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News you may be interested in:

>>>Two guest instructors will be at the Delta Institute next month (August).

Robin Blankenship will be travelling from Colorado where she runs her own school called [Earth Knack](#) that focuses on primitive living skills for the 21st century. Her work as an instructor focuses on sharing her experiences with primitive and rustic skills. Robin will be leading students through felting and soap-making, two separate, one-day classes.

Gerald Jabobs is a Passamaquoddy basket-maker that will be visiting for one day to take students through the process of making ash baskets. These are containers made from strips of black ash in the traditional way using hand tools. Examples of his work can be found at [Quoddy Baskets](#).

To register for either of these classes, visit <http://www.arthurhaines.com/learn.html> and scroll down to the August classes.

Tea, Fluoride, and Wild Alternatives

Tea, including black, green, white, and oolong varieties, is prepared from the leaves of a shrub native to Asia called *Camellia sinensis*. It is a well-known hot beverage and is consumed in many households as a replacement for or in addition to the other common, hot beverage of the United States—coffee (made from the seeds of *Coffea arabica*). Tea is considered to be a beneficial drink and is known to contain antioxidants (e.g., epigallocatechin gallate). However, most are unaware that cultivated tea plants accumulate fluoride, a central nervous system toxin that accumulates in the body. We are told our entire lives that fluoride is beneficial for cavity prevention (through hardening of the enamel of our teeth). What we are never told is that fluoride is not used by our body in any natural physiological pathway and that there are health effects to its consumption, including dental and skeletal fluorosis, osteoarthritis, thyroid issues, endocrine disruption, immune system suppression, and several nervous system effects. And though it does harden the enamel of our teeth, it also makes them more brittle and susceptible to

breakage. I do not expect a simple listing of the health issues to make you reconsider your family's use of fluoride; therefore, you may find the following numbers informative.

The United States Environmental Protection Agency (USEPA) has set standards for the amount of fluoride that can be present in drinking water because it is known to cause harm at high doses. The maximum contaminant level (MCL) was set at 4 parts per million (ppm). At that level, a person would consume 4 mg per liter of water each day (this assumes they consume only four cups of water each day). Studies show that people are actually consuming nearly 8 mg per day, which is twice the MCL set by the USEPA. Read carefully: this amount is higher than the amount provided when fluoride is used to treat hyperthyroidism (i.e., an over-functioning thyroid). Therefore, consuming fluoridated water at this level depresses thyroid function, which can create many issues, including memory problems, weight gain, depression, apathy, fatigue, constipation, skin problems, sexual dysfunction, loss of ability to concentrate, and more.

Here are some additional results of studies regarding fluoride's health effects:

- > fluoride accumulates in the bones, leading to brittleness, and studies show higher incidence of hip fractures in areas with fluoridated water;
- > fluoride likely contributes to cancer—males living in fluoridated areas have a 6.9-fold increase in bone cancer rates;
- > fluoride contributes to learning disabilities and leads to lower IQ scores in children exposed to fluoride;
- > fluoride positively affects the rate at which aluminum (another neurotoxin) is absorbed by the body, meaning that the central nervous system effects are actually greater than the measured effects of fluoride alone.

For these reasons (and many more), I do not use any product that contains fluoride and will not drink fluoridated water. Fluoride is a cumulative neurotoxin that should not be added to our water supply or dental products.

Tea plants are known to accumulate both fluoride and aluminum in their leaves. It has recently been learned that the amounts of these minerals are much higher than previously thought because they combine to create aluminum fluoride, a compound that was not detected by former test methods. In one study, seven brands of tea were tested using new methodology, and all brands contained significant amounts of fluoride and aluminum (1.4–3.3 times more than formerly reported). Decaffeinated tea can be worse because fluoridated water is often used in the process of removing the alkaloid caffeine. If you are wondering about differences between conventionally grown and organically grown tea—studies are lacking. Preliminary evidence suggests that tea is a natural bioaccumulator of fluoride, so that while organically grown plants have less fluoride, they still contain elevated levels in their leaves (conventionally grown plants apparently obtain additional fluoride in the fertilizer that is used). Therefore, I turn to the local landscape to provide me with healthful tea plants. Here are four of my favorite species to collect and some of their known benefits.

stinging nettle (*Urtica dioica*)

Many people are intimidated by stinging nettle, but this is my most frequently consumed wild tea. We gather this in quantity so it can be enjoyed throughout the year. Stinging nettle is a tall, unbranched or sparingly branched perennial herb that is often found associated with open areas near moderate-sized to large rivers. It also sometimes occurs as a weed in areas of cultivation. It has stinging hairs that create a painful, itchy sensation when the plant is contacted by bare skin. Despite this, it is well worth gathering and becomes completely innocuous once dried (i.e., the stinging hairs are no longer potent). Use gloves if you need, though it is possible to collect this with bare hands. Stinging nettle is a nutrient-dense plant and tea made from the dried leaves provides several benefits, including lowering elevated blood pressure, reducing the severity of allergic symptoms (i.e., it is anti-allergenic), reducing pain associated with arthritis, promoting healthy skin, and serving as a general tonic for good health. I consider this plant to also have a role in cleansing due to its mild diuretic effect (and effect that also helps prevent kidney stones). The flavor of stinging nettle tea is mild and it has a wonderful dark green color. This species is treated in detail in the first volume of *Ancestral Plants*.

narrow-leaved fireweed (*Chamaenerion angustifolium*)

Narrow-leaved fireweed is a species of open areas, often found in fields, along roadsides, and on recently cleared lands. Its magenta flowers make it conspicuous and easy to find when in bloom. This plant has had a number of taxonomic changes, so you may find it in your references under the scientific name *Epilobium angustifolium* and *Chamerion angustifolium*. Narrow-leaved fireweed has been used as an adulterant in black tea. It has many documented health benefits, including being a powerful antioxidant, a broad-spectrum antimicrobial (with action against viruses), an anti-inflammatory, and an astringent (the latter two actions helping to reduce swelling and assist with many ailments, including arthritis). I generally gather this species when in flower and use both the leaves and flowers for making infusions. This species is also treated in detail in the first volume of *Ancestral Plants*.

selfheal (*Prunella vulgaris*)

This common member of the mint family is regularly found on lawns, in fields, along roadsides, and in many types of open areas. It flowers much of early and middle summer, forming relatively dense arrays of blue flowers. Selfheal has long been considered a general tonic for good health. Some research has uncovered its ability to maintain health through its effect on endogenous antioxidants (antioxidants that our bodies produce). It has been found that selfheal boosts levels of super oxide dismutase and prevents depletion of glutathione, two important and powerful antioxidants produced within us (they are extremely important to maintenance of our health). It also supplies several water-soluble antioxidants. Collectively, these free-radical fighting compounds contribute to decreased risk of cancer and protection from UVA (the strongest portion of ultraviolet light produced by the sun) and human-generated radiation. Selfheal is also documented to promote oral health through several pathways, including preventing bacterial plaque formation. It is also beneficial for the lymphatic system and has been shown to be anti-allergenic. Again, I make tea from this species using the dried leaves and flowers.

American linden (*Tilia americana*)

This tree is a species of deciduous forests, most common along moderate-sized to major rivers and rich, rocky slopes. It is easily recognized by its large, somewhat heart-shaped leaves that are asymmetrical. It flowers in the early summer and the entire array of flowers, along with the narrow bract that subtends the flower array, are gathered for tea. American linden is rich in mucilage, so the mild-flavored tea has a particular texture that is different from other teas. The flowers contain a sweet of polyphenols that are anti-inflammatory, antioxidant, cleansing, and able to lower elevated blood pressure. In addition, the mild sedative quality (i.e., relaxing) makes this plant a valuable protector of the heart, especially for people living with stress, and helps promote restful sleep. Further, emerging research suggests this plant is hepatoprotective, meaning it protects the liver from damage from medical drugs, toxins, and diseases.

Preparation (in brief)

Collecting your own plants for tea is relatively easy. For some, the most difficult step will be learning where to find the plants in a clean area that occur in numbers sufficient to support collection. I prefer to gather them in the summer, when the plants have accumulated their full component of medicine but not so late as to become damaged, blighted, and otherwise ratty from herbivores, fungal pathogens, etc. The process is: gather, dry, reduce, store. Tall plants are cut or carefully broken, bundled together, and hung to dry. Shorter plants and flowers I often place on an elevated screen to dry. I often dry them outside, bringing them in at night so that the dew doesn't re-wet them. If you dry the plant material inside, find a warm, low-humidity spot. When the leaves/flowers are dry and brittle, the plants are ready for the next step (this usually takes only a few days in good weather). The very dry leaves insure that the material won't mold and facilitates reducing it in size so you can maximize surface area for extraction. Wait for a dry, sunny day so you can strip leaves and flowers from the harder stems and then crumble the leaves/flowers up with your hands (if it is very humid or has been raining, the leaves/flowers will be flexible and won't crumble well). Take all of the reduced (i.e., chopped or crumbled) material and place it in an airtight container out of the light. Now you have tea whenever you need it that brings with it many health benefits. Further, on those cold winter nights, you can reminisce about the summer days when you collected these plants. Of course, each plant has its own intricacies regarding collection and preparation. But the overall process is relatively simple and adds to your family's self-reliance.

Additional Resources:

See my youtube channel: <http://www.youtube.com/user/arthurhaines?feature=mhee>

Look at the list of classes, lectures, and programs: <http://www.arthurhaines.com/learn.html>

Purchase foraging books: http://www.arthurhaines.com/ancestral_plants.html

Like the Delta Institute: <http://www.facebook.com/DeltaInstituteofNaturalHistory?ref=hl>

Arrange for classes or consultation: email me at [arthurhaines\[at\]wildblue.net](mailto:arthurhaines@wildblue.net)