

Nature Trails

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Collage of Pollinators. Photos by August Jackson

Pollination Ecology: a Bug's-eye View of an Ancient Mutualism

**August Jackson, Interpretation Coordinator
Mt. Pisgah Arboretum, Eugene, Oregon**

**Friday, 18 March 2016, 7:30pm, Room 100
Willamette Hall, UO Campus**

We've all met military brats. You're introduced to someone new and after awhile the conversation comes round to "Where are you from?" and she says, "Aw, I was an Army brat, so I come from a lot of places. You want the long story?" and if you say yes she tells you all the places she lived growing up because her dad or mom kept re-upping and got moved from base to base to base. Ever consider that there are other kinds of brats out there? I think the children of academic nomads fit the definition. If the person was born when his folks were undergrads, then they went to grad school, then took a post-doc at another school, then another post-doc, then an entry-level faculty post, then on to the final position ... let's see, that would be six different homes before the kid finished high school. Yep, there definitely are academic brats, and although our March speaker didn't define himself as such, he probably qualifies.

August Jackson was born in student housing at the University of California Riverside, where his dad was a student. His exposure to the natural world began shortly after he learned to walk. His mom took him on walks in the botanic garden on campus as well as out in the rural surrounding area. He said there was a resident cat that was on good terms with local fauna, including skunks and foxes. The cat would go with them on their walks and would introduce its friends to them. He learned a lot from that cat.

His dad got a teaching job near Prescott, Arizona, so the family moved. Their new home was in the country, right next to public lands. The school situation was such that his folks decided he would be better off not going, so his mom home-schooled him. They took daily walks and his education leaned heavily on natural history. The night sky in rural Arizona can be mesmerizing, and Jackson became fascinated by astronomy by the time he was kindergarten age. After a couple of years in this idyllic location they moved to Flagstaff, again due to the vagaries of academia. His dad got another teaching job – this time at Northern Arizona University. Placed once again in a beautiful natural setting the young Jackson discovered botany. He also found the campus bookstore, and, with his new focus on wild plants, found what became his favorite book: National Audubon Society's *Field Guide to Wildflowers: Western Region*. An interesting choice of reading material for a young person at the ripe old age of six or seven.

And then, another move. His dad took a faculty position at Mt. Hood Community College, so they moved to Oregon, first to Gresham, and finally to Hood River, where the family at last circled their wagons. Jackson finished high school in Hood River, the fifth place he had lived in.

Family members of MHCC faculty can attend the school tuition free. Besides this financial incentive Jackson had the benefit of his dad's insider's knowledge of the school so he was aware there were some excellent instructors there. His decision to go to MHCC was, in his words, a no-brainer.

From there he came to Eugene, enrolling in the University of Oregon and concentrating on environmental geography. While he was still a student a position at the Mt. Pisgah Arboretum opened up, he applied, and suddenly became gainfully employed in yet another idyllic location. While at the Arboretum, Jackson has discovered and identified new plant populations, and discovered a population of bees not expected to live in the Willamette Valley, with only three other records in the Pacific Northwest, all east of the Cascades. At first he was the Assistant Site Manager, and now, a little over four years into his tenure at MPA, he serves as Interpretation Coordinator. Jackson's focus in his new role is to facilitate the design and development of new outdoor interpretive exhibits at the Arboretum, focusing on each of the eight southern Willamette Valley habitats at the Arboretum. These exhibits are being designed to allow the self-directed visitor to engage with the incredible ecology in their own backyard. Jackson is also working on expanding the Arboretum's formal educational offerings, and schedules himself to lead walks on a regular basis.

Jackson developed a website called Ecolingual, primarily as a location for his photographs. Largely self-taught, he began his photography career when he was 12 or 13. Even at that young age he wanted to share his knowledge and enthusiasm about nature and realized his stories carried a lot more punch if they were illustrated. A friend of the family gave him a film camera and an old 400 mm telephoto lens, and he began amassing his collection. He now uses a pretty high-end digital set-up, and, at least to my eye, has developed a remarkable sense of composition to go along with his technical mastery. If you go to www.ecolingual.com and click on photo galleries you can view some of the fruits of his labors and maybe get a foretaste of what you'll be seeing in his talk. These are exquisite, miniature vignettes. There's a blog section in the site, too. In one post, entitled *Backyard Melittology*, he talks about the species of bees he has found on his own property. Each of the half-dozen close-up photos is accompanied by an engaging explanation of that bee's identity and activities. The man is an excellent educator.

Jackson focuses his camera primarily on flowers and pollinators. His attention to small things reminds us that at any scale in our natural world there is

beauty and wonder to be found. Importance, too: where will humanity be, where will the world be, if the present decline in numbers of pollinators continues?

In his talk Jackson will tell us about how plants encourage their pollinators, taking advantage of all sorts of features. For example, some stamens don't release their pollen until sonicated at the right frequency – which happens to coincide with the buzz of bumblebee wings! He'll focus on insect pollinators, which are not the robots their bad press would have us believe. Many have individual preferences and a kind of intelligence, and flowers have co-evolved to take advantage of these attributes. He will tell us about many species of native bees and flies, their role in pollination and how



flowers have adapted to make the process as efficient as possible. After all, making pollen takes a lot of energy and raw materials, so every grain counts.

Jackson gave an OMSI Science Pub talk a couple of years ago at Cozmic, and our scout came back with rave reviews. So I can tell you with some confidence that you will learn a ton while viewing beautiful photographs and listening to an enthusiastic, dare I say quietly passionate, presentation. Please come and hear August Jackson's talk "Pollination Ecology: a Bug's-eye View of an Ancient Mutualism" at 7:30pm on Friday, 18 March, in room 100 Willamette Hall,

on the U of O campus. As always, there will be cookies.

John Carter

Deer oh Deer by Reida Kimmel

As many of you know, we are trying to convert our pastures to mixed, mostly native, woodlands. Lazy me, I have done very little planting, but I have been pretty diligent in blackberry pulling, a necessity in those now sheep-free pastures. Last summer fifty of the more than two hundred conifers Chuck planted on the hill in 2012 and 2014 died from the drought. The Douglas firs had a high survival rate but the red cedars and sequoias suffered. We still do not know how many of the maples and filberts survived. We will know soon, when the buds swell, or not. Last spring's plantings of seedling maples are probably all dead. At Christmas time Chuck and a sturdy teenaged helper planted fifty new bare-root firs and coast redwoods to replace the dead in the hillside pasture. The other pasture being returned to nature lines the driveway, and until this year it has not been planted at all except along the banks of the creek that bisects the old field. This pasture I have dubbed my 'oak savannah', but it may never achieve that status. Too wet, too small, too shady. Like a wound healing from the outside in, volunteer trees have appeared only on the field's periphery. There are three oaks, one rather large, and several bigleaf maple and ash saplings crowding the edges of the old pasture. Willows, red-twig dogwood and a few alders line the creek that bisects the pasture, but the empty, grassy, brambly centers of each half of the field remained devoid of trees until last week when we splurged and bought treasures. Two dogwoods in gallon pots and a bare-root black elderberry, plants I have long desired, are now in the former driveway pasture along with other purchases: two white oaks, two vine maples and two

big leaf maples. Chuck added three small incense cedars from a colony in the neighbor's woods.

Now we must find a way to keep these special transplants alive. They are mulched with wood chips. Watering the first year is mandatory. Where hoses will not reach, which is almost everywhere, we will place full gallon milk bottles from our huge and growing collection, at the base of each planting, replacing them as needed. But what can we do about those merciless predators the deer? Spraying with deer repellent may not suffice. I am going to set old tomato cages over the saplings. Then I will wrap and tie sections of bird netting, which they never challenge, around each cage. This should do for the first year or two, I hope.

While I was obsessing about foiling local deer, I began to think of Oregon's deer in general. Realizing that I really did not know that much about deer, I started doing some reading. I did not even know how many species of these abundant ungulates live in our state. I learned that Oregon has two species of deer, each with two subspecies. My first surprise was to learn that the Columbian black-tailed deer, *Odocoileus hemionus columbianus*, of western Oregon are so closely related to Eastern Oregon's mule deer, the subspecies *O. hemionus hemionus*, that when their ranges overlap, they can and do interbreed. The hybrid offspring are not uncommon. Though mule deer are much larger, pale and more conspicuously marked, their antlers branch twice, as do the blacktails' antlers.

Our other species, white-tailed deer, *O. virginianus*, is one of many subspecies of the most widespread of North American deer. Their antlers branch from a main beam, and they are Oregon's smallest deer.

White-tailed deer have a very characteristic way of running. Between strides they bounce into the air. With their white tails held straight up and wagging, the graceful leaps are a very pretty sight. I did not know that there were white-tailed deer in Northeast Oregon and along the Umpqua. The whitetails in Northeast Oregon are the sub-species *O. virginianus ocrourus*. They share overlapping range with mule deer. Both prefer open country, but do not interbreed. Our famous population is that of the Columbian white-tailed deer, *O. virginianus leucuros*, living in Northwest Oregon in Clatsop and Columbia Counties, and in Douglas County. Once they ranged widely in Oregon and Washington, west of the Cascades to the Pacific and south to the Umpqua River. By 1968 the population was reduced to perhaps 1000, clinging to remnant areas of natural oak woodlands and riparian meadows. Poached and over hunted, its habitat turned to farms and houses, the Columbian white-tailed deer was put on the Endangered Species List. Since then concerted efforts to save the subspecies have resulted in the Douglas County population growing to 5000 individuals. It was delisted in 2003, but the whitetails in the north, facing even more intense habitat loss, remain endangered in spite of population growth.

Mule deer populations have declined since the 1960s due not just to hunting, but once again, to habitat loss, the spread of unpalatable weeds like cheat grass, competition with livestock, drought and harsh winters.

Even black-tailed deer may not be as numerous as they were half a century ago. Described as having a secretive lifestyle and preferring dense cover for security, black-tailed deer are hard to survey, but there may be between 400,000 and 500,000, a healthy number still. Deer require both woodlands for shelter and fawning, and open areas for foraging. The original land clearing and farms brought more food to the deer in Western Oregon, resulting in population growth, but now large-scale intensive farming and logging remove the wooded areas that deer require. Oregon grape, salal, bracken and sword fern flourish in formerly forested land, but are not palatable. Grasses, forbs and shrubs that grow in open areas are. The heavy use of herbicides in farms and managed forests removes these foods. Stressed animals are more subject to disease and to poor survival rates for fawns. Besides road kills, starvation and parasite infestations, there has recently been mortality from Deer Hair Loss Syndrome. As we take over more of Oregon's land for our dwellings and occupations the deer's spaces shrink. It is no wonder that the animals have turned to our lawns and gardens, even in our cities. It is find food or die. Knowing a bit more about the deer in my neighborhood helps me to be more tolerant of their 'sharing' the bounty of the farm: leaves on lower branches, windfall apples and pears, some grapes, and they are welcome to all the blackberries and grass they want. Just so they leave our little trees alone!

Southwest by South

by Tom A. Titus

It's six a.m. and I am traversing the dark bowel of Highway 38, sipping my infamous Black Hole Coffee—Italian Roast beans brewed so strongly that all the milk is sucked into its dark center, never again to see the light. The radio is tuned to the classic rock station and turned up loud. There is nothing subtle about my approach to the morning, no tea or classical music or deep meditations, just raw energy in a white car flying through the darkness.

The headlights probe intermittent bands of fog that have settled into the Umpqua River valley. I can't see the landscape in the misty darkness, but I know that outside my warm raucous bubble the land is both pastoral and chaotic. The pastures are not forests because the trees were cut a century ago and biological succession is kept at bay by growing hay or grazing animals. The Umpqua River is discolored from recent rains running off of muddy clearcuts. Winter steelhead are returning, while spawned-out coho lie dying and rotting in small tributaries. The river is full of smallmouth bass, and in a few months people will be bragging of catch-and-release 100-fish

days without a thought for the multitude of steelhead and salmon smolts needed to feed all those bass. Eat more bass.

Daylight creeps in from the east. The pastures at Dean Creek remain dark, but I know the elk are there, grazing on grass now reaching upward in the lengthening days of this dying winter. The bulls are shedding their antlers, ready to spend the rest of winter separated from these obvious outgrowths of their virility. They have their manhood figured out, a temporary affair winnowed down to three months of herding and bugling and reproductive angst in the fall.

On Highway 101 I pull off at the green metal bridge crossing the Coquille River. Gray clouds are sliding in from the Pacific, but light slips like a yellow envelope through a slot in the eastern sky, sliding downward over the estuary. The tide is moving out. Small dark spruce and Douglas fir give way to brown rushes on the edges of the tidal flat. Gray bones of trees lie in an uncovered mass grave along the river channel, hurled there by the silverback ocean, testament to the fury of past storms, each one

questioning its final disposition. Caffeine and adrenaline begin to wane. I feel myself shrinking.

South of Bandon the highway is flat and straight, tracing a remarkably level erosional terrace. Patches of daffodils are in full bloom. The southwest coast is the banana belt of Oregon, a climate conspiracy between the moist, stabilizing influence of the Pacific Ocean, a more southerly latitude, and warm Santa Ana-like air pushing from the interior Klamath-Siskiyou mountains down the river valleys of the Umpqua, Elk, Rogue, and Chetco. In July of 2008 Brookings recorded 108 degrees Fahrenheit!

Continuing south through sleepy Port Orford, the erosional terrace disappears, forcing the highway onto the headlands. But the headlands don't want it there. They shrug their shoulders in passive aggression, trying to slough the road off toward the sea. People work constantly to keep that tiny black ledge of pavement hanging onto the steep slopes. But the road is in constant disrepair, and eventually the land will win this fight.

The green pyramid of Humbug Mountain looms ahead. Shaggy overcast peels loose from prickly spruce boughs, yearning westward. Twin gray sheets of sky and ocean meet on a quantum horizon that becomes more indistinct the harder I stare. Once I was attracted to the idea of infinity embodied in the unending sea. Not anymore. I love the substantive edges of continents, the curling surf hurling itself onto beaches and headlands, churning up sand and shattered clamshells and broken bits of mountain with sharp edges worn innocuously smooth. This is

energy I can understand.

The battered highway squirms inland into a canyon between the edge of the Pacific Plate rising on my left and the terrain of Humbug Mountain on my right. The highway slopes downward, but Humbug Creek is flowing in the opposite direction and seems to be running uphill. Here I once found a Del Norte salamander, three inches long and so darkly brown that he was nearly black. His smooth belly was the color of an oncoming storm. He was living under a piece of rotten wood that had dislodged from a downed spruce snag. In Oregon, Del Norte salamanders are found only along the mild southwest coast. Further up the road, a highway crew is cutting the prodigious roadside vegetation, and as I drive past the smell of bay laurel inundates the car. I think about chicken soup.

My mind wanders on to subduction zones and earthquakes and tsunamis. In this narrow slot between Humbug Mountain and the Pacific Plate, I begin to understand that my fascination with the southern Oregon coast is an attraction to danger. The easygoing weather and luxuriant forests are just a benevolent curtain. Behind these soft green drapes, life exists on the frenetic edge of everything. This is a place where landslides or tsunamis or hard winter storms could wipe out entire communities of organisms literally overnight, including the people who have chosen to live here. The landscape is unpredictable and precarious, forcing those who make it their home or venture through it to embrace that uncertainty, to accept their mortality, to live now.

One positive result of the illegal occupation of the Malheur National Wildlife Refuge is the generous financial support the Refuge has received, totaling in the tens of thousands of dollars. These funds will be put to good use once the Refuge is re-opened and its supporters can go about the business of restoration.

The Malheur Field Station (MFS) has not been so fortunate. Although located on the Refuge – and thereby often confused with the Refuge headquarters – the MFS is run by a private nonprofit organization and has suffered because of the occupation. Besides having been vandalized, at least one group of visitors has canceled, putting the MFS in a precarious financial position. The ENHS and many other organizations have made the MFS home base during trips to the Refuge and adjacent areas, and we would hate to lose this wonderful facility. Please consider making a donation to the MFS: <http://www.malheurfieldstation.com/support-2/>

Announcements

1. A good place to park for our meetings is the Physical Plant lot: turn north from Franklin onto Onyx, go about a block and you will be in the lot. After 6 pm it's open to the public.
2. ENHS has agreed to take responsibility for patrolling CoastWatch mile 186 on the Oregon coast, affectionately known to us as Eve's mile. We will visit our mile quarterly. Our next cleanup effort will be on Saturday, 23 April. If you want to be part of the crew, contact a board member. The southern end of this mile of beach begins on the north bank of Ten Mile Creek. More information will be in the April NT.
3. Our annual field trip will occur on 3-5 June, in Southwestern Oregon. We'll be staying at the Siskiyou Field Institute, in Selma. This is an early heads-up, so you can get it on your calendar. More detail next month.
4. Our meeting next month will be in **177 Lawrence Hall**, only a two-block walk from the Physical Plant lot.

Events of Interest in the Community

Oregon Natural Desert Association

Volunteer to help restore the Malheur National Wildlife Refuge. Every year, ONDA's Stewardship Program works with hundreds of volunteers to restore areas of Oregon's high desert, including projects on the Malheur National Wildlife Refuge. As we all move forward together to restore the refuge it will be critical to coordinate volunteer efforts with refuge managers. ONDA is committed to ensuring a successful and smooth volunteer restoration effort. If you wish to be involved through ONDA, register at <http://onda.org/volunteerformalheur>.

Lane County Audubon Society

Saturday, 19 March, 8am-noon. Third Saturday Bird Walk. The location will be determined by interesting bird sightings posted to OBOL and other pertinent information available before the day of the walk. We will post the location on the LCAS Facebook page (<http://www.facebook.com/pages/Lane-County-Audubon-Society/330177413824?ref=hl>) and on the website (<http://www.laneaudubon.org>). All ages and skill levels are welcome. To carpool, meet at 8:00 a.m. at the South Eugene High School parking lot (corner of 19th and Patterson). We plan to return by noon. Remember that it's not a good idea to leave valuables or your vehicle registration in your car if you leave it at the lot. A \$3 donation is appreciated to help support Lane County Audubon's activities. For more information, contact Jim Maloney at 541.968.9249 or jimgmal@comcast.net.

Tuesday, 22 March, 7:30pm. Wildlife of the Land Down Under. John Sullivan and Laura Johnson will share photos of birds, mammals and reptiles from their 2013 Australian adventure. They spent time in southeast Queensland, the far north of Queensland, Western Australia and Northern Territory. The meeting is at The Eugene Garden Club, 1645 High St.

Mt. Pisgah Arboretum

Saturday, 12 March, 10am-1pm. Habitat Clean-up. Help us prune vegetation, remove invasive species, and clean up the area around where our next interpretive exhibit will be installed in the Incense-cedar forest. Meet at the Arboretum Visitor Center. Rain or shine. Tools, gloves, refreshments, and a parking pass will be provided to volunteers (we suggest you bring along a water bottle). Please RSVP at site@mountpisgaharboretum if you plan to attend.

Saturday, 12 March, 10am-12pm. Wet and Wild Family Walk. Search for the many water-loving animals, both small and big, that call local rivers, streams and ponds home. Led by Arboretum Nature Guide Ali Litts. Rain or shine. Don't forget your parking pass. Meet at the Arboretum Visitor Center. \$8 per family, \$5 individual, members free.

Saturday, 19 March, 10am-1pm. Trail Work Party. Help us lay down a new layer of bark mulch. Meet at the Arboretum Visitor Center. Rain or shine. Tools, gloves, refreshments, and a parking pass will be provided to volunteers (we suggest you bring along a water bottle). Please RSVP at site@mountpisgaharboretum if you plan to attend.

Sunday, 20 March, 11am-1pm. Flies and Flowers Walk. Join Arboretum Interpretation Coordinator **August Jackson** on a walk to explore the important role of flies in the pollination of our early wildflowers. Learn about the process of pollination, learn the names and ecology of some of our colorful native flies, and learn to identify our early spring wildflowers. Rain or shine. Meet at the Arboretum Visitor Center. Don't forget your parking pass. \$5, members free.

Saturday, 19 March, 1-5pm. Mosaic Collage Workshop. Students will use colored art tissue, acrylic paint, and stenciling to create a gallery wrapped canvas piece in the shape and color-combination of their choice. A variety of nature silhouettes will be provided to choose as a focal point. Basic instruction on image transfer, layout and design will be provided. \$30 non-members. \$25 members. \$10 materials fee (paid to instructor). All materials included. **Pre-registration required.** Call (541) 747-3817 or click [here](#) to register.

Saturday, 26 March, 10am-1pm. Invasive Species Work Party. Join us as we grapple with invasive species and make room for spring wildflowers. Meet at the Arboretum Visitor Center. Rain or shine. Tools, gloves, refreshments, and a parking pass will be provided (bring along a water bottle). Please RSVP at site@mountpisgaharboretum if you plan to attend.

Sunday, 27 March, 8-10:30am. Early Spring Bird Walk. Join Chris Roth and Julia Siporin for another monthly bird walk intended for people with all levels of birding experience. Please bring binoculars. Option to continue the walk until noon for those who are interested. Rain or shine. Meet at the Arboretum Visitor Center. \$5, members free.

Saturday and Sunday, 9-10 April, 10am-3pm. Botany Workshop. In this two-day, thorough workshop, botanist Tobias Policha will help participants improve their identification skills and knowledge of our local flora. Topics include plant anatomy, family characteristics, and using a botanical key to aid in identification, with the focus on flowering plants. This is a hands-on class, so be prepared to go outside. Recommended text for class: Gilkey and Dennis' *Handbook of Northwestern Plants* (2001 edition). \$30 non-members. \$25 members. \$7 materials fee (paid to instructor). All materials included. Please bring a hand lens if you have one. Pre-registration required. To register call 541-747-3817 or go to: <http://www.mountpisgaharboretum.com/workshop-registration/>

Friends of Buford Park and Mt. Pisgah

Monday Morning Regulars, 9am-noon. Contact volunteer@bufordpark.org for more information.

Tuesdays and Thursdays, 9am-noon. Nursery Work. Meet and work at the Native Plant Nursery at Buford Park. Enter Buford Park from Seavey Loop Road. Turn LEFT after crossing the bridge and drive 1/4 mile to the nursery.

Walama Restoration Project

Email krystal@walamarestoration.org or call 541-484-3939 for more information.

WREN (Willamette Resources and Educational Network)

For current WREN events go to <http://wewwild.blogspot.com/>

Saturday, 12 March, 10-2pm, Family Exploration Day at Tsanchiifin Trail. This program provides unstructured observation, education and inspiration in our surrounding natural spaces. WREN staff and volunteers will be on hand to check-out nature exploration equipment and provide guidance for independent exploration of the wonders in the wetlands. Park at the BLM Red House located at 751 S. Danebo Ave and meet in the parking lot.

The University of Oregon's Museum of Natural and Cultural History

Exhibit Hours: Tuesday through Sunday, 11am-5pm

Cascade Mycological Society

Wednesday, 23 March, 7-9pm. Monthly Meeting. Free and open to the public and held the 4th Wednesday of each month September through May, our monthly meetings include an identification session, a featured presentation, and seasonal mushroom tastings. Amazon Community Recreation Center, 2700 Hilyard St.

Native Plant Society of Oregon, Emerald Chapter

Thursday, 17 March, 7 pm. Costa Rica — Magical Forests, Flowers, Birds, and Frogs. Gail Baker and Clay Gautier will share photos and stories of their adventures in five different Costa Rican natural reserves. These include the cloud forests of Monteverde, tropical wet forests at La Selva, open paramo of Los Quetzales National Park in the Talamanca Mountains, coastal jungle of Corcovado National Park on the OSA Peninsula, and premontane wet forest at Las Cruces on the Panamanian border. Location: Conference Room at Lane County Mental Health. For more information call 541-521-3964

North American Butterfly Association, Eugene-Springfield Chapter

Next meeting Monday, 11 April. Details in the April issue of Nature Trails, or go to http://www.naba.org/chapters/nabaes/lecture_series.html

Nearby Nature

Saturday, 12 March, 10am-1pm. Learnscape Gardening Event. Join Volunteers with Nearby Nature for a spring planting event. We will be planting seeds and starts in our Edible Schoolyard. This garden is used by our Network Charter School Students and our Summer Day Camps program. Tools and gloves will be provided. Bring a water bottle and wear clothes you don't mind getting dirty. Meet at the Park Host House at 622 Day Island Road.

Tuesday, 22 March, 8:30am-3pm. No School Day – Creature Feature. Discover who's zooming, digging, and hopping in the park and garden! Use screens, nets, and magnifiers to find hidden creatures in the compost, soil, ponds, and meadows. Enjoy fun critter games and make a crazy critter mask out of recycled materials. \$40 members/\$45 non-members. Ages 6-9, max 12 kids. Outdoors in Alton Baker Park and at our Yurt. To register, call 541-687-9699, ext. 2 or click [here](#).

ENHS welcomes new members! To join, fill out the form below. Membership payments allow us to give modest honoraria to our speakers, as well as to pay for the publication and mailing of *Nature Trails*. Our web address: <http://biology.uoregon.edu/enhs>

MEMBERSHIP FORM

Name _____

Address _____

City _____ State & Zip _____ Phone _____

E-mail (if you want to receive announcements) _____

I (we) prefer electronic copies of NT rather than paper copies. ___ Yes ___ No

If yes, email address (if different from the one above): _____

ANNUAL DUES: Family	\$25.00
Individual	15.00
Life Membership	300.00
Contribution	_____

Annual dues for renewing members are payable in September. Memberships run from September to September. Generosity is encouraged and appreciated.
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ENHS Schedule of Speakers and Topics for 2015-2016

18 Mar. 2016	– August Jackson	–Pollination Ecology: a Bug's-eye View of an Ancient Mutualism
15 Apr. 2016	– Rebecca Vega-Thurber	– Coral Reef Decline
20 May 2016	– Mark Blaine	– Copper River Salmon
Alternate	– Dean Walton	– History of Oregon Naturalists



Above: Mining bee
Right: Corydalis

Photos by August Jackson