

# *NatureTrails*

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John Day Fossil Beds National Monument

## **Beyond the big, fierce creatures: lessons from fossil small mammals**

**Professor Samantha Hopkins**

Clark Honors College and  
Department of Geological Sciences  
University of Oregon, Eugene, Oregon

**Friday, September 19, 7:30PM Room 100, Willamette Hall, UO Campus**

Professor Samantha Hopkins, our September speaker, gets paid to camp out and dig in the dirt. How good is that? The vast majority of us, when we do get to commune with nature, do it on vacation or in retirement. Sam communes with nature as a critical part of her job. In two weeks of field work she and her crew can collect enough fossils to keep them busy in the lab for an entire year. Dr. Hopkins is a paleontologist, an Assistant Professor in the Department of Geological Sciences at the University of Oregon, with a joint appointment in the University's Clark Honors College.

Born and raised in East Tennessee, Sam was a play-in-the-woods type as a child, encouraged to explore the natural world by her father, a pipefitter with a layman's interest in science. She was fortunate to be able to attend high school in Oakridge, Tennessee, the site of Oakridge National Laboratory. As one would imagine, the public education system there is excellent, so she was well prepared for her undergraduate career at the University of Tennessee.

As a beginning senior at UT, Sam was close to finishing a biology degree with an emphasis in botany when it became clear that her future husband was having more fun with his geology classes than she was with her plant biology. So, with room in her schedule for frivolity, as a lark she signed up for a paleontology class. Within a month she was smitten. These folks got to do the sort of thing she had learned to love as a child: sleep in a tent and get dirty. She asked how long it would take for her to get a geology major. A year and a half later she graduated with a double major: biology and geology.

Next came graduate work at the University of California at Berkeley, where she began her specialization in the evolutionary ecology of *Aplodontia*, a group that contains *A. rufa*, or mountain beaver, the nocturnal burrower and eater of roots that is the bane of commercial foresters.



Mountain beaver, Audubon Magazine, July-Aug. 2008

She looked at the fossil array of relatives of mountain beaver, which led to questions about the evolution of burrowing. (By some measures considered the most primitive living rodent, *A. rufa* are very similar to *Homo sapiens* in terms of jaw musculature. There may be a message there for us but if so it is buried well enough that we will have to dig for it. Ahem.)

After completing her PhD, Sam taught briefly at Sonoma State University – for six months, up until five days before she gave birth to her daughter. She then accepted a two-year postdoc at Duke University, in the NSF-funded National Evolutionary Synthesis Center, where she was given leave to work on research of her own choosing, with access to talented mentors in various departments – pretty much a dream job for a budding scientist.

But as any postdoc worth her salt would do, Sam began applying for permanent jobs shortly after she arrived in Durham and was pleasantly surprised by two offers of permanent positions. The University of Oregon was her first choice, so she had to decide whether to ask the U to hold the position while she finished the second year of her postdoc, or cut her postdoc short by a year and come out to Eugene immediately. Knowing that the John Day fossil beds are a rich trove of the very creatures she wanted to continue studying – a major reason the Oregon offer was her first choice – the decision didn't take long to make. She began

her Assistant Professorship in the Department of Geological Sciences here at the University of Oregon in 2007.

When she was considering the two offers, another factor that helped tip the scale toward Oregon is Eugene's bicycle-friendly layout. Sam said that in her job interview it seemed like most of the streets in town had bike lanes. Since both she and her husband do as much of their local travel as possible by bike, this was a big plus. (She also told me that when they were house-hunting they limited themselves to locations with only modest hills to climb, since they wanted to be able to pedal to their house from town or work pulling a trailer containing their two-year-old daughter.)

In her lecture to the Eugene Natural History Society Professor Hopkins will talk about what small mammals contribute to paleontology – for example, how the rodent

group she studies is used in dating the various levels of the John Day fossil beds. She will tell us about work going on in the John Day fossil beds, about crazy mammals, and about how climate change is reflected in the fossil record of small mammals.

We are fortunate to have such a vibrant scientist in our midst, someone who will share with us not only her own research but also other recent scientific goings-on in this internationally-known site that is in our own backyard. Please join us on Friday, 19 September 2008, at 7:30 pm in room 100, Willamette Hall on the University of Oregon Campus, to listen to Professor Samantha Hopkins's lecture, "Beyond the big, fierce creatures: lessons from fossil small mammals."

John Carter

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## WELCOME TO THE NEW ENHS YEAR

September is one of the loveliest months of the year in our region. Really hot weather is usually past while nice, sunny days abound. In the mountains the tourists have thinned out greatly and so have the mosquitoes. This is the time of the year I love to get up into the High Cascades of the Three Sisters Wilderness. The trails are free of snow and the camp spots are dry. The only thing to watch out for is the opening of the high country hunting season. It usually begins the second weekend of September. I do not worry about being in harm's way but do note that almost every well-known campsite in the wilderness areas will be occupied by Friday of that weekend.

September means also the beginning of the school year and the first in the lecture series of the Eugene Natural History Society. The 2008-2009 schedule has a line up of wonderful programs, as usual. We begin with a paleontologist who has studied ancient rodents and dug up fascinating information (ahem), and moves on to

Antarctic ice fish, honeybees, and bird-nest boxes. Highlights from 2009 include talks about flood plain dynamics, world biodiversity hotspots, and ecology of the world's tallest trees.

We are looking forward to our usual activities outside the lecture hall – not many, but all part of a long tradition. The Eugene Natural History Society always maintains an educational booth at the Mount Pisgah Arboretum festivals. The first one coming up is the Fall Festival and Mushroom show on October 26. We encourage ENHS members who haven't done it before to help us staff our booth. If this is you, if you like to talk to people about natural history and will promote our programs, you will find a receptive response. Call or email me.

We haven't set a date for our annual bike path clean up. The Eugene Natural History Society has adopted the stretch of bike path from the Ferry Street Bridge to the Washington Jefferson Bridge. It is a mile-long stretch that is easy to get clean.

Ambling along, chatting and pinching gum wrappers, we have a gay old time. We even primp a stump that is ornamented with licorice ferns to make it look special. The cleanup is usually done on a Sunday morning, from ten to noon, followed by lunch together at the riverbank restaurant. Watch this space for the date, which is likely to be in winter or early spring.

Last year we had a winter party, too, at the arboretum. It turned out to be a cold, stormy night and there was a minimal turnout. The participants enjoyed it hugely but this next year we may plan something like this later in the season, probably in a heated room!

And there is what is becoming an annual expedition to a field station to look forward to in June. Last year we went to Opal Creek, this year to Malheur Field Station. Next year, well, we're open to members' ideas. Maybe we can find a place at one of the marine biology stations.

The dues of the Eugene Natural History Society have not changed for many years; the board has kept them unchanged for at least the next year. However, our ability to function with the same dues structure depends on members renewing at a level appropriate to their means. We have been

asking only \$10 for an individual membership, an amount that barely covers the cost of printing and mailing Nature Trails. Remember, postage rates went up this year.

We like to offer a dinner to our speaker and guest. Until this year, dinner and a year's complimentary subscription to Nature Trails is all our speakers have received in recognition of their presentation. We've also offered a small sum to help cover travel costs for out-of-town speakers. Beginning this year, in addition to all these perks we will offer a small honorarium to all our speakers. The board has come up with a suggestion of \$40 – not very much but better than a poke in the eye.

To maintain this policy without raising dues or dipping into our savings account, we need more of our members to renew at a sum higher than \$10. What about you? Won't you help? Please remember that our membership year runs from September to September, so your membership renewal is due this month. Please remit promptly, and generously, using the envelope included with this mailing.

David Wagner, President, ENHS

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## THE WILD SIDE OF SUMMER

It takes perhaps twenty minutes to drive from the farm to the center of downtown Eugene, but our home is so close to the edge of the Coast Range's undeveloped land that we often feel as if we live in a different world. It is not just that Steller's jays and sometimes grey jays live in our hills, or that it snows here when it rains in Eugene, but we live close to, and sometimes see, some very charismatic mammals. A handful of times a year we see a bobcat crossing the road or casually strolling along it. This cat is large as bobcats go and rather dark colored. It's always a thrill to see him. I say "him" because a female bobcat is considerably smaller, and usually about six pounds lighter

than a male, whose average weight is approximately twenty-two pounds. Bobcats are generally very good citizens, eating those pesky voles and other rodents. They will also eat insects, road kill, birds, eggs, and even deer. But sometimes bobcats can be very troublesome indeed, and this summer there was big trouble in the neighborhood. We lost a young domestic turkey, carried off in broad daylight, leaving a trail of white feathers leading into the woods. This was only the third such incident over the many years that we have raised turkeys, but it is always annoying. At about the same time, very sadly, our neighbors' cat was killed. How do we know that a bobcat was the killer? The victims were dispatched in the way characteristic of cats, a bite to the

neck, after which the remains were partially eaten, carried off to the woods, and hidden. It is very unlikely that a cougar was the hunter, as there have been no cougar sightings or kills anywhere near here in well over a year. We have reason to believe that there were several bobcats hunting in our area recently, which probably explains why we have not seen a single mother wild turkey and young all summer, though there were males and females present in the late spring. We have seen fewer turkeys on the road too. The population of this ground nesting species is definitely diminished since last summer. The neighbor who lost her cat is a veterinarian and a feline specialist, so when a bobcat was killed by a car on Le Bleu Road where she lives, she went to examine the body. She found a young male, very large, about thirty-five pounds and colored a medium tan, definitely not the same cat we've been seeing on the road for years.

People who live on the edge of the "wildside" have to accept that there will be losses. It is the wild animal's nature to hunt and the pet or livestock owners' duty to keep their animals out of harm's way or suffer the consequences. Remember that fact when next you hear inflammatory statements about cougars, bears, or wolves!

The more I learn about *Lynx rufus*, the more intriguing I find the species. In a time when all nature news seems to be bad news, the beautiful bobcat has a happy story for us. Bobcats are the subject of an article by

T. Edward Nickens in the August-September 2008, issue of *National Wildlife*. "Survivor" discusses the surprising fact that although most species of wild felines are in decline because of expanding human populations and habitat destruction, bobcats are more than holding their own. Not only can they thrive in their traditional habitats of mixed shrubs, meadows and woodlands, but also in many places such as Southern California and the San Francisco Bay area, they are living and thriving in very fragmented habitats. Greenways along freeways, urban parks, golf courses, and even ex-urban housing developments provide shelter and prey. As a top predator, the bobcat helps to maintain biological diversity and to balance the population of other species all the way down the food chain. But the bobcats need wild corridors along which to disperse to find mates and new food sources. In order to plan for and justify the protection of wild spaces in developing areas, biologists at North Carolina's Conservator's Center are trying to learn about how bobcats manage to live in close but secret proximity to humans. Providing this beautiful, adaptable animal with the space it needs to survive and thrive as a species will insure the health and survival of whole mini-ecosystems, That is what predators can do far better than any cohort of well meaning wildlife managers.  
Reida Kimmel

## Events of Interest in the Community

### Audubon Society

**Tuesday, Sept. 23 7:30 p.m. Eugene Garden Club, 1645 High St. Traveling Cameroon with Jim Regali.** Jim Regali will share photos of his 2007 trip and discuss some Cameroon history, the people, their culture, and of course, the wonderful birds of West Africa! Join us and bring along friends. Our Program Meetings are free.

## Mount Pisgah Arboretum

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

**Friday, Sept. 19. Star Party! 8pm til late** (you can't go until after the ENHS lecture – ed.) Join the Eugene Astronomical Society for an evening of stargazing. Have experts show you planets and galaxies. Bring a flashlight covered with a brown paper bag. \$5 adults, \$3 kids. Cancelled if rain or cloudy skies; call 747-1504 on 9/19 to find out if it's still on.

**Sunday, Sept. 28, 1-5pm. Map & Compass Navigation.** Instructor Kori Wanner. There will be lots of hands-on practice during the class. \$15/\$10 MPA members.

**Thursday, Oct. 2, 8pm. A benefit concert for Mount Pisgah Arboretum.** Dean Kramer, U of O faculty member, plays four of Beethoven's most famous piano sonatas in UO's Beall Hall. Tickets on sale for \$10-\$20 through the UO Ticket Office (346-4363), and at the door.

**Saturday, Oct. 4, 10am-noon. Fire Ecology Walk.** Fire ecologist and firefighter Steve Clark discusses the role of fire in the ecosystem, the Arboretum's fire plan, controlled burns, and more. \$5/MPA members free.

**Sunday, Oct. 5, 11am-12:30am. Kids' Painting with Nature Workshop.** Kids will hunt for berries, lichens, grass, soil, mushrooms, and more, then turn them into 'paints' to create an artistic masterpiece! \$5 per child; grownups free with child.

**Sunday, Oct. 12, 10am-4pm. Finding and Harvesting Edible Mushrooms Workshop.** Learn where and when to look for edible mushrooms, sustainable harvesting methods, field guide use, permitting, and more. Meet at MPA, then carpool to a mushrooming location 45 minutes away. \$20/\$18 MPA members.

**Saturday, Oct. 18, 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, Oct. 19, 1-3pm. Scarecrow Building and Pumpkin Carving Workshop.**

**Sunday, Oct. 26, 10am-4pm. Mushroom Festival and Plant Sale.**

**Sunday, Oct. 26, 3pm. Scarecrow Contest Judging.** at the Mushroom Festival. Contest entry fee of \$10 includes FREE family admission to the Mushroom Festival.

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

## Alvord Farm and Museum

**Sunday, Sept. 21, 2-4 pm, Bug Safari Playshop.** Come and touch and see insects from around the world with our friends Brian and Wendy Stoner, the "Bug People." Have you ever held an Australian Walking Stick? Or a giant African millipede? Event is free, but donations are accepted. Pre-registration is required: call Karen at 683-8271 (leave your names, kids' ages, and a contact telephone number.) Address is provided after registration. See our site at: [www.alvordmuseum.org](http://www.alvordmuseum.org) Alvord Farm and Museum is now interviewing for the volunteer position of Activity Coordinator. Anyone with experience in nature studies or teaching is encouraged to apply. 3-7 hours/week. Duties may include: planning/implementing events and activities, handling registrations, collecting participant evaluations, and working as a team member with the other staff. Call Karen Rainsong at 683-8271 or email: [info@alvordmuseum.org](mailto:info@alvordmuseum.org). See our site at: [www.alvordmuseum.org](http://www.alvordmuseum.org)

## Oregon Wild

**Wednesday, Oct. 1, 6:30pm. A Journey to the Wildlife Refuges of the Klamath Basin.** Eugene Public Library (10th & Olive), Tykeson Room. Join Oregon Wild in exploring the beauty and diversity of the Klamath Basin, where snow geese congregate in the tens of thousands, American White Pelicans dip their slender beaks in search of fish, and bald eagles gather in their largest numbers in the continental United States. Come see Brett Cole's spectacular images as we celebrate the 100th anniversary of the oldest migratory waterfowl refuge in the nation. For more information, contact Chandra at Oregon Wild: 541-344-0675, cl@oregonwild.org

**North American Rock Garden Society**

**Tuesday, Oct. 7, 7:00 PM. Pitchers and gentians and orchids, oh my! –building and planting a garden bog.** The talk will be held at the Eugene Garden Club, 1645 High St. and is sponsored by the Emerald Chapter of the North American Rock Garden Society. Loren Russell, past president of the Emerald Chapter, will share his experience of creating a garden bog in a portion of his rock garden and selecting the plants that thrive there. The meeting is free and open to the public. Door prizes and refreshments follow. Call 484-1284 with questions.

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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  
P.O. Box 3082, Eugene, OR 97403**

Name \_\_\_\_\_

Phone \_\_\_\_\_

Address \_\_\_\_\_ E-mail (optional) \_\_\_\_\_

City \_\_\_\_\_ State & Zip \_\_\_\_\_

**ANNUAL DUES:** 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 Fall 2008**

**September 19** – Samantha Hopkins, Assistant Professor of Geological Sciences, University of Oregon  
 “Beyond the big, fierce creatures: lessons from fossil small mammals”

**October 17** - John Postlethwait, Professor of Biology, University of Oregon  
"Antarctic icefish and osteoporosis: Natural models of human disease"

**October 26** - Mount Pisgah Arboretum Mushroom Show & Fall Festival

**November 21** - Peter Wetherwax, Research Assistant Professor of Biology, University of Oregon  
"Honey Bees -- just one in 20,000"

**December 12** - Dick Lamster, past president, Lane county Audubon Society  
Nest Box Observations

**ENHS OFFICERS AND BOARD MEMBERS 2008-2009**

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*Nature Trails*: Editor, John Carter, [jvernoncarter@comcast.net](mailto:jvernoncarter@comcast.net) 349-2439; Support Staff, Ruth Bremiller and Reida Kimmel

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Eugene Natural History Society

FIRST CLASS MAIL

P.O. Box 3082  
Eugene, Oregon 97403