

NatureTrails

Published by the Eugene Natural History Society

Volume Forty-four, Number Two, February 2009



In the Eastern Arc Mountains Hotspot, Tanzania, Africa

Bitty Roy, Professor of Biology, University of Oregon

"Biodiversity Hotspots Around the World"

**20 February 2009, 7:30pm, Amazon Community Center
2700 Hilyard St. (just S. of the pool; NOT the Hilyard Community Center,**

which is just N. of the pool)

On its face the phrase ‘biodiversity hotspot’ simply suggests a region with an exceptionally rich flora and fauna. But its originator, biologist Norman Myers, meant a region that not only contains many species but also is suffering severe habitat loss. Our speaker this month, Bitty Roy, will tell us about several such unique, important areas and how their preservation is important to the planet.

Dr. Barbara Roy is Professor of Biology in the Center for Ecology and Evolutionary Biology at the University of Oregon.

Bitty, as everyone calls her, has wide-ranging interests. Some of the questions she and her collaborators are seeking to answer are:

- How will global warming influence plant parasites – both pathogens and herbivores?
- Are invasive plants invasive because their enemies didn’t come along in the invasion?
- How successful are different restoration techniques in returning seasonal wetlands to functional communities (In collaboration with Laurel Pfeiffer-Meister, Scott Bridgham, Bart Johnson and all the West Eugene Partners)?

As you can see, her work runs the gamut from quite basic to – lucky for us – somewhat applied. Lucky, because the collaborative seasonal wetlands project uses the West Eugene Wetlands as its research site, so the progress they make helps advance the restoration of this important local feature.

Bitty’s path to her present position, while not tortuous, has had many twists, turns, and forks. First, though, why Bitty? It was a compromise. There was a parental disagreement: her dad put Barbara on the birth certificate, to her mom’s

surprise since she was under the impression they had agreed on Elizabeth. Meanwhile, her older siblings began calling her Bitty, short for little bitty baby. Being acceptable to all, Bitty she became.

Her interest in the natural world began while Bitty was a toddler. Before she was three years old she brought flowers to her mom and asked their names. Her mom was a serious plant person, who took Bitty on mountain hikes in the beautiful area of Colorado where they lived. Together they

identified native plants: flowers, mosses – whatever they came across.

Bitty stayed in Colorado through high school, then came to the west coast after a brief foray to New England. She was an undergraduate at Evergreen College, in Olympia, Washington, finishing with a BS in Biology. From there she went to Southern Illinois University for her Master’s. Her MS thesis work was in paleobotany; she wanted to test the idea of combining botany and geology in a career, but found there was too much indoor work involved to suit her. So that fork in her path

was a (ahem) dead end. From SIU she came back to the west coast – to Claremont Graduate School, for her PhD. She did her dissertation research at two lovely sites: Rancho Santa Ana Botanical Garden, the botany arm of the Claremont Graduate School, and the Rocky Mountain Biology Laboratory, an independent research facility in Colorado. (Among the persons she got to know at RMBL are John Holden, President Obama’s Scientific Advisor, and Paul Erlich.) She continues doing research at the RMBL to this day.

After her PhD work she did two post docs at the University of California, Davis, still in plant ecology. She then took a faculty position at the Swiss Federal Institute of Technology in Zurich, where she stayed for five years. Shortly after



being awarded tenure there, she resigned and came to Oregon, in 2001.

The steady supply of external funding that Bitty has maintained for her research together with her long list of refereed publications in distinguished journals speak to the quality of her work. Her productivity is the more impressive for her determination to do her own fieldwork. Her students have their projects; she has projects of her own.

When asked how the subject of her talk fits into her research interests, Bitty paused for thought. She said it isn't her primary research interest, but as an ecologist who finds the whole planet fascinating she feels a responsibility to help preserve these special places. As world citizens, we all should share that feeling. Her talk will be a celebration of life, as she shares images of life in natural places in Ecuador, Borneo, Thailand, and California. She'll go into why these places have so much biodiversity. And she'll talk a bit about what we all can do to fulfill our responsibility to preserve them. Please invite your friends and join us on 20 February 2009 at 7:30pm to listen to Professor Bitty Roy talk to us about "Biodiversity Hotspots Around the World." John Carter

Happy Birthday, Charles Darwin, Man of Natural History by David Wagner

This month marks the 200th birthday of Charles Darwin. Adding to the celebration is this year's 150th anniversary of the publication of "Origin of Species." Sharing a 200th birthday is Abraham Lincoln, who was born on the same day as Darwin. This year is also the 150th birthday of the State of Oregon. Natural history and history have parallel reasons for celebration.

Natural history is not history, however. This is a point often missed by people who do not think of natural history as science. One example is here in Eugene, where the University of Oregon's natural history museum is called "The Museum of Natural and Cultural History." This name tells the public the University of Oregon has a history museum that features the History of Culture and the History of Nature. "History of Nature?" That doesn't mean anything at all! The administrators must assume the public will know that the "Natural" in the name doesn't actually refer to a focus on history of anything but to natural history,

a traditional approach to the study of nature.

Natural history is a style of doing science, not history. Natural history is the opposite of quantum physics; it uses science to gain understanding of the natural world from the cosmos in, contrasting with working from the subatomic out. It defines a holistic practice of study of all of nature, from anthropology to zoology. Natural history tends to rely on direct observation of nature in contrast to experimentation or mathematical modeling of invisible phenomena. Charles Darwin is easily the most prominent figure in all of natural history. His theory of evolution by natural selection ranks with Einstein's theory of relativity as the most influential of scientific concepts.

The problem with the UO museum's current naming, the result of the administrative merger of the Oregon State Museum of Anthropology and the Museum of Natural History, was not recognizing that natural history is a composite, binomial term. If the words natural and history are separated, meaning is lost. There are not many binomial terms in common English. Another example might help describe proper usage, that of Christian Science.

Christian Science does not refer to scientists who are Christians, or a Christian way to do science, but rather to a religion that follows the teachings of Mary Baker Eddy. One of the characteristics of Christian Scientists is their distinctive attitude toward health and medicine. An interesting research institute might be set up to compare and integrate a traditional Hindu school of medicine, Ayurveda ("science of life"), with the doctrines of Christian Scientists. Would you call the research group, "Institute of Christian and Ayurvedic Science?" Of course not! By not specifically using Christian Science as a binomial, the result is a meaningless confusion. Much more suitable names for this project would be, "Institute of Ayurveda and Christian Science," or, even better, "Institute of Christian Science and Ayurvedic Medicine."

When I first heard that the administrative merger of the Oregon State Museum of Anthropology and the Museum of Natural History was going to be called "Museum of Natural and Cultural History," I confronted the director with a strong expression of dismay. When he heard the explanation of my objection based on the misuse (or non-use) of natural history, he admitted that a

serious mistake had been made. He regretted that nobody who understood natural history had been asked for input in the naming process. However, he said the process of re-naming was so tedious that he was unwilling to initiate corrective actions. So the name has stuck, even though the director recognized it was silly from the outset.

The time has come to rectify this error. A much better name would be, "Museum of Culture and Natural History." That's the name used by the Burke Museum, University of Washington, Seattle. This is still not ideal because it is redundant. Natural History includes anthropology, which includes study of culture. Maybe it is time to recognize that natural history has become an arcane term to the general public, so "Museum of Culture and Nature" would work better, or maybe "Museum of Culture and the Environment." In any case, abandoning "Museum of Natural and Cultural..." will be necessary to regain the full respect of people who practice natural history.

Junk Food by Reida Kimmel

In 1995 Chuck and I visited Shetland, one hundred miles north of Scotland's mainland.

Our first excursion was to climb up Sumburgh Head, a high spit of land not far from our hotel. We were stunned by the sight of thousands of birds soaring around the headland in a stately graceful dance. Except for the flocks of gannets ranging up and down the coast, all the birds flew in the same direction. On the cliffs below the lighthouse were ranks of seabird nests, each species choosing to rear young at a different altitude, so the crowded rookeries were a layer cake of different bird colonies. At the top were puffin burrows and herring gulls. Below them, but above the three species of auks and two of cormorants, were other gull-like birds, kittiwakes and fulmars. We had heard that the year before had been a disaster for the birds because their chief food source, fatty little sand eels, had disappeared. We were glad that things were back to normal. But then over the next few years, visiting the Oregon coast, we heard that there was chronic trouble with nest failure and starving

chicks due to a lack of food, probably caused by ocean warming.

Indeed, seabird populations everywhere in the Northern Hemisphere have been in decline for three decades, with populations today at only sixty percent of 1986's abundance. An article by John Whitefield in *Science*, 19 December 2008, reviews twenty years of research into the problem, and scientists' attempts to explain just why seabird nests are failing, even when parent birds are feeding their young. Early on it became apparent that the type and quality of the food chicks consumed was very important. If sand eels and capelin, rich in fat, are not available, and birds feed on juvenile walleye pollock, a very lean fish, they starve. This was the case in the Gulf of Alaska after the Exxon Valdez spill. Sometimes the fat and protein content of the preferred prey is low, perhaps due to poor foraging conditions further down the food chain. Scottish sprats, small herrings, tested in 2004, showed a steep decline in protein and fat content. That year few birds nested successfully. Very recently, North Sea birds have been feeding their chicks tough, low fat snake pipefish, and kittiwake chicks have starved while surrounded by these inedible fish that their parents brought them. Ecologists have long called the diet of lean, low-protein fish that seabirds are increasingly forced to feed their chicks, "junk food", but of course it is nutritionally the exact opposite of what we humans consume when we dive into the chips and donuts. Some researchers are trying to find evidence that the decline of Steller sea lions is caused by a similar change in diet. One thing is certain. Changes in ocean temperature definitely have caused changes in species balance in the ever-warming Northern seas. This also causes changes in species health and quality all the way down the food chain, including the krill and algae small fish consume. Human predation surely does drive changes in ecostructure, in the balance of species. When we decimate top predators like cod, or net smaller species by the million for food and fertilizer, we unleash a cascade of changes, all of which appear to be detrimental.

2008 Eugene Christmas Bird Count by Dick Lamster

4 January 2009 was the date of the 2008 Eugene

Christmas Bird Count (ECBC). The count area was divided into 25 teams, and a record number of home counters also participated. This was the 67th ECBC, which was part of the 109th National Audubon Society's Christmas Bird Count. The birders spent 13 ½ hours and drove 94 miles owling. Then they walked 113 miles for 171 hours looking for birds. They also drove 635 miles for 70 hours while looking for birds and moving to new sites. Tallies from home counters have yet to be completed, so the final counts of individual birds seen will be higher for some species, especially Anna's Hummingbirds and other species that regularly visit feeders.

This year, 128 species were seen in the field, somewhat fewer than in previous years. But there were some remarkable finds. An unexpected surprise was a Black-headed Grosbeak that has been visiting a feeder in east Eugene. This bird should be in Mexico at this time of year. An exciting find to be sure.

Even more unusual was a Jack Snipe. This is a Eurasian species with only a few records for North America. It may be more common than we once suspected, however, and could easily be overlooked even by experienced birders. The wet fields where it is found are infrequently visited by birders, it is difficult to see unless flushed, and it is often confused with other snipe or even rails. It is known to wander and may be wandering more in search of appropriate habitat, which is quickly disappearing in its native range.

Another rare find was a Gyrfalcon, seen patrolling fields near Prairie Rd. and W. Beacon

Drive. The largest falcon, this species breeds in the Arctic and comes south in winter. One to a few individuals may be found in Oregon each year but seldom as far south as Lane County. The only other time one was present during a Eugene Christmas Count was in 1973.

Steve Gordon reported seeing a Say's Phoebe. One of Oregon's earliest migrants, they are seldom seen in the winter. (Two were reported on last year's count.) Three Osprey were seen, which ties the previous record high, and 17 Turkey Vultures were seen. Thirty-two vultures were seen last year so this is not a record high but is certainly more than would be expected for this time of year. Record highs were also reported for Bald Eagle (46), Northern Saw-whet Owl (9) and Eurasian Collared-Dove (20). Eurasian Collared-Dove, a species we are not excited to see, has spread rapidly across North America since entering Florida in the 1970s. It reached Oregon just a couple of years ago and is now seen in all parts of the state. There are fears about the impacts of this non-native intruder. White-throated Sparrows were also seen in high numbers this year: 24 were counted. Our average is 6 individuals of this species but our record high was last year at 40.

Overall, this was a good count. A large number of participants came to enjoy the chili feed in the evening (many thanks to Allison Mickel and her crew for providing the delicious chili) and to do a quick review of the day's findings. We look forward to seeing everyone again for the 2009 Count, which will be held on 3 January 2010.

2008 Eugene Christmas Bird Count Totals

species	total	species	total	species	total
Snow Goose	4	American Coot	448	Chestnut-backed Chickadee	181
Cackling Goose	20,572	Killdeer	586	Bushtit	838
Canada Goose	6,409	Greater Yellowlegs	46	Red-breasted Nuthatch	145
Tundra Swan	227	Spotted Sandpiper	8	White-breasted Nuthatch	15
Wood Duck	151	Least Sandpiper	51	Brown Creeper	63
Gadwall	152	Dunlin	1,193	Bewick's Wren	76
Eurasian Wigeon	4	Long-billed Dowitcher	88	Winter Wren	47
American Wigeon	788	Jack Snipe	1	Marsh Wren	24
Mallard	1,670	Wilson's Snipe	94	Golden-crowned Kinglet	302
Northern Shoveler	357	Mew Gull	7	Ruby-crowned Kinglet	281
Northern Pintail	378	Ring-billed Gull	191	Western Bluebird	145
Green-winged Teal	411	California Gull	9	Hermit Thrush	7
Ring-necked Duck	118	Herring Gull	19	American Robin	3,785
Lesser Scaup	105	Thayer's Gull	20	Varied Thrush	190
Bufflehead	110	Western Gull	13	Wrentit	20
Common Goldeneye	1	Glaucous-winged Gull	177	European Starling	9,534
Hooded Merganser	31	Rock Pigeon	1,177	American Pipit	151

Common Merganser	170	Band-tailed Pigeon	1	Cedar Waxwing	202
Ruddy Duck	107	Eurasian Collared-Dove	20	Orange-crowned Warbler	2
Ring-necked Pheasant	10	Mourning Dove	195	Yellow-rumped Warbler	201
Wild Turkey	183	Barn Owl	2	Townsend's Warbler	66
California Quail	215	Western Screech-Owl	10	Spotted Towhee	475
Pied-billed Grebe	122	Great Horned Owl	7	Savannah Sparrow	39
Horned Grebe	10	Northern Pygmy-Owl	2	Fox Sparrow	266
Western Grebe	2	Barred Owl	1	Song Sparrow	774
Double-crested Cormorant	765	Short-eared Owl	4	Lincoln's Sparrow	55
American Bittern	2	Northern Saw-whet Owl	9	White-throated Sparrow	29
Great Blue Heron	113	Anna's Hummingbird	105	White-crowned Sparrow	401
Great Egret	80	Belted Kingfisher	20	Golden-crowned Sparrow	1,069
Turkey Vulture	22	Acorn Woodpecker	24	Dark-eyed Junco	4,335
Osprey	3	Red-breasted Sapsucker	10	Black-headed Grosbeak	1
White-tailed Kite	25	Downy Woodpecker	91	Red-winged Blackbird	4,622
Bald Eagle	45	Hairy Woodpecker	18	Western Meadowlark	183
Northern Harrier	65	Northern Flicker	429	Brewer's Blackbird	4,046
Sharp-shinned Hawk	18	Pileated Woodpecker	5	Brown-headed Cowbird	12
Cooper's Hawk	23	Black Phoebe	6	Purple Finch	70
Red-shouldered Hawk	18	Say's Phoebe	1	House Finch	706
Red-tailed Hawk	118	Northern Shrike	3	Red Crossbill	22
Rough-legged Hawk	2	Hutton's Vireo	6	Pine Siskin	205
American Kestrel	80	Steller's Jay	328	Lesser Goldfinch	112
Merlin	8	Western Scrub-Jay	866	American Goldfinch	157
Gyrfalcon	1	American Crow	3,050	House Sparrow	543
Peregrine Falcon	3	Common Raven	67		
Virginia Rail	2	Black-capped Chickadee	1,053		

A table with even more data is in the February 2009 issue of The Quail. If you don't receive The Quail, here's the link: www.laneaudubon.org/library-sub/quail_pdf/FebQuail09.pdf

Events of Interest in the Community

Tuesday, 10 March, 7:30pm. The Evolution of Complexity. By Joe Thornton, from the Department of Biology and Center for Ecology and Evolutionary Biology, University of Oregon. Room 182, Lillis Hall, University of Oregon. This is the third in a monthly series of lectures celebrating the 150th anniversary of the publication of Darwin's Origin of Species. It will be geared to an informed, lay audience. Come early to be assured a seat: this should be an excellent presentation and may be very well attended.

Audubon Society

Tuesday, 24 February, 7:30pm. UGANDA: from Murchison Falls to the Impenetrable Forest. By Bob Fleming, a naturalist who has been traveling to some of the wilder corners of the African continent since 1973. Eugene Garden Club, 1645 High Street, Eugene. Please join us for a journey to this amazing part of Africa.

Mount Pisgah Arboretum

34901 Frank Parrish Rd., Eugene, 97405. Located off I-5 Exit 189, 15 minutes southeast of Eugene. Call 747-1504 or email mtpisgjp@efn.org for more information or to sign up for any of the following Arboretum activities.

Sunday, 15 February, noon-2pm: Wild Child 2: Shelter & Fire

Sunday, 22 February, 10:30-12:30: Wild Child 3: Water & Food

Matt and Anna Bradley, founders of Rewild Eugene, teach this series geared toward children 5-11 years of age and their grownups. Classes meet at the Visitor Center, then take place mostly outdoors and in the Pavilion, so dress for the weather. Each session is \$8 per child or \$5 per child with a family membership, and adults are free with child. Limit 12 children per session.

Saturday, 14 February, 8-10am. Bird Lovers' Valentine Walk. Bring your binoculars for this fun walk for birders of all levels, led by entertaining, long-time bird guide Davey Wendt. \$5/members free. Meet at the MPA Visitor Center, rain or shine. Limit 20; RSVP #747-1504.

Saturday, 21 February, 10am-noon. Wild Edibles and Herbs Walk. Take a walk with herbalist Sue Sierralupé, and find out which local plants are good to eat, which are not, and how to cook the good ones. \$5/members free. Meet at the MPA Visitor Center, rain or shine.

Sunday, 22 February, 1-3pm. One Small Square. Natural science illustrator Kris Kirkeby teaches this mind-expanding drawing class for nature observers and sketchers. Choose one square foot of nature, draw elements that identify aspects of the ecosystem and habitat, and create an artistic record of the location, time, weather, species present, living and non-living elements, and seasonal observations. We will finish drawing indoors, then share our squares and discuss the relationships within them. No drawing experience required; beginning and experienced artists will enhance their skills. \$20/\$15 members.

Wed. 18 March, 7-9pm. Orientation at Morse Ranch Family Farm for volunteers who want to become MPA nature guides. Guides share with students the wonders of nature and encourage them to be good stewards of the earth. If you have some time to spare, join MPA's nature guides! Guides are needed one morning per week, 20 April – 11 June. No experience needed – free training provided. email Fran at mtpisgfr@efn.org

Sunday, 1 March, 10am-noon. Adventures in Arborism Walk. Join arborist and Arboretum board member Scott Altenhoff. Learn about trees and the wide variety of organisms that depend on them, find out how to maximize the habitat potential of trees and attract wildlife, and learn what the Arboretum is doing to release precious Oregon white oaks from competition with conifers, while enhancing habitat. \$5/members free. Meet at the Arboretum Visitor Center, rain or shine.

Nearby Nature

Wednesday, 11 March, 6:30-8pm, Orientation for new volunteers. Tykeson Room, Eugene Public Library Volunteer with **Nearby Nature** and lead school nature walks in Alton Baker Park this spring. No experience needed – free training provided in early April. Questions? Call Nearby Nature at 687-9699, email info@nearbynature.org, or see www.nearbynature.org.

WREN Wetland Wanders

Tuesday, 10 March, Checkermallow Acres. WREN will provide binoculars. For more information contact Holly McRae at 683-6494 or hmcray@wewetlands.org.

We welcome new members! To join ENHS, fill out the form below. You will 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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Mail checks to **Eugene Natural History Society**
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ANNUAL DUES: Contributing 20.00
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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, Remainder of 2008-2009

- 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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Eugene Natural History Society

FIRST

CLASS MAIL

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OUR MEETING IS IN A
DIFFERENT PLACE THIS
MONTH! SEE BOTTOM
OF FIRST PAGE!