Cleaning Fossils

Monday September 11, 2017

Overview

Here are some tips on cleaning fossils, from least- to most-aggressive. Try the least aggressive first: You may get the results you want with less risk of damaging your fossil.

If possible, try cleaning with a single “disposable” fossil first, in case you accidentally damage it.

Soap and Water

This is the safest and easiest. Simply mix a tablespoon or so of dishwashing liquid in a gallon of water, then gently dip and scrub your fossil with an old toothbrush. Rinse well, pat dry with paper towels.

If the fossil you’re cleaning is just dirty, without rust or other stains, this may be adequate. If not, then move on to the next: Oxalic Acid.

Oxalic Acid

(Before cleaning with any acids, make sure you also have baking soda on hand to neutralize your acid solution when you’re finished.)

Oxalic acid is a very mild acid, often sold as “Wood Bleach”. You can find it in just about any hardware store and some department stores. It’s especially effective at removing iron oxide (rust) stains.

In a well-ventilated area, do the following:

1. Add about 3/4 gallon of warm tap water to a plastic container.
2. Sprinkle about 1/2 cup of Oxalic acid crystals into the water.
3. Stir until the crystals are dissolved, then add more water to make about a gallon of solution.
4. Carefully add your fossils, then leave them overnight.
5. Check the fossils. If they aren’t clean enough yet (and aren’t showing any signs of damage), try leaving them for another 24 hours.
6. Rinse the fossils thoroughly.
7. Add baking soda to the Oxalic acid solution to neutralize it before disposing of it.

This will probably be adequate, but if you’d like to try a more aggressive cleaning method, move on to Hydrochloric acid.

Hydrochloric Acid

Hydrochloric acid is sold in most stores as Muriatic acid. It is considerably more corrosive than Oxalic acid, so you must take great care when using it. Also, it's *highly* recommended that you treat a "test" fossil with this first, in case of damage.

Do the following in a well-ventilated area, and wear rubber gloves:

1. Add about two gallons of water to a five-gallon plastic bucket. **Important: Always add the water first. Never add water to acid, always acid to water.**
2. Add about 1/2 gallon of Hydrochloric acid to the water, pouring slowly to avoid splashing.
3. Add your fossils. You should see some bubbling and foaming as the acid reacts with the oxides on the fossils.
4. You should check the fossils every five minutes or so to ensure that they aren't being damaged. You will probably not want to treat them for more than an hour, even if you aren't seeing obvious damage. You will probably get the results you want much quicker.
5. After treatment, rinse the fossils very thoroughly, then let them dry completely before handling them.
6. Add baking soda to the acid solution and ensure that the bubbling and foaming has stopped completely before you dispose of the solution.