

## Gratitude, key to a happy life, can start with air and water

by Joe Jacob

I think you might agree with me when I say that one of the secrets to living a happy and fulfilled life is to be grateful for what you have and not take it for granted. That is hard to do because there are so many horrible things happening in the world today that grab our attention. We often get pulled into the vortex of that negativity and fail to see its effects on us. One way to reduce that influence is to be grateful for the things that make our lives possible.

Two of the things that Nature provides for us that I believe we take most for granted are air and water. Any idea about where air comes from and how many breaths of air we take? Take a guess. Before I give you the answers, close your eyes and breathe in and exhale normally. You might want to set a timer for a minute and count how many breaths of air you inhale and exhale. Then multiply that number by 60 minutes and the resultant number by 24 hours in a day. That is 960 breaths of air in an hour, 23,040 breaths of air in a day or 8,409,600 breaths of air in each year. In my 73 years of life, I have taken at least 613,900,800 breaths of air, and I hope I will be taking many more.

What is air and where does it come from since it is so readily available to all of us? You may remember from your school days that air is comprised of mostly nitrogen, oxygen, water vapor and other substances, some harmless and some toxic. You may



also have learned that one-third of all the oxygen on earth is produced by the world's forests and most of the remaining two-thirds of oxygen is produced by microscopic marine plants. So, where do the trees in your back yard fit into the formula of providing us with air to breathe? Well, it is all mixed together, so you cannot separate the different sources. I do remember; however, one of my high school teachers telling us in class one day that we were breathing the same air that dinosaurs did when they dominated the earth. We are just passing it around to each other and from one generation to the next.

What about water? What is it and where does it come from. I think most of us know that water is just two molecules of hydrogen and one molecule of oxygen. If asked where water comes from, most people would say rain and not even mention the hydrologic cycle; water evaporating from the oceans and condensing as water droplets in the atmosphere before experiencing the effect of gravity and falling to the earth as rain. Actually, there is more to it than that. All of the original water on earth came to this little blue dot in the expanding universe as ice on asteroids. Pretty amazing when you think of it. All the water here is all the water we have.

Nature's agent for providing us with much of the air and water molecules that life as we know it requires is the tree, and we so take trees for granted. They make the gift of life possible, and yet, we are constantly cutting them down because they

get in the way of what we call progress and property rights. If we as humans have rights, does it not make sense for trees that make our lives possible to have rights, too? In our legal system, a ship has the right to be represented in a court of law. Corporations who pollute the air we breathe and the water we drink also have the right to be represented in a court of law. Why then is it not appropriate for Nature's agent of life, the tree, to not have the legal right to be represented in a court of law?

I highly recommend that you read a little book entitled, "Should Trees Have Standing". The book is Supreme Court Justice William O. Douglas's dissenting opinion in a case where the Sierra Club brought suit against the U.S. Forest Service for its plans to allow The Walt Disney Company to build a ski lodge in Mineral King Valley of California's Sequoia National Forest. The Court ruled that the Club did not have standing to legally represent Nature. Fortunately, the Court of Public Opinion ruled in favor of the Valley, and years later it was added to the Sequoia National Park as designated wilderness under the Wilderness Act. Justice Douglas makes a compelling argument for Nature's rights.

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## Wild azaleas flowering and threatened in the headwaters

by Michael Pollock

My dad used to unicycle every Saturday morning on a circuit through Durham, Wake and Chatham counties, and I would sometimes go along on bicycle. At some point, maybe it was a separate trip, I stopped in a wooded area on Alston Road just outside RTP. At a bend in a rocky brook I found a bush with ornate, slightly purplish white flowers, which I later identified as a pinxterflower (*Rhododendron periclymenoides*, formerly called *R. nudiflorum*), a native deciduous azalea. Since then I found wild azaleas (and an evergreen rhododendron) north of RTP and last spring I was surprised to see one flowering beside a road near Crooked Creek in Durham. An azalea was between Meeting of the Waters Creek and UNC's Bell Tower, with a colony of carpenter bees nesting nearby, but all were swept away by University expansion. I came across a tall azalea blooming in a mixed forest at Falls Lake's Beaverdam a few years ago. There are azaleas along the Eno at Occoneechee Mountain and Penny's Bend. I call all of these pinxterflowers, but it is possible that they represent different species. There are several across North Carolina, and some grow in or near the Triangle, such as swamp and smooth azaleas. Those at Penny's Bend spread by rhizome, so maybe they are dwarf azaleas, though it seems like that species grows further east. In my experience wild azaleas usually grow beside waterways, especially small streams, in deciduous woods, where they escape both prolonged flooding and drought. Ironically the word azalea refers to dry habitat. Pinxterflowers are rare plants, either because we don't have the right conditions or because they have been negatively impacted by land use or some other factor. Upland, headwaters habitat offers little protection from sprawl (possibly like Chatham Park). The NC Botanical Garden and Coker Arboretum have



specimens, including spectacular flame azaleas, an orange species found in the Appalachians.

Pinxterflowers have distinctive green to gray twigs, and are sort of whorled in branching, sharing many features with evergreen Asian azaleas. They can be 6 ½ feet tall, possibly to 10', but the ones I have seen are 5-6', usually smaller, and airy. Flowers are clustered at the twig tips before the first leaves appear (nudiflorum means naked flower, referring to this pre-leafout blooming, while *Rhododendron* combines rose and tree). The flowers are pretty large, and red, curved floral parts extend far beyond the five fused petals, five male stamens and a female pistil. The petals range from almost white to pink or purple; most pinxterflowers I have seen were nearly white, with purple outside. They have little scent, unlike some relatives. There usually isn't a lot of hairiness, except maybe on the midribs of leaves, while others are more hairy and rhododendrons have flowers that are sticky on the outside, even snaring insects. Their leaves are thin, lance-shaped, and sort

of whorled or alternate on the twigs. The seeds are released from oblong, upright capsules in early fall.

After April 16th is a good time to look for pinxterflowers, around the same time as the much briefer bloom of black locust trees as well as Atamasco lilies and dwarf crested irises. Pinxterflower has been called pink azalea, wild or purple-honeysuckle (a similar but unrelated flower), and election-pink (the Manual of the Vascular Flora of the Carolinas uses this name for a mountain species). Pinxter-flower or pinxterbloom comes from the Dutch for Pentecost or Whitsunday, presumably because it blooms around then in places.

I haven't seen any insects visiting pinxterflowers, but they are supposed to attract swallowtail butterflies and hummingbirds. Tiger swallowtails, bumblebees, and carpenter bees visit ornamental azaleas, but their visits might not be rewarded. *Andrena cornelli* is a native mining bee specializing on azalea pollen. Azaleas are poisonous, and "mad honey," made from Old World azalea nectar, has been used medicinally and was key to a battle between ancient Rome and Greeks in Asia Minor.

A book on Western floriography says "Azalias" (sic?) symbolize "fragile, ephemeral passion" and "temperance." According to Wikipedia, in Japan azaleas signify patience and modesty. Wikipedia also says that *Rhododendron* species were so infamous that flowers could be a death threat.

Deer are said to browse wild azaleas, but I have yet to see one damaged by herbivores or disease. Only a few caterpillars can eat azaleas, such as azalea sphinx moths and major datanas.

And what happened to that first pinxterflower? As long as I knew that area, there was a high-tension powerline, but more

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**JUST HANGING OUT.** One of the more common reptiles inhabiting Chatham County is the black rat snake (*Elaphe obsoleta*). Agile climbers that they are, this handsome guy or lovely lady (its hard to tell the difference) is just hanging out on a limb catching some rays on a fine spring day. Their diet consists mainly of rodents, frogs and lizards, but with their ability to ascend to the tree tops, they've also been known to visit a bird's nest or two. In another month or two, this mild mannered beauty will begin the annual search for a partner with which to mate. After a three-month pregnancy, the female will lay as few as three and as many as eighty eggs. Many of the offspring will not survive the first few weeks. Those that make it to adulthood will grow to between 40 and 70 inches. This juvenile still has a long way to go. Hang in there!

PHOTO BY GARY SIMPSON