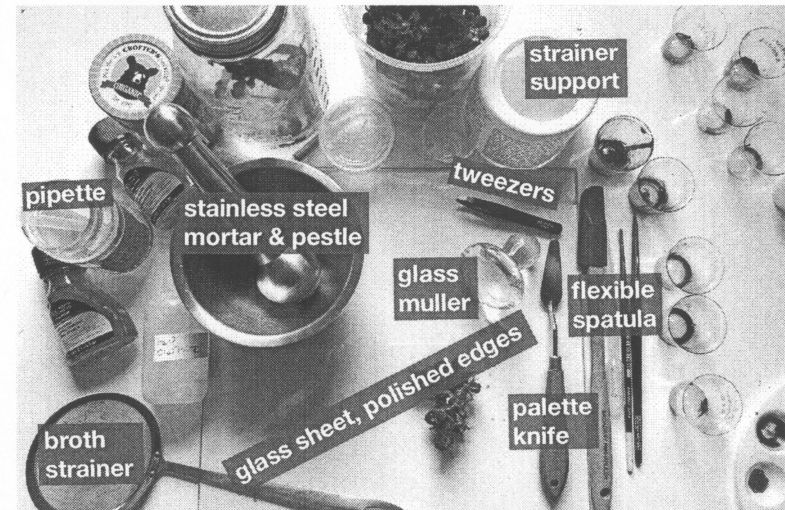


recipes reformulated to make plant-based watercolor paint. You might find yourself searching around for castoff takeout containers or dollar store kitchen equipment, and maybe purchasing a few specialized art and science tools. I try to keep the process simple because I like it to be accessible for those I teach, easy to travel with, and portable for a variety of workshop situations. There are many, many iterations, approaches and possibilities that go well beyond those offered here, should you choose to venture further into the vast world of natural and botanical pigments and inks.

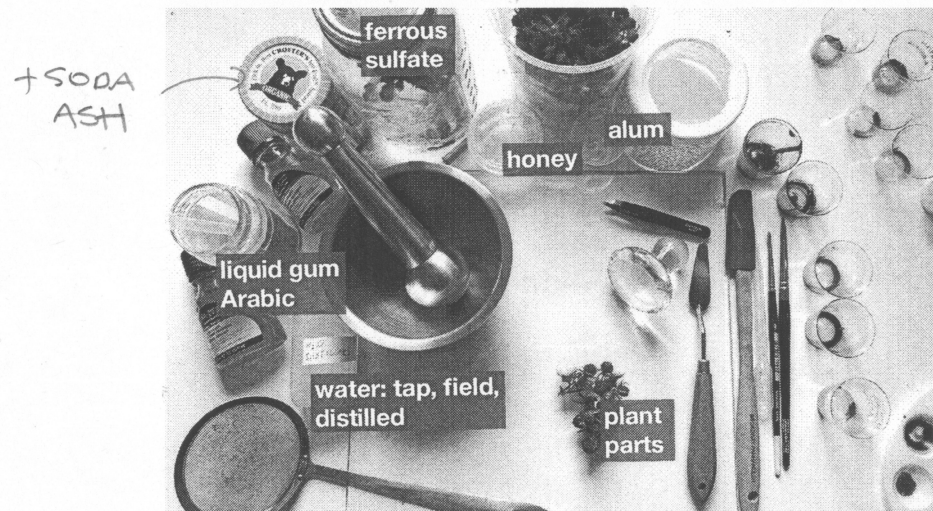
Working with feral-hued watercolor paints takes some getting used to—they can be recalcitrant and finicky. Some plants yield a paint much easier to work with than others. In general it's nice to make your paint right after you harvest for maximum multisensorial pleasure. But you can also store plant parts in the refrigerator or freezer. Some plant parts respond better than others. For instance, many berries freeze just fine, but for flower petals it's good to separate them from stem, leaves, and other parts of the flower before freezing. Some plants respond well to tap water depending on the source, others have a much more workable texture when processed with distilled water. I find this variation satisfying and interesting. I think of it as a conversation with the plant and what it has to offer as paint.

In a related vein, the pigments do deteriorate over time—at different rates depending on the plant and the situation—especially if exposed to harsh ultraviolet light. I've come to embrace this aspect of the process. It is also part of the cycle of working with organic materials that aren't biologically inert, and offers the opportunity to observe how they shift, change, and decay. Sometimes I go back to old pieces and update them with new paint, making a note of when and how and why, so the piece is layered over time in response to the way the plant pigments shift. This means returning to the same plants season after season, year after year, sometimes to discover they've been hidden away under a parking lot or a new building foundation, other times to find them flourishing with new abandon. This relational and cyclical aspect can be a precious part of the process.

Paint-Making Tools



Paint-Making Ingredients



Other helpful materials: watercolor brushes, watercolor paper (my samples are on an Arches hot press watercolor block with synthetic sable brushes), dehydrator/low temp toaster oven for drying paint cakes, metal lids for dehydrating/storing paint.

Paint-Making Steps

1. Clean and sort the plant parts you want to use. You may want to remove large seeds or pits, or separate the contrasting colors in a blossom. Cut large pieces into smaller segments so they are easier to grind.

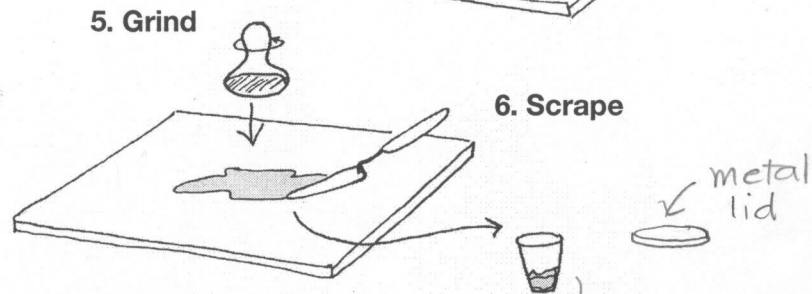
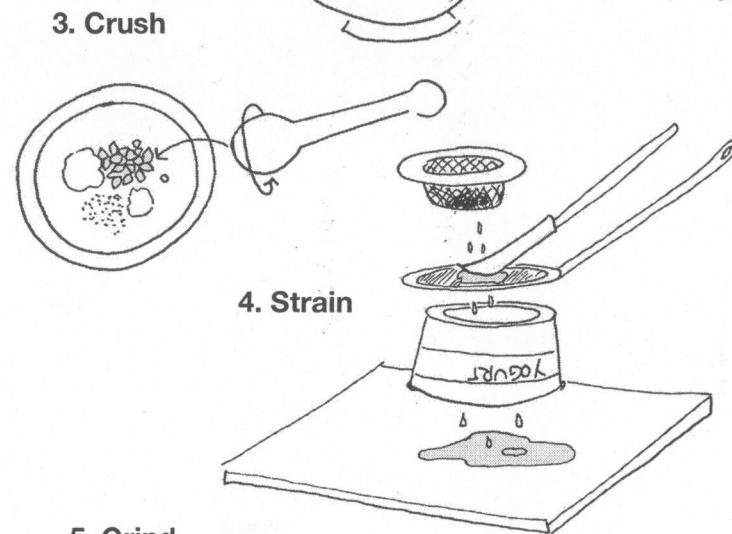
2. Add ingredients to the mortar base starting with a nickel-sized dollop of liquid **gum Arabic**. If you're working with dry plant parts, like a coarse grass or thin petal, you may need to add an equal amount of water. Next, add a **dab of honey** (not much bigger than a pinhead). Follow that with a pinch of alum crystals or drop of ferrous sulfate if you're using either. Alum will generally brighten colors while ferrous sulfate will "sadden" (or darken) them. Finally, add a tablespoon or so of your **prepared plant parts**.

3. Crush the mixture as finely as possible using the pestle. Working on a solid, stable surface helps. Add water in small amounts as necessary. The mixture should be liquid enough to strain but not runny.

4. Strain the mixture by holding the mortar over the glass sheet. Scrape the mixture out of the base through the sink strainer and broth strainer using a flexible spatula (I cut a yogurt container in half to support the broth strainer). If the mixture is already finely ground, without seeds/thick skin, you can skip the sink strainer and just use the broth strainer. **Press** the mixture through both strainers using the spatula to apply pressure. Think of this as wringing out a rag. You want to get as much liquid (and color!) out of the plant parts as possible.

5. Grind the mixture gently by rotating the muller on the glass sheet. Scoop the mixture back together with the palette knife if it spreads too much. Grind until any grit or dust is no longer detectable.

6. Scrape up the mixture and put it in a small open container using a flexible metal palette knife. You can paint with it while it's still wet, or let it dry over a few days with good ventilation. Re-wet with a brush like any commercial watercolor cake.



7. Paint immediately! *OR: air dry into a cake, OR: dry in dehydrator OR toaster oven ~ 3 hours at ~120°F.*

Some Terminology:

A guide to terms used and techniques ~~referenced on the chart on the facing page~~ that impact color.

H2O (Water) used in the paint-making process

The pH and chemical and mineral content of the water used in processing pigments can impact their color and texture. I used three water sources in this palette:

- **Troy tap:** Treated water from the Troy, NY municipal water system, as it came out of my tap, works well in my paint-making process. If your tap water is "soft" it may create texture problems when combined with some plants.
- **Distilled:** Commonly used in labs, distilled water is a form of purified water that has been boiled and recondensed so it is non-reactive and free of "impurities."
- **Field:** For some paints in this palette, I used water collected on site in the South Bay, from the rubber-lined holding pond south east of the Basilica building.

+**Alum** means aluminum sulfate crystals were added to the paint as it was prepared. Aluminum sulfate is a salt that is commonly used as a mordant in dying. It can be ordered online from natural dye shops, and is also used in wastewater treatment and paper making.

+**Fe** means ferrous sulfate was added the paint as it was prepared. Ferrous sulfate is also a mordant that can be purchased from dye shops, but it is easy to make a DIY version. For this palette I made "field" ferrous sulfate using an iron railroad spike I collected near the train tracks in the South Bay, mixed with vinegar and water and left to sit for several weeks.

Aged means the paint was stored in dry cake form and shifted color. Some paints shift color noticeably as they cure. For example, in this palette plain multiflora rose shifted dramatically from deep brown to a warm tan over a period of six months.

SODA ASH AKA SODIUM CARBONATE: PH
ADJUSTER (ALKALINE/BASE) USED IN FABRIC
20 DYING, CAN BE MADE FROM BAKING
SODA BAKED IN OVEN AT 400°F
FOR ONE HOUR.

A FEW PLANTS I LIKE TO WORK WITH

- Asiatic Dayflower / *Commeline communis* / dew herb
ellieirons.com/dayflower
- Asiatic bittersweet / *Celastrus orbiculatus*
- Birds foot trefoil / *Lotus corniculatus*
- Common buckthorn / *Rhamnus cathartica*
- Lesser celandine / *Ficaria verna*
- Japanese knotweed / *Hizhang* / *Reynoutria japonica*
ellieirons.com/knotweed
- Pokeweed / *Pocoon* / *Phytolacca Americana*
ellieirons.com/pokeweed

NOTES