

May's Speaker, John Postlethwait

Fish, flowers, feet, a few of the necessities that fuel Dr. John Postlethwait, this month's speaker. Fish? Glance at the cover and you'll see what he likes about fish, their backbone. As far as flowers are concerned, like many of us, he enjoys their place in nature, but for John, they also offer nectar from his growing up years. And feet? He needs them to run through the mountains, to run through the redwoods, to run for the sheer joy of the final line.

Here's a little more in depth about fish, flowers, and feet from Dr. Postlethwait's interview: "I grew up in Lafayette, Indiana and roamed the woods next to the house as a child. I spent as much time as possible in these woods." And besides living next to some enticing woods, John's parents influenced some of his involvement with the natural world. "Dad is a professional botanist with an enormous continuing interest in wildflowers. Over the years he has taken tens of thousands of photos. Currently, at 89, he continues on the Board of his nearby Celery Bog Nature Center, leading wild flower trips, making PowerPoint programs, explaining the botany of the bog for the visitors and so on. Mom, only 87, has a memory for flower names that's amazing—she's able to spot and name them from a rapidly moving vehicle."

Any nature hobbies today Dr. Postlethwait? "Running in the woods and mountains just like a kid, only farther." And farther it often is, including marathons. He recently ran The Avenue of the Giants Marathon in an annual race that combines the presence of nature and personal endurance. He is most famous (or infamous according to Tom Titus) for running his age in miles one day each year, his "birthday run." He's known for a variety of other exploits as well. On one outing, "he rode his bike from Eugene, doing a 10 mile trail run to the base of South Sister, climbing to the summit, then running back to the trail head. I could go on for pages," says Tom, who by the way, also completed the "Avenue of the Giants" marathon the first weekend this May.

What or who influenced you to get into your area of specialization? "Followed my nose. In undergrad college took genetics course and decided that was the most important science. Then took embryology and decided that the combination of developmental genetics was fascinating . . . and have always been interested in origins, how things change over time: On one time scale, an embryo developing—A longer time scale, populations of organisms changing over geological time scales."

Dr. Postlethwait's memorable travels began at a young age when on sabbatical. "I enjoyed seventh grade taken in Manchester England when Dad was on sabbatical. Nita and kids and I on sabbatical spent one year in Salzburg, Austria, Institut fuer Molekular Biologie, and another in Strassburg, France, Institut de Génétique et de Biologie Moléculaire et Cellulaire, and another in Oxford England, Center for Developmental Biology." He's also spent some time in the *Pantanal region of Brazil, on the Great Barrier Reef and on the summit of Kilimanjaro, "all amazing biologically." Talking to Tom further, I learned that the same energy he puts into his experiences, he puts into his work as well, including transferring his enthusiasm for biology to his students.

Dr. Postlethwait gave me a very straight answer when I asked him what brought him to Oregon. "**Chuck Kimmel and Spencer Butte.**"

What will we hear about Friday night? "Animals with backbones (vertebrates), like sharks, pufferfish, frogs, emus, and you, are descended from animals that don't have backbones but do have a stiff cord down the center of their back (hence the term "chordates"), as well as a number of other features. **Early chordates filtered plankton from the sea water, yet vertebrates are voracious and cunning, deadly predators. How did genes change in ways that allowed those meek filter feeders to change into fearsome predators? How did embryonic development change? We will explore these changes in embryos and genes and think about the mechanisms of this remarkable revolution.**"

Ongoing research interest: "Understanding the roles of genome change in the evolution of developmental mechanisms."

He received his BA from Purdue and earned his PhD at Case Western Reserve with two years of research at UC Irvine—then off to Boston for postdoc work at Harvard.

Sometimes when the list of publications is as long as the list on Dr. Postlethwait's UO biology department website, one might worry that his talk could be somewhat erudite, but glancing at some of his titles, I know we're in for a really interesting evening. Besides some biology textbooks, he wrote with others *Explore Life, The Nature of Life and Biology! Bringing Science to Life*—That's what we will experience Friday night.

Pikaia, one of the early members of the Phylum Chordata. It swam close to the ocean floor and may have been a filter feeder.



Drawing by Mary Parrish, courtesy of the Smithsonian Institution, found on <www.washington.edu/burkemuseum>

*The greater Pantanal region of western Brazil consists primarily of alluvial plain though the word *pantano* means swamp. Perhaps it was first named during the rainy season, October to March. During this time, when the rivers overflow their banks, small areas of the higher land become islands where the incredible numbers of wildlife crowd together. Numerous government and private reserves cover part of the area where approximately 10 million to 35 million alligators live. Animals with names we may have never heard and over 650 species of birds also call the Pantanal their home. Journals online effuse in detail this "amazing" place to visit, as this month's speaker has experienced. Editor

Spring into Summer

For the last six weeks, every day has brought some new sight or surprise. The summer birds are finally coming in, far later here than down in the Valley. The rufous hummingbirds arrived on a Sunday in April—I had just put out the porch feeder a few days before. I celebrated their arrival by getting my spinning wheel and sitting on the porch spinning and watching the little gluttons devour sugar water. They were so hungry at first that the two males shared [!] the feeder, but not for long. Soon each started looking around, and discovering the “Enemy” on the other side of the feeder—Both took off in a fury of humming, buzzing defense of the precious territory. Several weeks and several feeders later, the little warriors are pretty content with blossoms and tiny gnats to plump out their diets. The goldfinches and black-headed grosbeaks arrived within a day of each other this weekend; so now I am keeping busy pouring sunflower seed into feeders.

Most people find sheep dull, or worse, but let me tell you, they can be hilarious! In March I moved our sheep off the hill into the pond-pasture for the first time since last summer. One of our sheep is still less than a year old. She was far too young to breed last fall, and as far as she is concerned, she is still a lamb, but poor thing, she is condemned to live with a bunch of very old and sedentary aunts who would never dream of playing. Imagine Fiona's joy when she came down to the pond-pasture and discovered Chickens! The chickens, busy tearing up manure piles, wallowing in the dirt, and generally oblivious to danger, were stalked and then pounced upon repeatedly, by a Sheep. They just could not believe it, so back to business as usual for them. But Fiona is not easily bored, and she spent several afternoons playing her chicken games before moving up to the really exciting stuff, Horses. Now our horses are used to being bullied by the sheep who will steal their food and poop on their hay if they get into the barn, but Fiona's game was a totally new assault on equine dignity.

Once or twice a week, if I am not riding much, I like to exercise each horse on a thirty-foot longe line. It's a wonderful way to improve suppleness, responsiveness to voice commands, and also to give each horse a good gallop if the arena is not too muddy. Both horses love longeing, but sometimes our buckskin mare Angy can be a little lazy and I have to run with her all over the arena to inspire her. I was doing just that, when to both our surprise, up the bank and into the arena comes Fiona at a dead run, bouncing along beside Angy for a few strides and then popping back out of the field. “Cute,” I said, “and rather weird.” Then it happened again and again. Angy was not feeling a bit lazy anymore and Fiona had finally found someone to run with her!

Now it is May and there are three new lambs in the field. Their very possessive mothers try to keep them close at all times, but already, the eldest, Maude, is going off and leaving her mom very annoyed and protesting quite audibly. Fiona will have some real sheep playmates soon.

It's a really good year for wildflowers, especially orchids. Southeast of our property the land rises sharply and the trees on the slope, second growth, crowded and skinny, harbor veritable bouquets of calypso orchids (*Calypto bulbosa*) amidst their mossy bases. After last week's heat and sun, I would have expected the Calypso orchids to be fading, but not at all. There are spotted coral root orchids (*Corallorhiza maculate*) in bloom too. Often the deer eat all the blooms of the latter, but this year seems to be a

lucky one. At the top of the hill, violet-green swallows are swooping and twittering around the old snags. The snags have numerous holes, perfect for nesting and accommodating many families—that is surely why this hill, even though it is far from any water, is so popular with the swallows. There are also martins flying high above in the summer. It is interesting to contrast their high, stately soaring flight with the noisy, erratic flights of the violet-greens.

Closer to home, one of the big snags overlooking our hill pasture snapped in half during a windstorm in February. We heard the boom like an explosion of thunder but did not know what had happened until the next morning when we saw that our beautiful snag was gone, the snag where the vultures warmed themselves in the early morning sun. Not entirely gone, we discovered after walking up the hill, several large live branches remained. There had been a wild honeybee hive high up in the rotten trunk of the snag. Honeycomb, washed clean by the rainstorm, lay all about the base of the tree—poor bees. The tree will grow for more years, becoming ever odder in shape, its new top growing up from a limb, less strong, less stable, but still alive.

Old dead trees are such wonderful things, yet it's hard to justify keeping one in the yard. For one thing they look dead, neglected, messy. They reflect badly on the homeowner, who must surely be shiftless. And of course, they are dangerous. They can and do fall over, often with tragic consequences. Now we have three dead or dying trees on the place. In the Fox Hollow area all the mature grand firs are dying from insect damage and the effects of the last five years of drought. Our dead trees are all at the far edge of the fields, not particularly dangerous to people. I am adamant about keeping them and looking forward, patiently, to seeing woodpeckers feasting and swallows nesting in these trees in the years to come. In the meantime, I expect to hear quite a few rude remarks about unsightly objects about the place.

Reida Kimmel

Numb to those who gnaw and bore,
To those who suck.
Oblivious to floods and deadly drought,
The mindless wind,
The pounding hail.
The silent snag seduces now—
Honey bees and hawks
Drawn to arms outstretched,
Lovely when so bare
The crown invites us too,
Shorn of jewels,
Becomes a place to rest,
To watch,
To hunt.

Beauty shows in nature best
Without the human touch.

anonymous

Pencil drawing by Watson-Guptill



Learning to Look Closely

Last month I talked about "The Sex Life of Plants" to the Eugene Natural History Society. I wanted to show that plants have a very interesting array of breeding systems. A breeding system in a plant is the equivalent of a mating behavior in an animal. My favorite of the plants in our region is that of the bigleaf maple, the climax of my talk. I have posted the pictures I used for the talk on my web page. You can see them at this URL (web address):

<http://web.mac.com/davidwagner/iWeb/Site/AcerMacFls.html>

I have commented that the vine maple has the same kind of breeding system but it is harder to observe. With my new close up lens, I've made some pictures that demonstrate the critical features. We have two vine maples in our backyard. At the beginning of their flowering season, the first tree had young male flowers open and the second had young female flowers open. Pollen was carried by insects from the first to the second. This week, the first has young female flowers on it and old male flowers; the second has young male flowers and old female flowers. The direction of pollen flow has reversed. Still from young male to young female flowers, the second tree is now providing pollen for the first.

Here are pictures of each kind of flower. Young male flowers have plump, unopened anthers; old male flowers have anthers that have released all pollen. The only tricky part is to recognize the female flowers. They look like they are bisexual, with both stigmas and anthers. However, the anthers are non-functional in the female flowers. Notice how the anthers are still unopened in the old female flowers, recognized by their developing wings. With a hand lens, it should be possible to see this for yourself.

David Wagner

For those of us who might have forgotten a little of *Botany 101*, I've copied some definitions from Hitchcock and Conquist's *Flora of the Pacific Northwest*. Now you can study those sexy flowers. Editor

anther: The part of the stamen which bears the pollen

filament: The stalk of a stamen.

Inflorescence: A flower cluster of a plant or the arrangement of the flowers on the axis.

pedicel: The stalk of a single flower in an inflorescence.

pistil: The female organ of a flower, ... of which the stigma is a part.

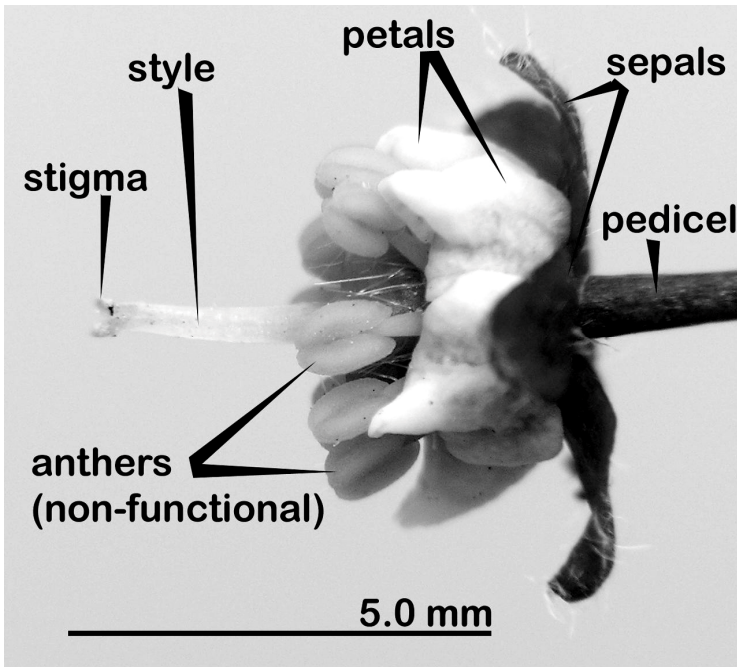
stamen: Loosely, the male organ of a flower, consisting of anther, and generally a filament.

stigma: The part of the pistil which is receptive to pollen.

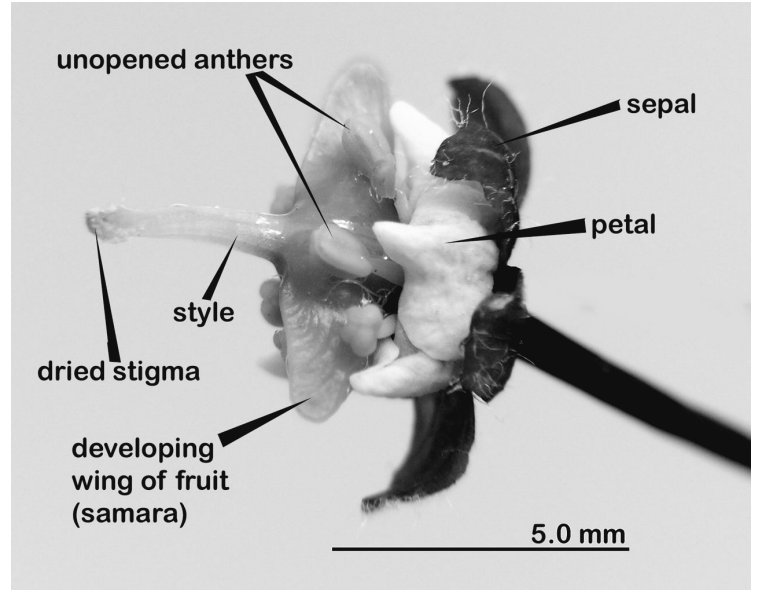


Vine maple
in bloom
from OSU
plant ID
website.

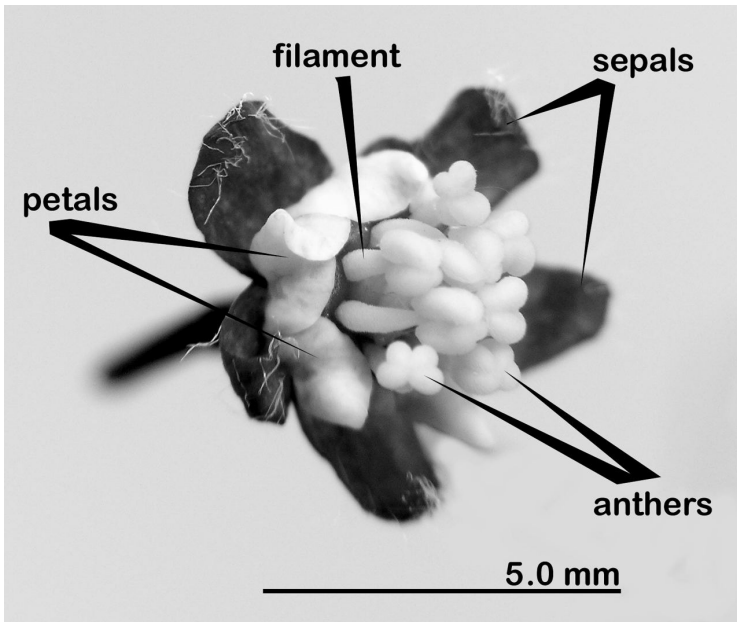
Vine Maple Flowers: Virgin to Vintage



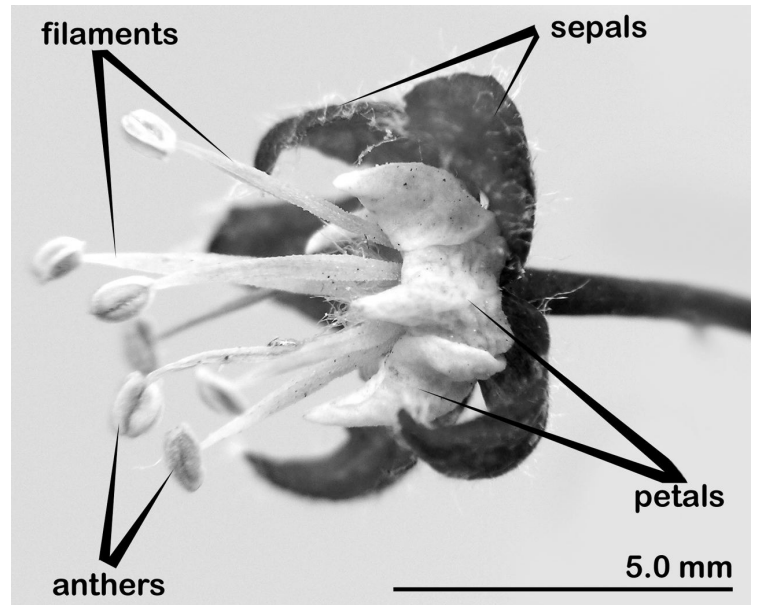
Young Female Flower



Old Female Flower



Young Male Flower



Old Male Flower

Photographs by David Wagner—He has some great new equipment. We'll be seeing more.

Come to the Wildflower Festival at Mount Pisgah Arboretum on Sunday, May 21. Dave will be leading a wildflower walk at 1PM. Those who join the walk will get an up close lesson in maple blossom analysis!