



# Nature Trails

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"Antarctic icefish and osteoporosis: Natural models of human disease"

By Dr. John Postlethwait, Professor of Biology,  
University of Oregon

**Friday, October 17, 7:30PM Room 100, Willamette  
Hall, UO Campus**

Back in June, as most of us were beginning to enjoy the blessings of the latest edition of Willamette-Valley summer, Professor John Postlethwait, our speaker this month, had other plans. He headed south. Way south – almost as far south as one can go. While we basked in those lazy, hazy days, John toiled for six weeks in the frigid, semi-darkness of Antarctic winter. But he had a great time; if you asked him what it was like, his reply would be something to the effect that: “it was fun.” (Those of us who run with John have learned to be suspicious when he proposes a new route. If he says, “it’ll be fun” it’s a flat guarantee of hills – there will be some serious oxygen debt to be paid. With John, it is never not fun. In fact, one of his aliases is ‘Dr. Fun’.) We are fortunate that this unusually gifted man chose to have fun in Antarctica, because his work (and play) there provided him with the story he has volunteered to share with us on 17 October 2008.

Born in Maine, while his dad was serving in the Navy in WWII, John spent his formative years in West Lafayette, Indiana, where his family had settled after his father became a member of the Agronomy faculty at Purdue University. He said he has always been interested in science; this bent was implicitly encouraged by the examples of both his father – a botanist – and his mother – an excellent amateur naturalist. It helped, too, that they lived next to a forest, where he and his brother spent uncounted hours doing boy stuff: climbing in those big oaks, elms and maples, digging fox-holes, building tree houses, riding bikes.

John stayed close to home for his undergraduate work, getting a B.S. in biology from Purdue. (He began his teaching career as an assistant in general biology in 1964, while still an undergrad himself. Forty-four years later he still teaches the same course.) Asked if he

avored a particular part of biology even at that early stage of his development he replied that whatever course he was taking was his favorite at the time. He took embryology and thought it was great. Then he took genetics and decided it was great. His fascination with these two areas led to his career path: developmental genetics.

For graduate study, John had several options, including Harvard and Yale. He elected to attend Case Western Reserve University, in Cleveland, where there was a small but excellent group doing developmental genetics. His thesis work dealt with the genetics of development of *D. melanogaster*, the fruit fly. He worked on a mutant in which antennae had been replaced with legs. When he was done with graduate course work and was getting into his thesis research, his advisor accepted a position at the University of California at Irvine, and moved his entire lab, John included, from Ohio to California. So although his PhD is from Case Western Reserve, most of his graduate work was done at UC Irvine.

While in the finishing stages at Irvine, his advisor alerted John to an opening at the University of Oregon. He had already seen Oregon, during a family vacation ten years before, and he had been struck by its grandeur. He came to Eugene for the interview and was hosted by Chuck Kimmel (yes, our Chuck Kimmel – who took him, among other places, to the top of Spencer Butte. Was this the beginning of his enduring love of climbing steep places?). The U of O offered, John accepted, and then went off to Harvard for a year’s postdoc, to get more training. He returned to Oregon, even though Harvard had offered him an Assistant Professorship, and began his position in 1971.

Shortly after becoming a Duck, John got a Career Development Award from the National Institutes of Health (NIH), which

paid his salary for five years, allowing him time to develop both his research and running careers. This period was capped by a year at a research institute in Austria, where he, his wife Nita, and their two children lived with a farm family in an idyllic setting. John said he ran from home to work and back every day for a year – four miles each way.

Besides becoming one of the best in the world in his research field, John continues an illustrious career as an endurance athlete. Most members of his running group actually question his motivation for the sojourn in Antarctica: was it really to carry out the icefish research or was that merely an excuse to get him there so he could fulfill his goal of completing a marathon on every continent on earth?



John during the inaugural Icefish Marathon

Some of us have converted from bait fishing to fly fishing over our lifetimes; John made a change that was almost as tough: he went from fly research to fish research. His conversion started in 1989, during a sabbatical in Oxford, England. John's publication list testifies to the complete success of his rejuvenation: over 170 articles, many in the most prestigious journals of his field. NIH and NSF have supported his lab throughout both the fly and fish parts of his career.

Please make every effort to attend Professor John Postlethwait's lecture "Antarctic icefish and osteoporosis: Natural models of human disease" on 17 October 2008, in room 100, Willamette Hall, on the University of Oregon Campus. He has a great story to tell, and some stunning images and a couple of exciting videos to share. Spread the word, bring a friend.

John Carter

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### THIRTY YEARS OF YEARS: A CALENDAR MAKER'S NOTES

This year marks the sesquicentennial of one of the most famous criminal trials in U.S. history. In 1858 Abraham Lincoln defended a man against murder charges with the aid of an almanac, hence its being known as the Almanac Trial. The star witness claimed he saw the defendant bashing in a man's head by the light of a three-quarters moon high in the sky. Lincoln led the witness to emphasize how bright the moonlight was, that it was a critical element of his certitude. Then Lincoln pulled out an Old Farmer's Almanac and showed the court that at the time the witness claimed to see

the assault, the moon was actually barely above the horizon. There was no bright moon high in the sky. The defendant was acquitted. Although there was other supporting evidence in Lincoln's favor, this is the part of the story that most people have heard.

This story has a special place in my heart. This is the thirtieth year that I have produced the Willamette Valley Nature Calendar. My nature calendar is really an almanac because it does more than depict the days of the week for each month and assign holidays. Yes, it includes the phases of the moon, like many calendars on the market, but it also has sunrise and sunset times, gardening hints, and a

compendium of natural events to be expected throughout the year.

Calendar making is an unusual enterprise from which I've learned many things I did not anticipate learning when I began. I had never noticed, for example, that the sunrise and sunset times are not symmetrical around the solstices. As the winter solstice approaches, sunrise keeps getting later and sunset earlier until the shortest day of the year is reached. The earliest sunset occurs several weeks before the solstice, however, and the latest sunrise a similar period after the solstice. The times are like two curves that are out of phase, and the shortest day represents the point where the curves are closest. I have not been able to find a good, clear explanation for this. My best guess is that it has to do with the fact that sunrise occurs on the side of the earth that is moving in the direction of the earth's orbit and sunset on the side moving opposite the direction of orbit. Visualizing this is a terrific mental exercise.

The pleasure of making the calendar has come from the research done to make all the nature notes. I've enjoyed contributions of people like Herb Wisner, who shared his knowledge of when bird migrations take place, and the late Leighton Ho, who loved fishing and gave me the information on most fish runs. Many of the observations are just that: personal observations made over the years, many of which came to me on the weekly plant walks in Alton Baker Park I offered in the spring for seventeen years. A number of friends in the ENHS share memories of those walks.

I have been asked if I could see the effects of global warming in my observations over the years. That is a good question for which I don't have a good answer. Our typical year is not an average year. Because each year's events are unique, sometimes very early and sometimes quite late, the error bar on my observations is wider than the expected change due to global warming. I think flowers are blooming earlier than when I first started watching thirty years ago, but I cannot say that with statistical certainty. We just have to keep our eyes open

and write down what we see.

Calendar making could be a boring enterprise if all one were doing was laying out the dates for the days of the week each month. There are only seven possibilities: years that begin on Sunday; on Monday; (...) or Saturday. Once you have worked out these seven, all can be done by boilerplate. Only leap years cause some problem because it is necessary to use

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months from two different years. And the moons and moveable feasts have to be placed afresh each year. I have kept up my interest by making each calendar a little bit different. Some things are worth noting each year. This is the time of the year when newts move downhill to breed in valley ponds. We always want to know that. But there's so much to consider that it is not hard to make the notations a bit different each year. For 2009, there's the new observation that great horned owls begin nesting in January, something I learned at last year's December ENHS program.

The other thing I try to make different each year is the monthly illustration. Thanks to spousal urging, I've put more and more effort into the drawings. I like to think the result has been better and better drawings. This is reasonable, of course, because it is hard to think of better and better months. The subject matter has expanded over the recent years also. As a botanist, my illustrations in early years were almost all of flowers. It has been an invigorating challenge to try to draw animals: insects, herps, birds, and big mammals. As I said to a friend recently, "the attitude of turtles is so different from orchids."

In recognition of the Mushroom Festival this month, accompanying this is a preview of the 2009 calendar, a new drawing of the fried chicken mushroom, *Lyophyllum decastes*.  
David Wagner



Fried Chicken Mushroom –by D. Wagner

### BIALOWIEZA FOREST, AN ARMCHAIR JOURNEY

Bialowieza Forest is partly in Eastern Poland and partly in western Belarus. It is huge, encompassing almost three hundred and sixty eight thousand acres of some of Europe's oldest and least disturbed woodlands. Its core is Poland's Bialowieski National Park, ten thousand nine hundred sixty-six forested acres, which many believe have never been cleared. Until I read Emma Marris's lyrical article in the journal *Nature*, 18 September 2008, I had never heard of this place, but it is well known to European scientists who study both the flora and fauna of the forest to try to understand what central Europe once was like. Like any bit of land on our planet, this forest is not really untouched even if it is very ancient. Humans have impacted the forest for millennia, but like our Native Americans, ancient Europeans lived in the forest, subsisted on its resources, and did much to shape its character without destroying it. Peasants poached game, kept bees in the trees, and smelted iron. Nobles, royalty, and finally Nazis, used the forest as a hunting preserve. They killed off many of the competing predators, so now there are no bears in the forest, though grey wolves remain. Aurochs, the extinct ancestors of modern domestic cattle, once roamed here. The beautiful European bison, the wisent, was extirpated in 1919, but reintroduced in the

1950s. Thirteen zoo-raised wisents founded today's healthy population of from 250 to 300 individuals. Red deer, like our elk, and roe deer inhabit the forest, as do a few lynx. Asian raccoon dogs and feral American mink fill the niche once inhabited by European mink. All ten species of European woodpeckers live here. Birdwatchers love the park because of its great diversity of species. This is a characteristic of old forests as compared to cleared land, which supports far fewer species but greater numbers of individuals. To have so many charismatic species in one park is wonderful enough, but as I read Marris's description, it was the forest itself that captured my imagination. Some of Europe's oldest and tallest trees grow here. Oaks, lindens, and Norway spruce dominate the forest canopy. Beneath the tall trees, the forest floor is dotted with fungi and carpeted with mosses. Hornbeams, bent into crazy shapes by winter's snow, compete for space with dead trees and branches, shaggy with lichens and mosses. In the sunnier glades there are carpets of wildflowers, and warm places to rest and watch for wildlife, if one can bear the mosquitoes. I can't imagine that I will ever see Bialowieza, but I feel I know it, because in so many ways it is like our remaining ancient forest in the Pacific Northwest. Like our old forests, Bialowieza harbors a unique diversity of species. When we walk in our forests in the wet season, the masses of dead wood are vibrant and beautiful with their myriad shades and textures of green mosses and liverworts. In Bialowieski Park dead wood comprises up to twenty-five percent of the aboveground wood, playing a vital role in the nutrient cycle at the base of the food chain. Like our old forests, Bialowieza Forest faces many threats. Although the Polish forest and Bialowieski Park at its core are protected, over half of the forest lies in Belarus, and this part, though nominally protected, is being logged and possibly developed as well. Some problems that Bialowieski Park faces are similar to Yellowstone's. The park is simply too small to support viable populations of Lynx. Perhaps even the entire forest is too small. At present

the wisent are fed in the winter and the population is probably too large in spite of culling. A solution might be to stop the winter feeding and let some of the wisent starve, never a popular choice. The Norway spruce are dying. Is it because of global warming and spruce beetles, or merely a return to a more historic balance where hardwoods

predominated? The great quandary is this: how can you manage a huge forest in such a way that it does not change as the world changes around it? Is that even possible or best for the forest?

Our armchair journey has taken us to a place like home, with all its beauty, challenges and mysteries.  
Reida Kimmel

## Events of Interest in the Community

### Audubon Society

**Tuesday, 28 Oct. 7:30 p.m. Eugene Garden Club, 1645 High St. New Hikes in Eastern Oregon, by William L. Sullivan.** Take a tour of a dozen new trails Sullivan discovered while working on the just-released 2<sup>nd</sup> edition of his book "100 Hikes/Travel Guide: Eastern Oregon." Visit the Wallawas, Steens Mountain, Bend, Fort Rock, even a microbrewery near Joseph.

### Mount Pisgah Arboretum

34901 Frank Parrish Rd., Eugene, 97405. Located off I-5 Exit 189, 15 minutes southeast of Eugene.

**Saturday, 18 Oct., 2-4pm. Fall Fruits and Seeds Walk.** Enjoy the fall colors with botany professor Gail Baker. Learn about adaptive strategies of plants for dealing with the coming of winter, as well as the great variety of fruits and seeds and their diverse dispersal mechanisms. \$5/MPA members free.

**Sunday, 19 Oct., 1-3pm. Scarecrow Building and Pumpkin Carving Workshop.**

**Sunday, 26 Oct., 10am-4pm. Mushroom Festival and Plant Sale.** Don't miss our annual fall celebration of mushrooms and the harvest season, co-presented by Mount Pisgah Arboretum, the Cascade Mycological Society and Lane Community College. This event is one of the largest mushroom displays on the West Coast, a huge plant sale, a scarecrow contest, children's activities, hayrides, craft vendors, incredible mushroom-inspired food, fresh cider, music, wine, and more! Come out for a fun-filled day and support the Arboretum. Suggested donation: \$5/person or \$10/family. MPA members free! Call (541) 747-3817 or email [mtpisgah@efn.org](mailto:mtpisgah@efn.org) for more information and for how to volunteer.

**Saturday, 8 Nov., 9am-5pm Willow Basketry Workshop.** Margaret Mathewson of the Ancient Arts Center teaches this all-day class on creating basketry using ancient techniques. Take home your own beautiful, natural willow basket, along with the skills to make more. All materials are included. \$50/\$45 MPA members.

**Upcoming Walks and Workshops.** Call 747-1504 or email [mtpisgjp@efn.org](mailto:mtpisgjp@efn.org) for more information or to sign up.

### Oregon Wild

**25 Oct., 9 am to 6 pm. The Twins Hike.** Take in the view from the 7,360 ft. summit of The Twins, including Waldo Lake and many surrounding peaks. The trail begins with a gradual ascent toward the

Pacific Crest Trail, and then climbs as it passes through dry mountain hemlock and lodgepole pine forests with areas of exposed rock and boulders. Difficulty: strenuous, 6.6 miles round trip, 1,600 foot elevation gain/loss. Carpools depart from Eugene. Contact Chandra Le Gue [cl@oregonwild.org](mailto:cl@oregonwild.org), 541-341-0675.

**Volunteers needed!** Help us with the ENHS booth at the Mushroom Festival on 26 Oct. Contact Tom Titus, Melody Clarkson, or John Carter if you're willing. We especially encourage newcomers. Just hang out in the booth for an hour, answer what questions you can, try to interest visitors in ENHS.

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**We welcome new members to fill out the form below and receive *Nature Trails* through December of next year. Membership payments allow us to give modest honoraria to our speakers, as well as to pay for the publication and mailing of *Nature Trails*. Please mail your check to Eugene Natural History Society, at the address below.**

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**MEMBERSHIP FORM**

Mail checks to **Eugene Natural History Society**  
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<b>ANNUAL DUES:</b> Contributing	20.00
Family	15.00
Individual	10.00
Life Membership	100.00

**Generosity is Appreciated**

Do you have any special experience in natural history?\_\_\_\_\_

Would you like to organize/lead field trips?\_\_\_\_\_

Teach informal classes?\_\_\_\_\_

Work on committees?\_\_\_\_\_

What natural history topics interest you for future talks?\_\_\_\_\_

**ENHS Schedule of Speakers and Topics for the remainder of 2008-2009**

**17 October 2008** - John Postlethwait, Professor of Biology, University of Oregon

"Antarctic icefish and osteoporosis: Natural models of human disease"

**21 November 2008** - Peter Wetherwax, Research Assistant Professor of Biology,  
University of Oregon

"Honey Bees -- just one in 20,000"

**12 December 2008** - Dick Lamster, past president, Lane County Audubon Society

"Thinking inside the box: bird nests."

**16 January 2009** - Joe Moll, Executive Director, McKenzie River Trust

"Why is there a river in my forest?"

**20 February 2009** - Bitty Roy, Professor of Biology, University of Oregon

"Biodiversity Hotspots Around the World"

**20 March 2009** - Emily Steel, Restoration Ecologist, City of Eugene

"Green Gold: West Eugene's grassland communities"

**17 April 2009** - Steve Sillett, Associate Professor, Humboldt State University

"Ecology and Physiology of the World's Tallest Trees"

**15 May 2009** - Bruce Mate, Director, Marine Mammal Institute, Newport, Oregon

"The Biggest and the Deepest: Tracking Whales"

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